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Listening to the quit smoking stories of quitters to gain insights into effective quitting strategies and health promotion

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Certificate of original authorship

I, Mayanne Lafontaine declare that this thesis; is submitted in fulfilment of the requirements for the award of Doctor of Philosophy, in the Faculty of Arts and Social Sciences at the University of Technology Sydney.

This thesis is wholly my own work unless otherwise referenced or acknowledged. In addition; I certify that all information sources and literature used are indicated in the thesis

This document has not been submitted for qualifications at any other academic institution.

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Table of contents

List of Figures

List of Tables

Abstract

Smoking continues to be the leading cause of preventable death and illness in the world. In Australia, the Federal and New South Wales state Governments have implemented a comprehensive program of tobacco control initiatives over several decades that has led to declines in smoking prevalence. Digital interventions have shown promise in supporting smokers in quitting smoking. But evidence of their effectiveness and long-term impact remains low. iCanQuit.com.au is an Australian (New South Wales) quit smoking website that provides a forum for quitters to share their personal stories and experiences of quitting smoking.

This research involved studying the publicly available posts shared by users on the iCanQuit forum to identify the strategies that they employed and the extent to which these were successful in supporting quitters to remain smokefree. A two-stage quantitative and qualitative study of quitters who used the iCanQuit forum during their quit attempt was undertaken. The first stage examined a large sample of 372 quitters who posted on the forum in 2012 and 2017. The second stage examined the posts of fifteen quitters from 1 January 2011 to 31 May 2018, who reached smokefree status and were named 'changemakers'. Four subgroups of users were identified on the forum: 'newbies' (quit for 0-3 months), 'resisters' (quit for 3-6 months), 'successful quitters' (quit for 6-12 months) and 'long-time quitters' (quit for more than 12 months).

The study found that the iCanQuit forum did indeed support long-term behaviour change. The quit success of 'changemakers' was linked to higher rates of participation, front-loading activity and sustained membership of at least one year. Through the behaviours of reading and writing posts, the role of the forum in habit reversal was revealed, as 'changemakers' returned years later in response to a craving. A Framework of Insights was designed to encapsulate the value of peer-led online communities which include tangible support, connection, social support, and self-awareness. This Framework affords voice to the users of the iCanQuit forum by articulating the transformative process experienced by users of the forum and the perceived impact the iCanQuit forum has had on quit smoking success.

Chapter 1 Introduction

1.1   Background

Tobacco use kills more than 8 million people every year and is the largest preventable cause of death in the world (World Health Organization, 2019a). Tobacco smoke contains more than 7 000 toxic chemicals including at least 70 known carcinogens. The most common form of tobacco use is cigarette smoking (World Health Organization, 2019a). Preventing and reducing demand for tobacco are the most effective ways to improve overall health and wellbeing and save lives (Drope et al., 2018).

Tobacco control efforts in Australia and the world continue to target people to stop smoking and prevent uptake of smoking. In 2008, the World Health Organization (WHO) established the MPOWER measures as part of the WHO Framework Convention on Tobacco Control, which is a treaty designed to protect current and future generations from the global tobacco epidemic (World Health Organization, 2015). The MPOWER measures were designed to identify evidence-based "demand reduction measures, with a focus on cost-effectiveness, practicality and impact" (World Health Organization, 2015, p. 11). The six measures include: 1) Monitor tobacco use and prevention policies; 2) Protect from tobacco smoke; 3) Offer help to quit tobacco use; 4) Warn about the dangers of tobacco use; 5) Enforce bans on tobacco advertising, promotion and sponsorship; 6) Raise taxes on tobacco (World Health Organization, 2015).

Australia is a world leader in tobacco control for implementing an effective suite of tobacco control policies and reaching the highest level of achievement on the majority of MPOWER measures (Beaglehole & Bonita, 2015; World Health Organization, 2019b). These strategies include raising taxes on tobacco, social marketing campaigns, introducing plain packaging, regulating the sale, display and advertising of tobacco, and restricting tobacco use in enclosed public places and some outdoor settings. These comprehensive suite of tobacco control measures have contributed to the favourable declines in smoking prevalence over time at a national level and for New South Wales (NSW), at a state level (Australian Institute of Health and Welfare, 2020a). According to the NSW Health Population Health Survey (NSW Ministry of Health, 2020a), daily smoking rates amongst

adults have declined from 17% (2002) to 11% (2020). Despite these long-term declines in smoking prevalence, over 6,000 deaths a year and 62,000 hospitalisations a year are attributable to smoking in New South Wales (NSW Ministry of Health, 2020b).

1.2 **Cessation services**

Cessation services fall under the third evidence-based MPOWER strategy effective in reducing tobacco use. The ultimate goal is to get smokers to quit as early as possible as the risk of tobacco-related disease is strongly related to the duration of smoking (World Health Organization, 2003). The treatment of tobacco use is divided into two streams: 1) pharmacological interventions and 2) behavioural interventions (World Health Organization, 2003).

Pharmacological interventions

Pharmacological interventions focus on alleviating the symptoms of nicotine withdrawal through nicotine replacement medications or non-nicotine medications. Nicotine replacement therapy products include patches, gum, lozenge, oral inhaler and nasal spray. Non-nicotine medications include bupropion and varenicline. These pharmacological interventions are effective in supporting smokers to quit smoking (Fiore et al., 2008).

Behavioural interventions

Behavioural interventions focus on the provision of advice and information to quit smoking. These interventions can be delivered as individual specialist approaches or population-level approaches (World Health Organization, 2019b). Behavioural interventions differ in their delivery and level of complexity. Common modes of delivery include:

- brief physician advice particularly from a general practitioner (GP)
- individual or group behavioral counseling
- self-help materials such as booklets, leaflets or DVDs
- telephone counseling
- internet based services or text messaging programs.

(Roberts et al., 2013; World Health Organization, 2003)

In addition to individual behavioural or pharmacological interventions, a supportive environment improves the likelihood of smokers quitting (World Health Organization, 2003). Supportive environments and/or relationships are considered an effective component of smoking cessation interventions, particularly for counselling people making a quit attempt (Fiore et al., 2008). However, much of the evidence for social support is in the context of individual, group and telephone counseling delivered by a healthcare professional and does not include social support which is provided outside of the treatment environment (Fiore et al., 2008; Westmaas et al., 2010). While peer support is not a replacement for formal treatments or clinical guidance, it can still offer an augmentation to treatment that provides benefit to the individual (Tracy & Wallace, 2016).

1.2.1 Influence of the Internet on accessing supportive relationships

The use of computer mediated communication technologies and the internet has expanded the opportunities for interaction and the boundaries of supportive relationships and environments. The online environment has given rise to people connecting with others beyond their immediate neighbourhoods or organisational groups (Wellman & Hampton, 1999). In 2016-17, in Australia, 86% of households had internet access and 91% of people accessed the internet by a mobile or smartphone (Australian Bureau of Statistics, 2018). Nearly 80% of Australian adults use the internet to find health information (Australian Institute of Health and Welfare, 2018). An international healthcare survey conducted in 2010 by Bupa Global (McDaid & Park, 2011) found that while the main activity undertaken by people who search for health information online is to look for information about medicine (68%), this is followed by searching for information to make a self-diagnosis (46%) and of greater relevance to this research, seeking other patients' experiences of health conditions (39%).

Computer mediated communications have enabled the development of both moderated and unmoderated social support groups. In the health domain, social support groups can be moderated by a trained health advisor or healthcare professional to provide a professional review of discussion, contribute to discussion, respond to questions and remove negative or non-evidence-based content. Unmoderated peer-to-peer groups do not offer the continuous presence of a healthcare professional or advisor to contribute to the discussion. Despite the growth and availability of behavioural interventions online, evidence remains limited with regards to the effect of who provides the behavioural

support, who benefits most from online support groups and under which conditions, and how the effectiveness of digital interventions can be measured and maximised (Bricker et al., 2020; Eysenbach et al., 2004; Graham et al., 2016; Hartmann-Boyce et al., 2021; West, 2017; Whittaker et al., 2019). This study focused on the New South Wales iCanQuit website which provides an example of a population-based and internet-delivered service aimed at helping people in NSW to quit smoking and to stay smokefree. The iCanQuit website includes a peer-to-peer online support group through the 'Stories and Experiences' section.

1.2.2 iCanQuit – an online cessation services in NSW

The Cancer Institute NSW developed the iCanQuit website over a 13-month period during 2009 and 2010 (Gutirrez & Newcombe, 2012). The development of the iCanQuit website[1] was informed by a user-centred approach to website design (Goto & Cotler, 2005), social marketing principles (NSMC, 2021) and social networking principles (Eysenbach, 2008). An important element of the development process was the formative research and user testing undertaken with the target audience, as well as the consultation with key stakeholders, particularly the management team and advisors of the NSW Quitline which is the telephone support service offered to people who want to quit smoking. The website strategy intersected both organisational needs and user needs:

- Build a relationship with users that inspires and motivates them into the action of stopping smoking by providing them with the information and tools to personalise their quit journeys and to interact and connect with like-minded users.

- Acknowledge that users' needs may be different depending on their stages of quitting, nicotine dependence levels and motivation to quit for good. They may have different support preferences, from quitting unassisted to using products. The site would need to deepen user engagement by educating, guiding, and inspiring the user to create a personal quit environment conducive to success. (Gutirrez & Newcombe, 2012, p. 28)

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[1] The author of this study, Mayanne Lafontaine, was responsible for leading, developing and implementing the process to develop and launch iCanQuit.com.au, as an employee of Cancer Institute NSW.

4

The iCanQuit website launched in December 2010. The website design centred around three core elements. The first element was to provide general information to inform and educate people who were thinking about quitting. This part of the website retained the evidence-based support that was provided in the printed Quit Kit resource but delivered in a format and style that was more suited to the online environment. The second core element was the section of the website that enabled people to personalise content and tools. This section was titled 'My Journey' and included the inbuilt trackers that users could use to monitor the number of days to their quit date, number of days that they had stopped smoking (after their quit date) and the amount of money saved. The third core element was the section dedicated to communal networking that was titled 'Stories and Experiences'. This was where users could connect with other people who were quitting smoking. Users needed to register to the website if they wanted to contribute to the 'Stories and Experiences' section and save their details and information in 'My Journey'.

The NSW Tobacco Strategy 2012-2021 (NSW Ministry of Health, 2019) outlines the actions for the NSW Government, in collaboration with non-government agencies, to reduce tobacco-related harm in NSW. Behavioural interventions fall under cessation services. These include the NSW Quitline, online services including the iCanQuit website, specialised cessation services, brief interventions provided by health professionals and workplace programs (NSW Ministry of Health, 2019). The key action that relates to the iCanQuit website is for the Cancer Institute NSW and NSW Quitline to "continue to implement and promote the iCanQuit website to provide greater opportunities for interaction and support smokers to quit" (NSW Ministry of Health, 2019, p.11) as can be seen in Table 1.1, measured by website traffic and the number of registered users.

Table 1.1 Action specific to the iCanQuit website in the NSW Tobacco Strategy 2012-2021

Continue to provide evidence based cessation services to support smokers to quit							
Actions	**Responsibility**	**Timeframe**					**Measurement**
		1	2	3	4	5	
Continue to implement and promote the iCanQuit website to provide greater opportunities for interaction and support smokers to quit	Cancer Institute NSW NSW Quitline		✓	✓	✓	✓	Website traffic and number of registered users

Note. Adapted from *NSW Tobacco Strategy 2012-2021*, by NSW Ministry of Health, 2019, p. 11. Copyright 2019 by NSW Ministry of Health.

The NSW Ministry of Health originally launched the NSW Tobacco Strategy for the time period 2012-2017 (NSW Ministry of Health, 2012). The NSW Tobacco Strategy was updated in 2019 with an extended period of 2012-2021. There have only been three reports published by the NSW Ministry of Health on the performance of activities within the NSW Tobacco Strategy. These three reports were published in 2016, 2017 and 2018 which show the number of unique visits to the iCanQuit website reported at 307 280 in 2014/15 (NSW Ministry of Health, 2016), 711 360 in 2016/17 (NSW Ministry of Health, 2017), and 639 684 in 2017 (NSW Ministry of Health, 2018). The number of registered users was not reported in all three reports. Whilst these figures indicate the reach potential of the iCanQuit website as an online support service, the numbers provide limited evidence of the effectiveness of the website. As the study undertaken in this thesis demonstrates, website visits reveal very little of the interactions and support provided on the iCanQuit website.

The interactions and support provided can only be ascertained from the 'Stories and Experiences' section of the website. The 'Stories and Experiences' section is the space that provides the public forum for users to express their own experience with quitting smoking as well as providing support to other users in the form of written posts. Appendix A provides visual images of the current design of the iCanQuit website as well as how users' written posts are publicly shared online under the section 'Stories and Experiences'. The design of the 'Stories and Experiences' forum is based on peer-to-peer support rather than healthcare professional-led support. The discussions hosted on the iCanQuit website are not moderated by a healthcare professional or health advisor. Therefore, the iCanQuit website provides an ideal environment to examine the effect and role of peers in providing support to those who want to stop smoking.

1.3 Purpose and significance of the research

The overall purpose of this study was to examine the effectiveness of the iCanQuit website as a platform that delivers peer-to-peer support to quit smoking. Health promotion is the process of enabling people to increase control over and improve their health (Australian Institute of Health and Welfare, 2020a). Targets to reduce tobacco use cannot be met unless current tobacco users stop smoking (World Health Organization, 2019b). Empowering smokers to quit smoking supports a health promotion approach, which focuses on prevention rather than treatment and cure. The health benefits of quitting are

immediate and substantial. It has been found that the quality of life can return to that of a never smoker after having quit for at least 15 years (Østbye & Taylor, 2004). The World Health Organization (2019b) reports that the majority of smokers want to stop smoking, with 60% of smokers indicating that they want to stop and over 40% reporting that they had attempted to quit smoking in the last twelve months. Behavioural interventions and social support delivered by health professionals is strongly recommended (Fiore et al., 2008; Hartmann-Boyce et al., 2021; World Health Organization, 2003), but the behavioural support from peers is less recognised. This research turns the focus from professional-led online social support to peer-led online social support communities to improve understanding of the positive or negative implications for smoking cessation.

This thesis is the first study on the iCanQuit website that examines the public interactions between quitters. The written posts in the 'Stories and Experiences' forum are public records of how quitters have articulated their quit smoking experience and the dialogue that has been shared with other users of the forum. Since the launch of the iCanQuit website in 2010, the measurement of effectiveness has been reported as the number of visits to the website. The reporting on website visits excludes the actual interactions that have occurred on the iCanQuit 'Stories and Experiences' forum despite the interactions and support offered being the central focus of this online support service. While a quantitative measure of interactions can be deducted from the posting activity of users, it is the substance and meaning of these exchanges that are revealed in this thesis. Over the past ten years since the creation of the iCanQuit website, written posts have accumulated and been stored in the online archives of the forum. The users who have posted on the 'Stories and Experiences' forum have come and gone unnoticed within the reported statistic of total number of visits to the website. These written posts have become the equivalent of the unheard voices of users of the iCanQuit forum and are the key to understanding how effective the iCanQuit forum has been for its users over time.

This study circles back to the users of the forum. Similar to the use of user-centred design at the start of the iCanQuit website's development to understand what the online support service should entail; this research turns to the users of the iCanQuit 'Stories and Experiences' forum to articulate the effect of peer-led online support in their journey to remain abstinent from smoking. The written posts are thus symbolic of the voices of users and this study utilises the process of listening to uncover the role that the iCanQuit website

plays in smoking cessation. As Jim Macnamara noted, organisations vary in the practice of listening to their stakeholders and publics yet effective listening has notable benefits such as increased trust, engagement, loyalty and retention (Macnamara, 2018a). The exercise of listening is inherent in the process of measurement and evaluation of effectiveness (Macnamara, 2015). Therefore, this study aims to afford voice to the users of the iCanQuit forum to ensure their representation in the conclusions of this study. It is only through the success of its users that the effectiveness of the iCanQuit forum as a smoking cessation digital intervention can be recognised.

This thesis advances research on behaviour change interventions that lead to population health improvements and contributes to closing the evidence gap in understanding the effectiveness and role of online social support groups in promoting quit smoking behaviour, specifically with regards to peer-led social support. This thesis assists government and non-government organisations by providing knowledge and understanding of quitters' changing needs over time, with broader global application to the development of programs or projects that explore the use of online social support to change and maintain health behaviours.

1.4 **Structure of the thesis**

This thesis consists of nine chapters that outline the approach and contribution of this study of a peer-led online support group which aims to help people to stop smoking. These chapters highlight the theoretical foundations that guided this research, the listening process used to capture the discussion amongst users of the iCanQuit forum, detailed findings that examine the effectiveness of the iCanQuit forum, as well as discussion on the forum's effectiveness from the perspective of its users. The following paragraphs provide a summary of each of the nine chapters.

Chapter One provides a background to the health issue of tobacco control and the impact quitting smoking has on reducing death and disease caused by smoking. Australia has implemented comprehensive strategies to reduce tobacco use that have led to declines in smoking prevalence. These national strategies are supported by state-level strategies and initiatives. This chapter introduces the iCanQuit website which is the evidence-based smoking cessation online service offered to the people of New South Wales to help them quit smoking. The online forum that exists on the 'Stories and Experiences' section of the

website is a form of peer-led social support. The number of website visits to the iCanQuit website is the only data used by the NSW Ministry of Health to report on the website's effectiveness. This excludes all of the interactions that are occurring on the 'Stories and Experiences' section which omits the contribution of peer-led social support to the desired outcome of individuals remaining smokefree.

Chapter Two presents the literature review in relation to behaviour change theories, social support theory and the current position on the effectiveness of digital interventions for smoking cessation. This chapter provides the context of low-level certainty of effectiveness of digital interventions and the contribution this study provides to address the understanding of the long-term effects of behaviour change interventions. The four research questions that frame this study have been designed to deepen the understanding of the interactions and support exchanged on the forum, as well as respond to the gaps identified in the literature review. This thesis marks the first study on the iCanQuit forum and helps to advance the knowledge and understanding of peer-led online support in a digital context.

Chapter Three describes the methodology undertaken to address the four research questions. The mixed method approach to content analysis describes how the written posts by users on the iCanQuit forum are used to elicit meaning and significance to their use of the forum throughout their journey to remain smokefree. The methodology is described in two stages. The use of publicly available posts extracted from the iCanQuit forum met the nil/negligible risk decision as part of human research ethics approval. As a former employee of the Cancer Institute NSW, the author also received organisational approval to conduct this study on the iCanQuit website. The findings of this study are presented in Chapters Four, Five and Six.

Chapter Four presents the first stage of quantitative content analysis concerning a large sample of users and posts on the iCanQuit forum. The chapter provides comparative findings across the two time periods of 2012 and 2017. Chapter Five presents results of the first stage of qualitative content analysis and introduces the ten key themes identified within the content of the posts. This chapter identified four subgroups of users. 'Newbies' who had quit smoking for less than three months, 'resisters' who had stopped smoking between three and six months, 'successful quitters' who had quit smoking between six and

12 months, and 'long-time quitters' who had stopped smoking for over one year. The author identified a new subgroup of users and titled these 'changemakers'.

'Changemakers' represented a subgroup of users who have remained unnoticed prior to this study and are analysed in detail in Chapter Six. 'Changemakers' illustrated the behaviour change maintenance that has occurred on the iCanQuit forum and hence, the evidence of the forum supporting long-term effects of positive change. 'Changemakers' exemplify the quit smoking outcomes that are achieved through the use of the iCanQuit forum and how simply reporting the number of website visits undermine the behaviour change maintenance that this online service supports.

Chapter Seven discusses the main findings of Chapter Four, Five and Six. Based on these findings, the author has designed and developed a framework that is titled the 'Framework of Insights'. This Framework of Insights encapsulates the findings from this study and illuminates the transformative change and habit-forming behaviour that the iCanQuit forum cultivates amongst its users. Furthermore, the Framework will serve future research in the areas of smoking cessation and peer-led online social support communities.

Chapter Eight presents the key conclusions from this study and draws attention to the knowledge gained by listening to the users of the iCanQuit forum through their written posts. This chapter also highlights implications for practice as it relates to government and non-government organisations, policy makers, public health practitioners and communications specialists, digital designers, and researchers. The impact of COVID-19 is also raised in the context of mental health and wellbeing and how this study can apply to other domains that seek to drive positive behavioural outcomes through connection and social support.

This thesis offers some practical recommendations specific to the iCanQuit forum in Chapter Nine. These recommendations are intended for rapid implementation under the premise of testing with the users of the forum to validate effectiveness. This thesis has drawn attention to the value of listening to the users of the iCanQuit forum to illuminate the impact of peer-led support for sustained behaviour change. Not only does this online community impact the lives of those who use it but it provides the continuous opportunity to advance the Framework of Insights that can inform the development of solutions that

integrate professional-led and peer-led support in response to the challenging and transformative change of staying smokefree.

Chapter 2 Literature review

This chapter provides an overview of the theoretical frameworks of behaviour change and social support as well as a narrative literature review of the evidence for smoking cessation digital interventions.

2.1 Theoretical frameworks of behaviour change

Quitting smoking involves changing one's behaviour. The addictive and habitual nature of smoking makes this behaviour change even more complex. Behaviour change theories seek to explain how behaviour changes and the underlying factors that influence behaviour. Behaviour change theories have often been used to tackle tobacco use and influence the approach or development of smoking cessation interventions (Roberts et al., 2013).

2.1.1 The influence of individual characteristics on behaviour change

Health belief model

The health belief model dates back to the 1950s and is based on expectancy value theory (Macnamara et al., 2018b). The model is based on the interaction between four types of beliefs that define an individual's likelihood to take action related to a health problem: 1) perceived susceptibility; 2) perceived severity; 3) perceived benefits; and 4) perceived barriers (Nutbeam & Harris, 1999). The health belief model also illustrates the role of perceived self-efficacy (belief in the ability to take the recommended action) and the belief that the benefits of taking action outweigh the costs or barriers. Limitations to the model are that it does not consider the broader context in which an individual lives which can significantly aid or deter a course of action.

In the 1970s and 1980s Fishbein and Ajzen expanded the expectancy value theory into the theory of reasoned action and later the theory of planned behaviour. The theory of reasoned action (Fishbein & Ajzen, 1975) suggests that behavioural intention is the immediate precursor to behaviour change. It suggests that behavioural intention is determined by an individual's attitudes and the subjective norms towards the behaviour. These normative beliefs reflect on the influence other people can have on an individual's motivation to change as it relates to the individual's belief on what other people think they should do. The theory was expanded to the theory of planned behaviour (Ajzen, 1991),

with the addition of perceived behavioural control as another influential factor to behavioural intention. The concept of perceived behavioural control closely aligns to self-efficacy. The theory provides further insight into the key factors that influence indvidual behaviour and the importance of perceived social norms in shaping behavioural intent and action.

Transtheoretical (stage of change) model

The stages of change model (Prochaska & DiClemente, 1992) describes levels of motivation and readiness to change. It was based on smokers' approaches to giving up cigarettes and has since been used to inform the design of behavioural interventions for smoking cessation (Borland & Balmford, 2005). It depicts behaviour change as a circular five-stage process. The model recognises that people don't have to systematically progress from one stage to another. The five stages of change are:

- Precontemplation – an individual is not considering changing their behaviour.
- Contemplation – an individual is considering to make a change to a specific behaviour.
- Preparation – an individual makes a commitment to change.
- Action – an individual acts on their commitment to change.
- Maintenance – an individual sustains the behaviour change. Relapse has also been added to this stage.

(Prochaska & DiClemente, 1992)

A limitation of this model is that it focuses on the stages that lead to the action point of changing the behaviour and provides less predictive utility for maintaining the behaviour change post action. Further research was conducted on the specific functions that predicted movement between stages (Prochaska et al., 1985). For recent quitters, helping relationships, self-efficacy and decision making were seen to help in predicting maintenance, while persistent re-evaluation (uncertainty) predicted relapse (Prochaska et al., 1985). While the model defines movement from the Action to Maintenance stage by the length of abstinence, Borland & Balmford (2005) suggest that the model does not adequately characterise the complexity of the Action stage and identified the predictive role of psychologically meaningful perspectives on change. The change in the frequency of urges to smoke and the duration of time a person has remained smokefree were observed to prompt a major shift in perspective that could be used to inform better targeted and

effective interventions. West (2005) also concluded that there has been limited evidence of the benefit of applying the model to behaviour change interventions and proposed that the model no longer be used.

Diffusion of innovation theory

Diffusion of innovation theory (Rogers, 1995) proposes that an adoption of an idea or innovation is reliant on the behaviour of opinion leaders in a person's social network. The success and speed of adoption in communities is linked to characteristics of potential adopters, rate of adoption, nature of the social system, characteristics of the innovation and characteristics of change agents. People are categorised according to how likely they are to adopt the innovation. Innovators are defined as those who are first to adopt the change and considered the risk-takers. Early adopters are seen as opinion leaders among later adopter groups. The early majority group are those that adopt the change later but can still be seen as opinion leaders. The late majority are those that adopt later than average and can be considered as sceptics. The laggards are the last to adopt the change.

Application of behaviour change theories to interventions

Behaviour change interventions have been developed to address many global health issues and represent the practical application of behaviour change theory. "Theories help to make sense of the complexity of behaviour and behaviour change by providing varying degrees of specification of why and how behaviour change occurs, under what circumstances, and for whom" (Bohlen et al., 2020, p. 827). As guided by various behaviour change theories, it is the specific behaviour change techniques that have the potential to influence a change in behaviour (Johnston et al., 2020). While behaviour change interventions can be made up of a number of behaviour change techniques, they may not have a clear theory-based rationale which can limit the testing and refining of theories via real-world application (Bohlen et al., 2020). Practitioners continue to try to dissect behaviour change interventions to synthesise the components that are most effective and to inform future design (Bohlen et al., 2020, Michie et al., 2013; Michie et al., 2018). This includes understanding the choice of behaviour change techniques, identifying frequently occurring combinations, as well as the links between theory and intervention effectiveness.

To advance understanding of behaviour change techniques and their relation to behaviour change theory, Michie et al. (2013) designed a taxonomy of 93 behaviour change

techniques. Subsequently, Michie et al. (2014) developed the Behaviour Change Wheel as a tool to help the design and evaluation of behaviour change interventions. The Behaviour Change Wheel is the culmination of 19 frameworks of behaviour change. At its core is the behaviour change model called COM-B which stands for capability, opportunity, motivation and behaviour (Michie et al., 2014). It suggests that "changing behaviour will involve changing one or more of them [capability, opportunity, motivation] in such a way as to put the system into a new configuration and minimise the risk of it reverting" (Michie et al., 2014, p. 11). Capability addressees the behavioural construct of self-efficacy in that the individual/s must be able to perform the behaviour. This relates to the physical strength, knowledge, and skills of the person. Opportunity addresses the conditions for the behaviour to occur such as the physical and social environment. Motivation addresses the strength of the individual's motivation to engage in the behaviour. The Behaviour Change Wheel also identifies intervention functions and policy options. Understanding the key behaviour change techniques can help to cement the theory-based rationale for behaviour change interventions and the combinations that prove most effective.

2.1.2 The role of communication in influencing behaviour change

Behaviour change communication

Behaviour change communication is an approach to communication that is theory and evidence based. It applies several theories including the health belief model, theory of planned behaviour and diffusion of innovation, to define the role of communication to influence change, and focuses on changing behaviour by drawing on the disciplines of behavioural science, behavioural economics, and behavioural insights (Macnamara, 2018b, Thaler & Sunstein, 2008). As Macnamara et al. (2018b) states: "the explicit emphasis on behaviour change as an outcome highlights the need for a thorough understanding of the range of influences, internal and external, that determine why people do what they do and how to stimulate changes in behaviour" (p. 82-83). The development of communication strategies to change individual behaviour relies on the deep understanding of the broader environmental context in which the behaviour occurs. A growing understanding that behaviours are influenced by the social context as well as the constructs of community engagement and community mobilisation has led to a further shift from behaviour change communication to social and behaviour change communication (Macnamara, 2018b).

Social and behaviour change communication

Social and behaviour change communication recognises social influences and "incorporates both individual level change and change at broader environmental and structural levels" (Macnamara, 2018b, p. 83). The approach towards internal factors and social influences are seen as complementary, with organisations such as the United Nations Children's Emergency Fund (UNICEF) adopting an iterative process through the model of communication for social change (CFSC). This model highlights the importance of both community dialogue and collective action to bring about long-term social change (United Nations Development Programme, 2011). Elements of the CFSC process are "catalyst, community problem recognition, community dialogue, planning and collective action" (United Nations Development Programme, 2011, p. 7).

2.1.3 Individual behaviour within a broader social context

Social ecology model

Social ecology models seek to unravel and aid understanding of individual behaviour, with recognition that the broader context in which an individual lives can greatly influence the behaviour and/or issue at hand. A social ecology model "focuses attention on the contexts of behaviour when designing, implementing or critically evaluating interventions" (Panter-Brick et al., 2006, p. 2810). The contexts of behavior include the social and physical settings as well as the interactions between individuals and external factors (Panter-Brick et al., 2006). McLeroy et al. (1988) developed an ecological model for health promotion (see Table 2.1) which outlines the levels of influence. The model implies that these five levels of analysis impact health behaviours.

Table 2.1 Ecological model for health promotion

Level of influence	Description
Intrapersonal level	Individual characteristics that influence behaviour such as knowledge, attitudes and beliefs.
Interpersonal level	Interpersonal processes and primary groups including formal and informal social network and social support systems (family, work colleagues, friendship circles).
Institutional factors	Formal and informal rules, regulations, policies that can promote or restrict behaviours.

Community factors	Social networks and norms/standards, shared identity and relationships that can be formal or informal and exist among individuals, groups or organisations.
Public Policy/ Environment	Local, state, and national laws and policies or environments/structures that impact on health.

Note. Adapted from "An ecological perspective on health promotion programs", by K. R. McLeroy, et al., 1988, *Health Education Quarterly*, *15*(4), p. 355.

The Centers for Disease Control and Prevention (CDC) in Washington, DC uses a social ecological model in approaching issues across various health disciplines such as cancer screening, obesity prevention and violence prevention (CDC, 2021) which can be seen in Figure 2.1. The model is similar to McLeroy's ecological model for health promotion but includes institutional factors within the community level and covers public policy/environment within the societal level.

Figure 2.1 Social-ecological model for prevention
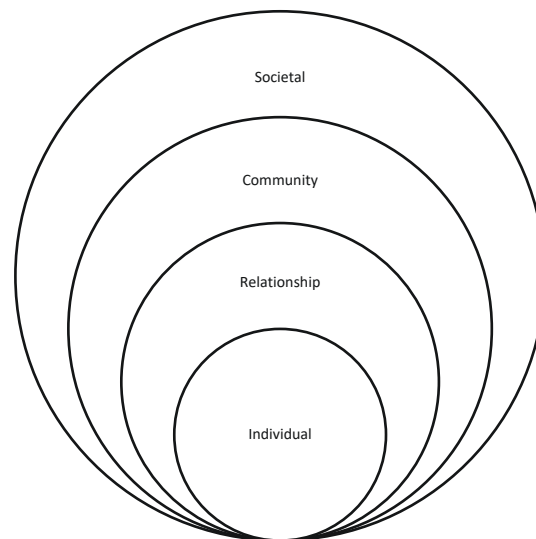
Note. Adapted from *The social-ecological model: A framework for prevention*, by CDC, 2021.

The social ecological model by the CDC (2021) uses overlapping rings to illustrate how factors at the different levels influence each other. The model articulates the complexity of changing behaviour due to the necessity of acting across the multiple levels at the same time to achieve population-level impact over time.

Health is sensitive to the social environment, known as the social determinants of health (Wilkinson & Marmot, 2003). There is evidence of the relationship between health outcomes and people's lifestyle and living and working conditions (Wilkinson & Marmot, 2003). These determinants of health can threaten health, promote health or protect health (Dahlgren & Whitehead, 1991). In relation to tobacco smoking in Australia, the likelihood of being a smoker is:

- two times as high in remote/very remote areas compared to major cities,
- three times higher in the lowest socioeconomic areas compared to the highest socioeconomic areas,
- 1.7 times as high for unemployed people compared to employed people, and
- 2.6 times as high for Aboriginal and Torres Strait Islander Australians compared to non-Indigenous.

(Australian Institute of Health and Welfare, 2016)

The framework for determinants of health developed for WHO (Figure 2.2) is another way to demonstrate the influence of social determinants on a person's individual lifestyle and genetic makeup and why a social ecology approach is needed for health behaviour.

Figure 2.2 Framework for determinants of health
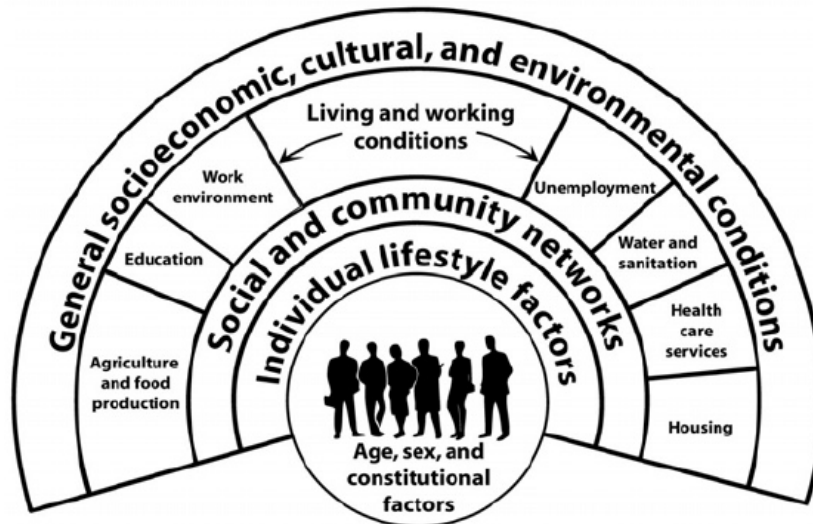
Note. From *Policies and strategies to promote social equity in health. Background document to WHO—strategy paper for Europe* (p. 11), G. Dahlgren & M. Whitehead, 1991, Institute for Future Studies.

This framework for determinants of health emphasises the influential role of social and community networks (Dahlgren & Whitehead, 1991). "Belonging to a social network of communication and mutual obligation makes people feel cared for, loved, esteemed and valued …[and] this has a powerful protective effect on health" (Wilkinson & Marmot, 2003, p. 22). The placement of social support in the framework also emphasises that support operates on both the individual and society level, pointing to the impact social isolation and exclusion can have on health outcomes.

2.1.4 Theory of behaviour change maintenance

Behaviour change theories tend to focus on the variables that lead to the action of behaviour change. While initiating the behaviour change is important, there seems to be limited evidence on the long-term effects of behaviour change interventions (Kwasnicka et al., 2016). This may be an identified shortfall of the evaluation of behaviour change interventions in that the focus has been on short-term behaviour change as opposed to sustaining the behaviour over time. Behavioural interventions targeting smoking cessation

have been found to be effective in initiating the change but not as effective in helping people to maintain those changes (Ockene et al., 2000). Studies in smoking cessation tend to focus on three, six or twelve-month follow-up with limited studies extending follow-up beyond the 12-month mark (Ockene et al., 2000). The focus on short term effects of behaviour change interventions (three or six months) is similar in other health domains. A systematic review of behaviour change maintenance related to physical activity and cancer survivors concluded that there is a lack of evidence on the effectiveness of interventions promoting long-term change, and the components of interventions that may facilitate that change (Grimmett et al., 2019). Another systematic review of physical activity interventions amongst young and middle-aged adults also concluded that some interventions showed effects up to 15-months but that future research is needed to consider measurement of behaviour change maintenance (Murray et al., 2017). In a qualitative review that assessed lifestyle behaviour change in individuals with cardiovascular disease, majority of studies included maintenance follow-ups of up to two years following a particular event (diagnosis, treatment, program participation) (Murray et al., 2013). Standard practice of care for chronic disease may facilitate this ability to follow-up with patients years after.

The importance of behaviour change maintenance has been exacerbated by the recent COVID-19 pandemic where global populations are asked to sustain the health protective behaviours of hand hygiene, social distancing and mask wearing. Organisations such as the Hertfordshire County Council Behaviour Change Unit in the United Kingdom have issued practical recommendations that communicate how to apply behaviour change maintenance theory to sustain COVID-19 safe behaviours (Dio et al., 2020). The six influences that encourage sustained behaviour are self-regulation, resources, contextual influences, maintenance motives, habit and belief about consequences. These have been adopted from behaviour change maintenance theory (Kwasnicka et al., 2016) and framed by the COM-B model of capability, opportunity and motivation to drive behaviour change (Michie et al., 2014). The brief report developed by Dio et al. (2020) demonstrates the potential need for more practical guidance on how to apply behaviour change theories and maintenance theories to dynamic real-world issues.

Behaviour change maintenance theory is therefore an important consideration for this research to address this growing gap of uncertainty on the long-term effects of these behaviour change interventions and to examine if the iCanQuit forum can provide

evidence of helping behaviour change maintenance. Following a review of multiple behaviour change theories, Kwasnicka et al. (2016) concluded that "five themes reflect specific theoretical explanations about how individuals maintain initial behaviour changes over time and in different contexts" (p. 282). Five themes identified as relevant to successful behaviour change maintenance were:

- Maintenance motives – at least one sustained maintenance motive such as satisfaction with the behavioural outcome, alignment with identity, beliefs and values, enjoyment in engaging in the behaviour. There is a focus on immediate and affective behavioural outcomes.

- Self-regulation – self-monitor or regulate the new behaviour along with effective strategies to overcome any barriers. The need for self-regulation is strongest when the new behaviour is not yet automatic.

- Resources – psychological and physical resources are plentiful.

- Habit – new behaviour is habitual and supported by automatic responses to relevant cues. Removing cues that trigger unhealthy behaviours from the environment help to maintain the new behaviour.

- Environmental and social influences – existence of a supportive environment and social support. New behaviour is in line with relevant social changes.

(Kwasnicka et al., 2016)

Behaviour change maintenance theory supports a social ecology approach. Kwasnicka et al. (2016) reported the importance of ecological factors for behaviour change maintenance as "stable contexts make behaviour and habits easier to sustain" (p. 290). The environmental conditions that the iCanQuit forum supports will impact on its ability to sustain behaviour change maintenance.

2.1.4.1 The role of habit in behaviour change maintenance

Habit is one of the five themes as identified by Kwasnicka et al. (2016) that is relevant for successful behaviour change maintenance. Smoking is an unhealthy habit that is further challenged by the highly addictive substance found in tobacco products, nicotine (Greenhalgh et al., 2020). The ability to change one's behaviour once may not be difficult but, sustaining that change is much harder (Hollingworth & Barker, 2020), particularly when it is an addictive substance. Therefore, it is important to understand habit formation

as developing a new habit to replace the old was one of the main theoretical themes for behaviour change maintenance.

All humans practice habitual behaviour. Neal et al (2015) reports that around 45 percent of human behaviour can be considered habitual. These include "a mix of behaviours that are healthy, or consistent with people's goals, and behaviours that are unhealthy or inconsistent with people's goals" (Neal et al., 2015, p. 3). Habits are learned sequence of acts. They develop over time to a point where they have become automatic, unconscious responses to specific cues or triggers (Verplanken & Aarts, 2011). In relation to behaviour change theory, if the behaviour in question is habitual, behavioural intention may lose its predictive power (Neal et al., 2015; Verplanken & Aarts, 2011). The difficulty with changing habits is that they become automatic. Hollingworth & Baker (2020) state that this type of automatic behaviour is defined by three qualities. First, there is minimal awareness whereby the action is carried out without needing much attention. Second, there is efficiency whereby the behaviour is carried out in parallel with other activities that demand more attention. The third quality is lack of control and conscious intention as the automatic behaviour is difficult to stop as it is done without conscious intention.

For smokers, examples of habitual behaviours associated to smoking are drinking a cup of coffee first thing in the morning or having a smoke in the car on the way to work (Cancer Institute NSW, 2021a). The challenge can lie in the ability to change existing habits and adopt new ones (Hollingworth & Barker, 2020). There is recognition of the "different brain systems that control goal-directed action and habits. These two systems influence behaviour independently of each other" (Hollingworth & Baker, 2020, p. 10). Adopting a new behaviour requires the human brain to engage in that behaviour without needing to consciously deliberate about it. Features of a habit are that it "is automatic, initiated by a cue or trigger, often repeated and embedded via a reward" (Hollingworth & Baker, 2020, p. 12-13). The habit loop model (trigger – routine – reward) was designed to highlight the elements needed to build a new habit (Duhigg, 2012). Neal et al. (2015) developed six principles for building habits. These principles are not a sequential or a stage model. However, the more principles that are addressed, the more likely the behaviour change is likely to be more successful and sustained (Neal et al., 2015). The six principles are categorised into three domains.

The three domains that house the six principles for building habits are outlined in Figure 2.3. The first domain is precondition which encompasses the foundational elements for developing a new habit. These are: 1) having the right conditions and environment that will support the new habit via consistent cues that automate the new habit and, 2) leveraging the context which looks at the natural opportunities that may support the initiation of the new habit or accompany an existing habit. The second domain is adoption which includes the principles that enable the rapid adoption of the habit. These include: 3) making it easy and, 4) ensuring there are cues and rewards to encourage the new habit. The third domain is maintenance which includes the final two principles that help the new habit stick. This involves: 5) the practice and repeat of the new habit as well as, 6) building a deeper meaning and motivation to support the maintenance of the new habit.

Figure 2.3 Six principles for building habits

Domain 1: Precondition	Domain 2: Adoption	Domain 3: Maintenance
1. Ensure a stable, supportive environment	3. Make it easy	5. Practice and repeat
2. Leverage the context	4. Develop cues and rewards	6. Build meaning and motivation
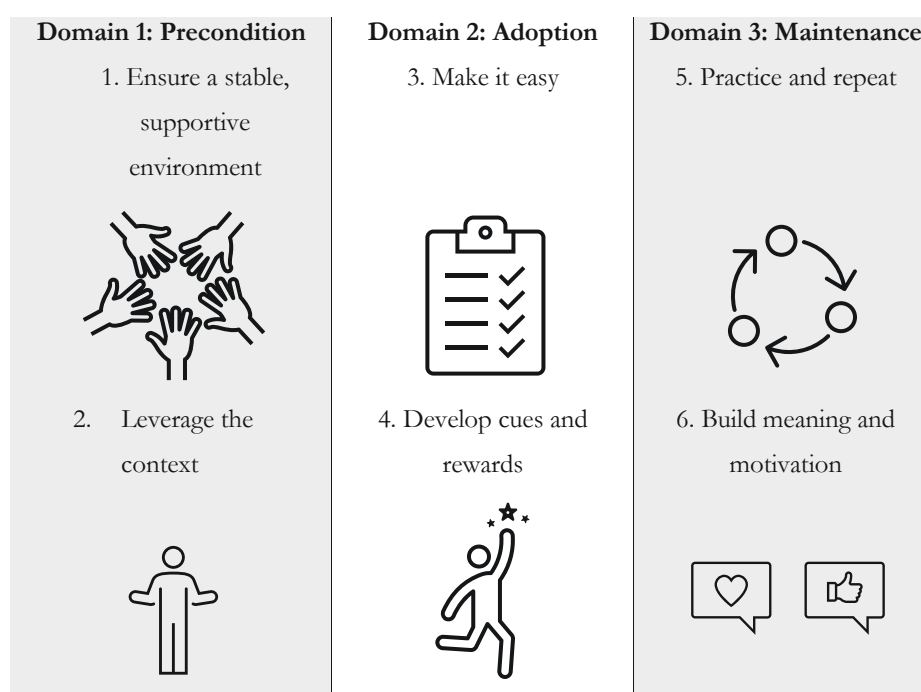
Note. Adapted from *The Science of Habit: Creating Disruptive and Sticky Behavior Change in Handwashing Behavior* (p. 8), by D. Neale, J. Vujcic, O. Hernandez, & W. Wood, 2015, USAID/WASHplus Project.

The behaviour change of quitting smoking is challenging in that it requires someone to stop a habit that they have developed and repeated over years. With such ingrained habits, an interesting phenomenon to consider is the fresh start that needs to occur to jolt someone into the behaviour change (Milkman, 2021). A fresh start is likened to resetting the status quo which enables an individual to pursue change.

> Fresh starts increase your motivation to change because they give you
> either a real clean slate or the impression of one; they relegate your
> failures more clearly to the past, and they boost your optimism about the
> future. They can also disrupt bad habits and lead you to think bigger
> picture. (Milkman, 2021, p. 36)

An example is New Year's Day which tends to trigger change or other temporal landmarks such as a birthday or a health scare. While this fresh start can initiate the behaviour change and ties into the principle of leveraging the context, understanding how the six principles apply is necessary to understand how individuals can sustain the behaviour of staying quit over time.

2.2 Social support theory in the online environment

Social support is a recognised behaviour change technique and an important element of behaviour change maintenance theory (Michie et al., 2014; Michie et al., 2013; Kwasnicka et al., 2016). Social support is "an exchange of resources between two individuals perceived by the provider or the recipient to be intended to enhance the wellbeing of the recipient" (Shumaker & Brownell, 1984, p. 11). The role of social support in online support groups has been explored in various disciplines including chronic disease, eating disorders, palliative care and disabilities (Braithwaite et al., 1999; Eichhorn, 2008; Erfani et al., 2016; Kim et al., 2012; Klemm et al., 1998; Murray et al., 2013; Ngwenya & Mills, 2014; Robinson & Turner, 2003; Rodgers & Chen, 2005; Sillence, 2013; Weinberg et al., 1996). The breadth of these studies indicates the perceived benefits of social support which include belongingness and positive health outcomes. These benefits align to the motivations of participating on blogs, whereby sharing personal stories helped people cope with their conditions/health behaviours (Ngwenya & Mills, 2014).

The growing number of computer mediated social support groups in forms such as blogs and forums is an indicator of a shift in preference for online support rather than alternative offline support networks (Chung, 2013). This may have greater salience for quitting due to the social stigma strongly associated to the habit of smoking. The social stigma associated to smoking results in feelings of family/friend/co-worker/healthcare provider disapproval, general social unacceptability, and the perception of differential treatment by smoking

status (Evans-Polce et al., 2015). Other negative consequences include feeling ostracised and judged, as well as an internalisation of the stigma expressed as guilt, loss of self-esteem, defensiveness and resolve to continue to smoke (Evans-Polce et al., 2015). This stigma has also been found to delay seeking medical help following onset of lung cancer related symptoms (Scott et al., 2015). Thus, social stigma may be a driver in accessing social support online where one can remain anonymous.

2.2.1 Types of social support

Cutrona & Russell (1990) developed a classification system which identified five basic support dimensions consisting of emotional support (expressions of comfort and caring), network support (feeling of belonging to a group where members share common interests or concerns), esteem support (bolstering a person's sense of competence or self-esteem), tangible support (providing services or resources in order for one to cope), and informational support (advice or guidance). This categorisation has been applied across various online support groups, with emotional support being the most frequently cited type of social support (Braithwaite et al., 1999; Eichhorn, 2008; Oh et al., 2013). Emotional support has also been found to enhance self-efficacy (Oh et al., 2013; Rains et al., 2015) which is a critical component of behaviour change (Holloway & Watson, 2002). While this provides a classification for the type of social support, studies have also explored the optimal matching patterns of social support. The optimal match suggests that certain stressful events or contexts may benefit more from specific types of social support (Cutrona, 1990; Merluzzi et al., 2016). Merluzzi et al. (2016) states that an optimal match between the receiver and provider of social support can help the adjustment of persons dealing with health issues like cancer. As the needs for the support can change over time, it is important for the receiver of the support to provide feedback to the provider about the need and appropriateness of the support offered as the mismatch can cause even more distress (Merluzzi et al., 2016).

2.2.1.1 Social capital as an outcome of social support

The benefits of this exchange process have its roots in social capital theory. The theoretical framework of social capital was first introduced by Bourdieu (1985), and followed by other notable authors such as Coleman (1988) and Putnam (1995, 2000). While definitions may

vary, there are common concepts of relations between individuals, the existence of a social structure/network, and the shared value and mutual benefits that arise from these relations.

Bourdieu argued that "the network of relationships is the product of investment strategies, individual or collective, consciously or unconsciously aimed at establishing or reproducing social relationships that are directly usable in the short or long term" (Bourdieu, 1985, p. 249). The art of exchange between members of a group is what transforms what is exchanged into signs of recognition. The subsequent mutual recognition and implied recognition of group membership reproduces the group (Bourdieu, 1985). Individuals who engage in these interactions and networking do so with an expectation to produce profits (Lin, 1999).

The forms of social capital exist across various levels such as individual or relational and at the community level (Lin, 1999). Social capital at the community level, frequently established by increased participation and trust among community members leads to increased commitment to the group and the ability to mobilise collective action (Steinfield et al., 2008). These patterns of connections and interaction between ties can be mapped out to visualise the social structure of the community. Key variables could be the strength of the relationships, amount of time spent interacting with others and frequency of communication with others (Li et al., 2014). Individual or relational social capital is built from the personal relationships members of a community have developed with other members through past and ongoing interactions. There are often high levels of trust and recognition of the various community cooperative norms that exist within the community (Li et al., 2014). Accrued benefits at this level include information or support (Steinfield et al., 2008). It is at this level where one often cites the creation of bridging or bonding social capital. Bonding social capital exists in those emotionally close relationships such as family and close friends. Bridging social capital stems from the loose connections or weak ties that are more useful for information sharing rather than emotional support (Granovetter, 1983; Steinfield et al., 2008).

The longevity of the group thus relies on the continuous exchange between members in the short or long term. In the context of online support groups, it is this network of weak ties that enables access to information and resources that extend beyond what is available in immediate social circles or network of strong ties (Granovetter, 1983). The strength of

weak ties lies in their heterogeneity, particularly where family or friends (strong ties) lack the experience or information about certain problems, and the possibility of a broader diffusion of information (Granovetter, 1983; Wright & Miller, 2010). There may also be discomfort in discussing sensitive topics or those that may be associated to a social stigma (Wright & Miller, 2010; Wright & Rains, 2013).

Interpersonal communication between individuals drives the strength of these ties and generates social support. Word of mouth is one form of interpersonal communication which has been explored in the domain of consumer behaviour (Berger, 2014). While this has been explored in relation to consumer product related discussion, there may be correlations with the dialogue between individuals on similar delivery modes (such as forums on the internet) in the health context. Berger (2014) concluded that certain topics may elicit greater discussion and defined particular drivers of discussion. Berger (2014) outlined five key functions of word of mouth:

- Impression management – shaping the impressions people have of them and presenting desired identities.
- Emotional regulation – managing emotion when it is experienced and how emotion is expressed, with social sharing aiding this regulation.
- Information acquisition – seeking information to aid uncertainty.
- Social bonding – connecting with others to social relationships and interpersonal communication that can reinforce shared views or reduce loneliness and social exclusion.
- Persuading others – influencing others in what is shared such as things that are emotionally polarised or arousing in nature.

The functions of emotional regulation, information acquisition and social bonding align to some of the themes related to behaviour change maintenance. While the social capital that is generated from interpersonal communication is experienced by the community, Berger (2014) posits that the drivers are self-(rather than other) serving.

In a number of studies, emotional and informational support seems to be the more frequent types of support present in online support groups. The observed frequency of emotional support is of interest as it challenges the conventional view that weak ties are more closely associated to information diffusion rather than emotional support (Doerfel &

Moore, 2016; Granovetter, 1983; Wellman & Hampton, 1999). An online social support group may provide the environment that accelerates the progression of tie strength. The culture or context of an online social support group is explicitly known prior to any member taking clear explicit action to join or participate. This may be communicated by the content on the website where the online social support group exists, the name of the group and/or the visible discussion that is happening at that point in time or from historical threads. Joining the online social support group is an explicit indicator that the new member has a shared interest with others in the group. Doerfel & Moore (2016) argue that homophilous environments give rise to the creation of strong spontaneous ties. This is where individuals within a group feel that there are enough perceived points of commonality that lead to greater acceptance to being a member of the group (Doerfel & Moore, 2016). This is due to the text-based nature of these interactions where the quality and intensity of the tie strength between members of the network emerges. Doerfel & Moore (2016) propose the significance of discussion analysis to more fully understand this dimension of tie strength, strength of spontaneous ties, and the idea that homophilous online social network communities generate communities of strong ties.

2.2.1.2 Benefits of blogging

The benefits of blogging in terms of social connectivity and social support align to the motivations of participating on blogs, whereby sharing personal stories help people cope with their conditions or health behaviours (Chung & Kim, 2008; Kim et al., 2012; Ngwenya & Mills, 2014). Research on the blog component of the Danish Cancer Society's internet based smoking cessation program found that the blog provides social support to people in the process of quitting by enabling informal conversations about quitting (Brandt et al., 2013). The most common form of social support provided to members was through personal stories and experiences, provision of emotional support, or congratulating members. Similar results were found in research conducted with pregnant women which found that blogging helped them to quit or remain smokefree by increasing their social support and promoting self-reflection (Minian et al., 2016). Minian et al. (2016) identified four central elements of members' experiences of blogging: 1) opportunity for self-reflection; 2) practical benefits of writing; 3) connection to peers; and 4) support from others. Support from others was particularly valuable for those who had a small personal support network.

Psychological wellbeing like self-esteem have been connected to the interactions or ties within dense social network communities (Helliwell & Putnam, 2004). Research conducted by Rodgers & Chen (2005) involved a longitudinal study that enabled the profiling and examination of 100 women's life stories over a three-year period. The study found a positive correlation between amount of participation on an online breast cancer support bulletin board and psychosocial well-being.

Benefits of support provision may also stem from the mere art of writing. The translation of events into language has been shown to help participants better understand and cope more effectively with their stressful and/or emotional circumstances (Pennebaker, 1990; Pennebaker, 1997). By writing personal stories, it promotes self-reflection and assists "understanding of social experience and the achievement of a desired reality" (Cooper et al., 2010, p. 558) as well as enabling a sense of control of the "messiness of ongoing lives" (Langellier & Peterson, 2011, p. 67). This form of self-disclosure can also be a sign of trust and willingness to develop or strengthen a relationship (Shumaker & Brownell, 1984). In essence, the supportive functions are drawing on evidence based behavioural strategies such as journaling and getting support from others (Minian et al., 2016).

Blogging invites asynchronous communication which is different to what is experienced through face-to-face oral communication. Berger (2014) argues that the mode of communication delivery and synchronicity impact the motives for sharing. The asynchronicity of writing is seen to encourage impression management and persuading others, as opposed to emotional regulation and social bonding where the more immediate feedback is seen to better generate shared views and enable social support (Berger, 2014). Interestingly, Berger (2014) sees oral social sharing when people are talking directly with each other as providing greater richness and warmness than the written form which is seen as more formal. As online modes of communication are increasingly present in peoples' lives, particularly in the context of the 2020/2021 global coronavirus pandemic, differences in benefits and motives by the communication mode of delivery may become less pronounced.

2.3   Smoking cessation digital interventions

Various terms have been used to describe smoking cessation digital interventions. These include internet-based, web-assisted, web-based and more recently mCessation which is the

delivery of the intervention by a mobile phone. mCessation or mobile cessation interventions indicate the increased propensity of people to access information and services via their mobile phone. To facilitate the review of the literature and understand the current positioning on effectiveness of these interventions for smoking cessation, the Cochrane Database of Systematic Reviews was explored. The Cochrane Database of Systematic Reviews is a well-regarded journal and database for systematic reviews in healthcare. These reviews are commonly referred to by health organisations to assess and review existing evidence.

2.3.1 Evidence of effectiveness

Three Cochrane reviews published in 2017, 2019 and 2021 were included as part of the initial review. Interestingly, there seemed to be a declining level of certainty as each updated review was released. The 2017 review on internet-based interventions for smoking cessation concluded that "internet programmes that were interactive and tailored to individual responses led to higher quit rates than usual care or written self-help at six months or longer" (Taylor et al., 2017, p. 2) for adults but that this should be interpreted with caution (Taylor et al., 2017). The 2021 review concluded that while "behavioural support for smoking cessation can increase quit rates at six months or longer" (Hartmann-Boyce et al., 2021, p. 2), evidence was strongest for counselling and guaranteed financial incentives. Cochrane reviews adopt a grade approach which includes high, moderate, low and very low. The highest quality rating is provided to a body of evidence based on randomised controlled trials and a low level of certainty is provided to observational studies (Higgins et al., 2021). The review states that there was very low-certainty of evidence for effectiveness of smoking cessation behavioural interventions that are delivered via the internet (Hartmann-Boyce et al., 2021). The 2019 Cochrane review on mobile phone-based smoking cessation support came to similar conclusions of very low-certainty of evidence for smartphone apps and moderate level certainty for text messaging interventions (Whittaker et al., 2019). All have called for further studies on behavioural support via internet/computer or mobile phone given the limited evidence.

The 2021 conclusions that related to internet-based interventions were based on the 2017 review conducted by Taylor et al. (2017) which included randomised or quasi-randomised controlled trials only. Studies also focused on behavioural support as an adjunct to pharmacotherapy or other medicines to stop smoking. The interventions included in the

review ranged from low to high intensity. High intensity interventions were those that included a multi-mode interaction with the user such as website, email and mobile phone components. Low intensity interventions were those that included information only, with no element of personalisation. Website interventions were discussed as tailored or interactive or both.

Tailored and interactive programs were guided by questionnaires to the participant so that the content, training modules, emails, text messages could be tailored or personalised to the participant. When the internet intervention included behavioural support, this component was provided in the form of face-to-face counselling, phone counselling, email or text message follow-ups. When the behavioural support was offered by another person (face-to-face or phone), this person was a trained health professional or smoking cessation advisor. The exploration of behavioural support provided by peers or a social network was limited. The review also only included studies that compared one behavioural intervention to another. While this focused on studies that could report on a level of effectiveness, it excluded any evaluations that were process driven or descriptive. There are other limitations of randomised controlled trials. For example, due to the nature of recruiting to randomised controlled trials, those that participate may already be more motivated to undertake the action (Grimmett et al., 2019). Furthermore, the use of randomised controlled trials to explain the superiority of interventions risks limiting understanding about what components may contribute to more effective interventions (Grimmett et al., 2019). An intervention may be considered ineffective in comparison to another which may prematurely exclude interventions that could in fact present elements that lead to positive behaviour change (Grimmett et al., 2019).

The majority of internet-based interventions included as part of the Cochrane reviews were designed very differently to the iCanQuit website. The iCanQuit website would have been considered a lower intensity intervention as the website consists predominantly of static information pages (not tailored to an individual) with one community component. The 'Stories and Experiences' section of the iCanQuit website is the only interactive component of the site. An examination of the studies included in the reviews identified few studies that had a forum/community component. However, the forum elements were not highlighted as an area of focus for the review with effectiveness focusing on the interactive features of the website compared to a control such as a quit guide resource. The concluding low level

of evidence provided insight into the observation made by Graham et al. (2016, p. 56) that "tobacco-independence treatment guidelines have noted their [internet-based interventions] promise but have stopped short of including them as a recommended treatment strategy, instead calling for more research on their effectiveness". The reliance on randomised controlled trials to determine effectiveness may have prematurely disregarded the role internet-based interventions can provide in smoking cessation.

The design of smoking cessation digital interventions has predominantly been structured like a quit guide which are commonly used by trained cessation experts (Taylor et al., 2017) and made for offline modes of delivery. Similarly, mobile phone apps have been designed or evaluated against how they provide advice, information or activities that have been effective in other modes of delivery (Ubhi et al., 2016). Ubhi et al. (2016) concluded that mobile phone apps have fallen short in their conformity to the United States Public Health Service's Clinical Practice Guideline for Treating Tobacco Use and Dependence (Fiore et al., 2008) and that this should be used to guide future design. The study also noted that mobile phone apps focused more on features targeted at high attrition rates rather than being effective for smoking cessation (Ubhi et al., 2016) which indicated a potential misalignment of understanding on how effectiveness is measured. Reported low levels of effectiveness may also raise questions on the approach public health authorities have taken in designing these behaviour change interventions. The approach to directly transfer content from an offline mode to an online mode is questioned and may actually hinder the suitability and effectiveness of internet-based interventions.

There were further limitations with the studies included in the Cochrane reviews. Interventions predominantly focused on short-term outcomes or abstinence of up to six months. This may confirm the role of the interventions effectiveness in initiating the behaviour change but continues to highlight the ongoing need to better understand the long-term effects of these digital interventions. The most recent review conducted by Hartmann-Boyce et al. (2021) acknowledge other areas that remain uncertain. These include the effectiveness of other types of behavioural support such as hypnotherapy and exercise-based support, as well as the questions about who gives the behavioural support and how this effects quit outcomes (Hartmann-Boyce et al., 2021).

The gap in understanding of whether the person who provides the behavioural support has an effect on quit smoking outcomes and the mode of communication delivery is an area of interest for this research. The iCanQuit 'Stories and Experiences' forum draws on the support offered by other participants in the online community rather than the support delivered by a health professional. This literature review therefore needed to expand to internet-based interventions that provided similar offerings to the iCanQuit website. Apart from the studies included in the Cochrane reviews that noted online forum support, a search for other relevant studies was conducted.

2.3.2 Review of smoking cessation digital interventions with a community component

The review yielded fourteen studies that spanned seven website-delivered smoking cessation interventions and two social media-delivered interventions. From this point, the term digital will be used to encapsulate the various online delivery modes. These digital smoking cessation interventions serviced populations from United States of America, Canada, United Kingdom, Switzerland and Australia. These fourteen studies are outlined in Table 2.2. These studies were selected as they included digital interventions that were comparable to the iCanQuit website in that they did not actively exclude users such as limiting access to college students, were population-wide smoking cessation online services and not developed for a specific cohort of users, were free and included a platform for interactive discussion between users such as forums, blogs, or a Facebook page. The last criteria was critical as the purpose of this study was to examine the community dialogue between users and not the behavioural support delivered by a health professional or health expert.

Table 2.2. Overview of literature that investigated smoking cessation digital interventions with a community component

Name	Reference	Country	Social support feature	Method	Metrics	Sample size (n)
Alt.Support.Stop-Smoking forum	(Stearns et al., 2014)	USA	Community forum	Quantitative study of engagement Network analysis	Frequency of posts Users groups (core contributors) Patterns of use (short- and long-term)	1 August 2003 – 15 September 2013 8236 users
BecomeAnEx	(Kahler et al., 2020)	USA	Ex community	2 group randomised control design Survey at 1 and 6 months	Self-reported 7 day abstinence Website visits Pages viewed Completion of program content	10 May to 3 July 2017 – 7 weeks 119 users
	(Richardson et al., 2013)	USA	Community forum	Survey at 1, 3 and 6 months from self-reported baseline Automated system management	Self-reported quit status/abstinence Visits Time on site Pages viewed	19 January – 23 May 2011 1033 users
	(Zhao et al., 2016)	USA	4 subnetworks: private messages, message boards, group discussions, and blogs	Social network analysis	Structure (nodes, degree centrality, User groups (super users, regular contributors, lurkers, inactive users)	1 January 2010 to 31 May 2015 71,251 users

QuitNet	(Cobb et al., 2010)	USA	Forum, internal messages, buddy list	Social network analysis	Ties (centrality, degree), Number of posts Declared quit status at registration	March 1, 2007–April 30, 2007 (60 days) 7569 participants (active in that period)
	(Myneni et al., 2016)		Forum	Content analysis (qualitative)	Behaviour change constructs	1 March – 30 April 2007 795 messages
	(Zhang et al., 2012)		Forum and Facebook page	Social network analysis	Structure (density, degree centrality, group centrality) Number of users (by quit status)	1 – 31 May 2011 (forum) 1 April – 30 June 2011 (Facebook)
	(Zhang et al., 2013)		QuitStop forum	Content analysis (qualitative)	Type of support Interactive patterns	1-31 May 2011 Random selection of 228 posts and 1672 comments
	(Zhang & Yang, 2014)		QuitStop forum	Naïve Bayes classification (classification techniques for data mining)	Intentions and support types	1-31 May 2011 and 1-31 July 2011 375 posts and 1365 comments
Reddit's Stop Smoking forum	(Wadley et al., 2014)	USA	Forum	Content analysis (quantitative and qualitative)	Participation (number of posts) Structure and content of posts	April 2014 732 posts
Smoking Cessation Facebook page	(Ploderer et al., 2013)	Australia	Facebook page	Content analysis (qualitative)	Quit status Message themes	6 months leading up to 5 April 2012 357 posts

StopSmokingCenter	(Selby et al. 2010)	Canada	Forum	Content analysis (quantitative and qualitative)	Demographic and smoking characteristics (number of members) Message themes of first posts Posting patterns (frequency)	6 November 2004 to 15 May 2007 16,764 users
Stop smoking centre (SSC) and Smokers' helpline online (SHO)	(van Mierlo et al., 2012)	Canada	Forum	Survey Content analysis (quantitative)	Number of users (superusers) Participation (number of posts)	SSC: 17 May 2007 to 12 October 2010 11,418 registered users SHO: 26 June 2008 to 12 October 2010 21,128 registered users
Stop-Tabac	(Burri et al., 2006)	Switzerland	Forum aimed at recent ex-smokers	Content analysis (qualitative)	Posts (initial and reply) Lurkers 17 content categories	March 2001 - October 2005 2,025 people 1,033 messages 1,551 comments

2.3.2.1 Delivery and design format of the digital interventions

The seven digital smoking cessation interventions that were designed for websites were Alt.Support.Stop-Smoking forum, BecomeAnEx, QuitNet, Reddit's stop smoking forum, Stop Smoking Centre, Smokers' helpline online and Stop-Tabac. All these online interventions were delivered in English except for Stop-Tabac which is offered in French, German, Italian and English and Smokers' helpline online which is offered in French and English. The digital interventions that were hosted on Facebook (Australian smoking cessation Facebook page and QuitNet Facebook group) are no longer accessible online. Therefore, an informed description or visual representation could be not completed. Appendix B provides a visual snapshot of these digital interventions where available.

Alt.Support.Stop-Smoking forum was an American online service that existed as a newsgroup from 1994. Newsgroups functioned similar to a bulletin board system and appeared on USENET which was a network of discussion groups where people could read posts and make comments (Britannica, 2017). A current view of this forum could not be found. In 2001, Google (search engine company) acquired archive posts and introduced Google Groups as a replacement to newsgroups (Britannica, 2017).

BecomeAnEx (becomeanex.org) is an American online service and is run by a not-for-profit organisation (Truth Initiative) in partnership with the Mayo Clinic Nicotine Dependence Center. BecomeAnEx has an online community component called ExCommunity. Posts can be submitted by topic areas. Other interactive features of BecomeAnEx are customised quit plan, text messages, interactive guides and tools, and expert advice and tips from the Mayo Clinic.

QuitNet (Quitnet.net) was an American online service that was created in 1998 and closed on 6 January 2020. It was managed by the Center for Technology and Behavioural Health which is funded by the National Institute for drug abuse. Registered users of QuitNet could access tools such as a quit guide, calendar, savings calculator and forums and chatrooms. Users could access an internal email system and contact tobacco treatment counsellors though direct messaging or by asking a question on an "ask an expert" forum (Center for Technology and Behavioural Health, 2021).

Reddit StopSmoking Forum (reddit.com/r/stopsmoking/) is an American online community that has been active since 2010 (Wadley et al., 2014). There are a number of quit smoking forums on Reddit so it is unclear which one the Wadley et al. study pertained to. However, the design of these forums is the same. Users must register to join which allows them to initiate a thread or write a comment in the forum.

Smokers' helpline online (smokershelpline.ca/forums) is a Canadian online service that is linked to a telephone counselling service and managed by the Canadian Cancer Society. Registration enables a user to access a personal dashboard, quit plan and the community forums. Users can also sign up to email, text messages and a call back service from a quit coach. Users can select either English or French. Smoker's helpline online is a licensed version of the **Stop Smoking Center** that is owned by Evolution Health System (van Mierlo et al., 2012). Evolution Health System did not actively promote the Stop Smoking Center site and no traces of this site can be found.

Stop-Tabac (stop-tabac.ch/fr/) is a Swiss online service developed by the University of Geneva. Users can access a tailored program, calculators (number of cigarettes not smoked, money saved), quit coach (automatic system that provides tailored messages based on quit date and nicotine dependence), discussion forum (the Tribe) that is moderated by a psychologist, training modules and a link to call the telephone counselling service.

2.3.2.2 Examination of users, user interaction and outcomes

In reviewing these interventions, research has focused on describing the types of users of the sites, frequency of participation (visits and posts), frequency of topics or themes of online discussion, nature and type of social support exchanged, and the duration of engagement. Four studies analysed activity over an extended period of time of over one year (Selby et al., 2010; Stearns et al., 2014; van Mierlo et al., 2012; Zhao et al., 2016), with one of these reviewing an activity period of ten years (Stearns et al., 2014). There were two studies that applied behaviour change theories in their analysis. Social network analysis was conducted on two of the digital interventions, QuitNet and BecomeAnEx (Cobb et al., 2010; Zhang & Yang, 2014; Zhang et al., 2012; Zhao et al., 2016), to explore network characteristics such as individual user patterns and ties. However, a limitation with this type of research is that it focuses on the structural elements and does not normally consider the textual content of their interactions (Zhao et al., 2016). The network analysis

conducted by Stearns et al. (2014) on the Alt.Support.Stop-Smoking forum was to ascertain user engagement rather than a social network analysis.

Overall, there was a greater number of quantitative versus qualitative studies. This is in line with a literature review conducted by Malinen (2015) of user participation in online communities, which found that the field of online community research is dominated by quantitative research. It was acknowledged that the best results are gained with a combination of qualitative and quantitative data, with a recommendation that future studies should investigate the quality and influence of participation on the community (Malinen, 2015).

Profiling users

Profiling users can lead to the identification of subgroups within the larger online support group. Several studies have analysed the demographic and participation patterns of users (Burri et al., 2006; Selby et al., 2010; van Mierlo et al., 2012). Selby et al. (2010) found that it was a minority of users who chose to actively participate on the support group message boards. Van Mierlo et al. (2012) identified a subgroup within the online support group, namely superusers across two sites. Superusers were those users who represented a small percentage of the membership but contributed a large proportion of posts. Superusers accounted for a 0.4% to 1.1% of the membership and accounted for 34.78% to 46.22% of social network content (van Mierlo et al., 2012). Interestingly, there were no statistically significant differences in demographic characteristics between the two groups of users. Stearns et al. (2014) also found that it was a core group of users that skewed the average user contribution. The top 1% of users contributed 44% of posts and the following 9% of users contributed 44% of posts (Stearns et al., 2014). Further research into these subgroups of participants to determine whether strengthening their role may lead to more efficient behaviour change was recommended (Cobb et al., 2010).

Participation patterns

Zhang et al. (2012) compared the interaction patterns between two online support groups; the American QuitNet forum and QuitNet Facebook page. They identified greater use on the Facebook page by those who had remained smokefree for about half a year to two years. They suggested that this was because the participants were still interested in cessation related discussion but did not need the same level of support as a new quitter.

Instead they sought emotional support from long-term quitters and offered help to new quitters (Zhang et al., 2012).

Stearns et al. (2014) found that there were two distinct groups of users segmented by users' lifetime on the site. These were short-term users and long-term users. Short-term users were those that were active for a shorter period of time, characterised by either writing a small number of posts before leaving for good or by posting heavily immediately after joining and then leaving for good (Stearns et al., 2014). Long-term users were identified as being active for an extended period of time on the site and were characterised as having either low but sustained activity or high activity over their lifetime (Stearns et al., 2014).

Declaration of quitting intent was reported as a key difference between a quit smoking group on Facebook and an open forum such as Reddit (Wadley et al., 2014). Anonymity and the absence of personal networks may provide the environment of minimal peer pressure and embarrassment should the quit attempt fail. Common traits identified with users of the Reddit StopSmoking forum were that posts were often prefaced by the time point of their quit journey (e.g. number of days smokefree) which acted as a form of identification, as well as posts including a personal and present narrative on the challenges to quitting (Wadley et al., 2014).

Categorisation using social support theory

Qualitative content analysis of posts has shown that there are similarities between smoking cessation online support groups. Emotional and informational support were the most frequent types of social support exchanged on QuitNet and StopTobac.ch (Burri et al., 2006; Zhang et al., 2013). The study by Myneni et al. (2016) on QuitNet did conclude that traditions was the most frequent theme and social support was second most frequent. Traditions included users referring to some of the functionality or design features of QuitNet such as bonfires, pledges, and games. (Myneni et al., 2016). On the Australian Smoking Cessation Facebook page, exchanges of informational and emotional support were detected in each group of posts defined by the user's stage of change (Ploderer et al., 2013). The presence of social support within smoking cessation online support groups is similar to other online support groups, not dedicated to smoking cessation.

The presence of emotional support was not as frequent in the Canadian StopSmokingCenter and American Reddit StopSmoking forum. Both of these studies identified the struggle to quit as a key theme with users requesting help or advice on these challenges, rather than emotional support. Selby et al. (2010) only analysed first posts which may provide an explanation for the frequency of this theme. Wadley et al. (2014) suggested that the difference could be that the Reddit StopSmoking forum is pseudonymous and topic based so individuals are connected by common ground rather than socially. While this was a key difference with online support groups hosted on Facebook such as the Australian Smoking Cessation Facebook group (Ploderer et al., 2013), it does not apply to the other studies which are website-delivered and also provide the option of pseudonymity.

Research on gender differences in language use and communication preferences report that women tend to focus on providing emotional support (Seale et al., 2006). According to the studies on the QuitNet, StopSmokingCenter and Stop-Tobac sites, women were the more dominant users compared to men. The reported higher frequency of emotional support therefore supports the higher usage of the online support groups by women.

Categorisation using behaviour change theories

Two out of the fourteen studies used the transtheoretical model of behaviour change to categorise users and consequently their posts. For both studies, the stage of change was determined by analysing the content of each user's individual post and using time quit to match users to a quit stage. Zhang et al. (2012) found that there were more users in the early stage of quitting on the QuitNet forum rather than QuitNet Facebook where users by quit stage were more distributed. On the Australian quit smoking Facebook page, Ploderer et al. (2013) found differences between the way support was exchanged and the users stage of change. The largest number of posts came from those who were in the last stage of change (successfully quit), followed by those who had just started their quit attempt. While not specifically using the transtheoretical model of behaviour change to categorise users, Stop-Tabac had an 'action' forum that was targeted at those who had quit for less than one month. It was found that this forum was the most active as opposed to the ones targeting current smokers (Burri et al., 2006). It was also concluded that on the Stop Smoking forum on Reddit, users represented a diverse range along the quit trajectory, and identifying a group who was more or less active was not apparent (Wadley et al., 2014).

Myneni et al. (2016) is the only identified study that has used qualitative analysis to map the thematic taxonomy to behaviour change theoretical constructs derived from social cognitive theory, theory of planned behaviour and theory of reasoned action, stages of change model and the health belief model. The most relevant theoretical constructs were self-efficacy, observational learning and helping relationships (Myneni et al., 2016). This provided information into the prevalence of behaviour change constructs in the messages exchanged amongst users of QuitNet (Myneni et al., 2016).

Quit outcomes

The two common measures of quit status are prolonged abstinence and point prevalence abstinence (Hughes et al., 2010). Prolonged abstinence is sustained or continued abstinence, typically for a period of several months after a quit attempt. Studies predominantly look at 6 months or 12 months post quit attempt. Point prevalence abstinence is abstinence on the day of the follow-up.

Among the fourteen studies on smoking cessation digital interventions, only two studies included measures on abstinence. These two studies evaluated the quit outcomes of users of the American BecomeAnEx site. Kahler et al. (2020) followed up with users at six months and used a saliva collection kit, with 14% or participants reporting a seven-day abstinence from smoking at six months. Richardson et al. (2013) used a follow-up survey to assess quit status at one, three and six months from baseline. Out of all the features on the BecomeAnEx website, participation on the online community component most significantly predicted abstinence in the sample. Zhang et al. (2012) used self-reported quit status at the time of registration to compare users of the QuitNet forum and QuitNet Facebook page. Ploderer et al. (2013) established quit status by analysing the content of the posts. Determining quit status by using the information that relates to the length of time that users have stopped smoking, and have written in their personal posts appears to be an accurate method to capture this information.

Both the Smoking Cessation Facebook page and QuitNet studies found a correlation between participation and quit status, with those more active users being more likely to have successfully quit smoking (Ploderer et al., 2013, Zhang et al., 2012). It is suggested that this is because the participants were still interested in cessation related discussion but

did not need the same level of support as a new quitter. Instead they sought emotional support from long-term quitters and offered help to new quitters (Zhang et al., 2012).

The experiences of quitters in the first month or so are different for subsequent periods where the frequency of cravings seems to decline over time (Borland & Balmford, 2005). Hence, the incidence of relapse is often highest in the weeks to months after their quit date. Therefore, in categorising the quit status of participants online, a modified version will be used in this study to differentiate if people are in the short-term action phase of quitting or long-term action phase where the potential to remain smokefree is highest. Table 2.3 outlines the modified version that will be used for this research.

Table 2.3 Modified version of stages for quitting smoking

Trans-theoretical model	Preparation	Action		Maintenance	
Modified version	Preparation	Action (short-term)	Action (long-term)	Maintenance (staying quit)	Maintenance (smokefree)
	Planning to quit or committed to a quit attempt (no clear indication that they have actually stopped)	People who have stopped smoking for 0 -3 months	People who have stopped smoking for 3-6 months	People who have stopped smoking for over 6 months (ex-smokers)	People who have stopped smoking for over 12 months (ex-smokers)

Quit outcomes were only used in two studies to understand the effectiveness of smoking cessation digital interventions. As evidenced by these two studies, it is clear that there are very few studies which have measured the long-term quit outcomes of participants of these digital interventions. This suggests that the evidence base could benefit from longer-term follow up, particularly longer than six months. This is in line with the conclusions of Kwasnicka et al. (2016) that very few studies measure the long-term effects of interventions, with a proposed reason being because effects diminish over time. The ability to follow-up with participants beyond 12 months may also be challenging as they may be less inclined to return to the intervention over time. There is therefore a gap in the evidence of the behavioural outcomes of individuals who engage with behaviour change interventions beyond six to 12 months. Furthermore, even if abstinence is measured

beyond 12 months, there are challenges in pinpointing the factors that have led to long-term maintenance. Ockene et al. (2000) reviewed short term (six months) and longer term (12 months) abstinence of cessation and found that it was difficult to separate the strategies for cessation and maintenance in multicomponent interventions.

2.3.3 Designing behaviour change support systems for smoking cessation

Social support is a behaviour change technique that can be observed in action on online social support groups. In addition to understanding the type of support shared between users, the interactive dialogue also provides insight into the design features that support users in changing their behaviour. Ploderer et al. (2014a) conducted a literature review on the design of support systems that use social interaction and reflection as the mechanism to support behaviour change. Five key approaches were identified: 1) social traces; 2) social support; 3) collective use; 4) reflection-in-action; and 5) reflection-on-action (Ploderer et al., 2014a). While the observed use of social support as a behaviour change technique is important, understanding the influence of system design can help progress future work in the design of behaviour change technologies that empower people in their behaviour change decisions as well as support them in sustaining the new behaviour (Johansson et al., 2021; Maher et al., 2014; Ploderer et al., 2014a).

Designing for the appropriate delivery of behavioural support on smoking cessation digital interventions also seems to be an area of uncertainty. As outlined in the studies included in the Cochrane reviews, behavioural support was predominantly offered by a trained health professional. Amongst the eight digital interventions included in this review, interaction with a trained advisor in the online community component of the intervention was only apparent in the Australian Stop Smoking Facebook page. Ploderer et al. (2014a) explained that "the exchange of support in this Facebook group relied on prompts and moderation from SC [anonymised not-for-profit organisation] rather than on contributions from its members" (p. 33). Burri et al. (2006) noted that Stop-Tabac is not moderated by a professional and that the balance of risks and benefits of enabling people to provide and receive quit smoking advice from others needs to be considered. This study concluded a favourable position on publishing unfiltered messages but that more research could be done to explore negative effects of this approach (Burri et al., 2006). There was also confidence that the community component was embedded within a website framework of evidence-based and professionally written information.

Delivering digital interventions to support quit smoking behaviour can be achieved in the short-term but it is the increased and continuous engagement that is a challenge (Kahler et al., 2020). Active participation in online communities is associated with higher rates of cessation (Richardson et al., 2013; Schwarzer & Satow, 2012) but sites have been challenged by low rates of visitation (Kahler et al., 2020). With advances in technology, recommendations have included thread recommender systems and a call for more prescriptive measures on how to sustain engagement of users (Stearns et al., 2014). While standalone health focused online support networks do not have the benefit of being able to leverage existing social networks, engagement levels have been reported higher than those that have been hosted on a social network such as Facebook (Maher et al., 2014). Thus, the ability to exploit existing online social networks for mass information and support dissemination is still relatively unknown (Maher et al., 2014).

The challenges faced by digital interventions for smoking cessation are not unique to this domain. There continue to be gaps in the literature on the design, attraction and retention strategies, continuous engagement strategies and how the healthcare industry can generally embrace patient empowerment through online communities (Johansson et al., 2021; Kreps & Neuhauser, 2010; Maher et al., 2014; Stearns et al., 2014). Maintaining participation within online communities is an area of interest due to the potential for these online environments to provide stability and the facilitation of continuous planning and problem solving strategies that can be integrated into everyday life and support behaviour change maintenance (Murray et al., 2013). Furthermore, higher engagement has been found to increase the likelihood of that user participating the following week, which can lead to accelerated growth for that online community (Gopalsamy et al., 2017).

In the continuous design of these behaviour change support systems, health care providers also need to consider implications such as the continuing digital divide. Thomas et al. (2017) captures the sentiment that "everyone should be able to make full use of digital technologies – to manage their health and wellbeing, access education and services, organise their finances, and connect with friends, family, and the world beyond" (p. 5). The gap between those digitally included and excluded continues to widen. Australians more likely to be digitally excluded include those with lower levels of income, education and employment (Thomas et al., 2017). As services move to the online environment, care must be taken to ensure communities are not being excluded due to digital access, affordability

and ability. Organisations have the opportunity to design support systems that reduce communication barriers that relate to health literacy, language, culture or disability (Kreps & Neuhauser, 2010). It is important to design solutions that can enable and support diverse audiences in their health decisions.

Peer-to-peer interventions

A systematic review of the effects of health-related online peer-to-peer interactions was conducted in 2004. This review concluded the lack of robust evidence on the effectiveness of consumer led peer-to-peer communities (Eysenbach et al., 2004). Gunter Eysenbach (2007, p. 3) argues that "the absence of evidence does not mean that virtual communities have no effect" but that it could be due to the lack of commercial or professional interest in evaluating these communities. However, as outlined in Chapter One, people are seeking peer support online and as this literature review has found, people are using online communities as part of their strategies to take control of their health such as quitting smoking. The fourteen studies regarding smoking cessation digital interventions with a community component have provided insight into the profile of users, participation patterns, thematic nature of these online communities and quit outcomes. However, the studies also highlight that there is still much to understand about the effectiveness of smoking cessation digital interventions, and in particular the role of peer-led online communities.

The renewed interest in the role of peer-led online support communities as it relates to patient empowerment may help to advance the understanding of effectiveness of online support communities (Johansson et al., 2021). There is recognition of the patient response to use the internet and access online communities when faced with a difficult health decision. This has significantly changed how patients manage their health care, which traditionally would have relied heavily on the advice and guidance provided by their health care provider (Johansson et al., 2021). In a systematic review on online communities as a driver of patient empowerment, Johansson et al. (2021, p. 13) found that:

> Online communities supported patient empowerment in the way of
> meeting emotional need of handling condition and the possibility of
> patients becoming equal contributors to the patient-provider

relationship. An additional finding was that online communities
supported both process and outcomes of patient empowerment.

This review expands potential acceptance of patients utilising online communities as part of their personalised health care which may aid the transition of recognising peer-led online support communities as a component of behavioural support for smoking cessation.

2.4 **Relevance and implications for iCanQuit**

This review shows that the literature on the effectiveness of smoking cessation digital interventions with an online community component is still in its infancy. In the domain of smoking cessation, there has been a focus on digital interventions that offer tailored or interactive programs online and where the provider of support is a health professional, not a fellow quitter. Large scale population health interventions, such as iCanQuit, have the potential for expanded reach and adoption while delivered at an acceptable and sustainable cost (Milat et al., 2014). However, further research effort is needed that is both quantitative and qualitative so that deeper conclusions can be made on the effectiveness of online peer-led social support.

This research can provide a foundational framework of evidence that identifies the benefits for users as they participate in an online social support community that seeks to sustain the behaviour of remaining smokefree. As this is the first study on the iCanQuit forum, the theoretical constructs that have been found in other health-related online support groups of social support, social capital, and social influence can be confirmed. The effectiveness of the iCanQuit forum and whether it supports the conditions for behaviour change maintenance are examined. This can advance understanding of the long-term effects of these behaviour change support systems.

This study will contribute to several areas by addressing four research questions. These four research questions have been developed within a social ecological framework using the three levels of influence: individual, relationship (social), and community. Deepening the understanding of these three levels of influence as outlined in Figure 2.4 can reveal important individual, social and community factors as important to maintaining quit smoking success.

Figure 2.4 Three levels of influence of the iCanQuit forum
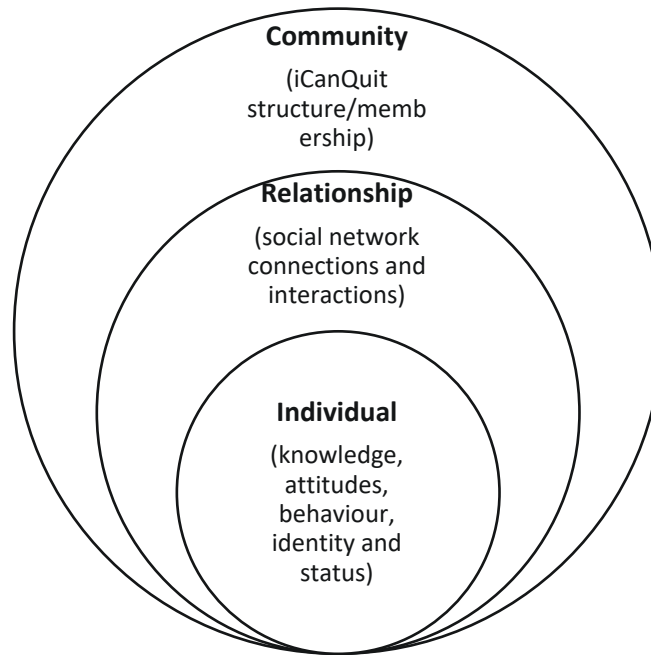
2.4.1 Research questions

Four research questions have been developed that have been informed by the literature. These questions are designed to address the gaps in the research on the effectiveness of peer-led online support communities for smoking cessation. The iCanQuit 'Stories and Experiences' forum that is contained within the iCanQuit website provides the example of this peer-led online support group. As this is the first study on the iCanQuit forum, an exploration of who is using the forum, how they use the forum and if their participation correlates to successful quitting are investigated. This study also seeks to address the gap of understanding the long-term effects on those who use digital interventions designed for behaviour change maintenance. The specific research questions include:

RQ1: What are the individual characteristics of those using the iCanQuit forum?

RQ2: How does the quality of interaction relate to successful quitting?

RQ3: Which, if any, subgroups correlate to successful quitting?

RQ4: Which quitting strategies enhance or inhibit the occurrence of supportive exchanges and has this changed over time?

RQ1: What are the individual characteristics of those using the iCanQuit forum?

In line with existing research, individuals are to be categorised by participation patterns (level of frequency), posting activity, declared or inferred quit status (stage of change), method of quitting, and attitudes towards quitting and remaining smokefree (Burri et al., 2006; Cobb et al., 2010; Ploderer et al. 2013; Selby et al. 2010; van Mierlo et al. 2012; Zhang et al., 2012). Individual characteristics are used to identify if there are particular subgroups within the iCanQuit forum such as frequent and intermittent users.

Due to the use of publicly available data, direct or inferred cues within the written posts are used to identify individual characteristics such as gender, age and location, stage of change, and method used to quit smoking.

RQ2: How does the quality of interaction relate to successful quitting?

Analysing the relationships between individuals can identify patterns or themes that exist between members of the iCanQuit forum over time. The quality of the interaction can be the type of support provided such as the five basic support dimensions of emotional support, network support, esteem support, tangible support, and informational support (Cutrona & Russell, 1990). This can provide comparisons with other online support groups and potentially add to the evidence of the type of support that exists between spontaneous ties (Doerfel & Moore, 2016).

Responses to posts have been found to impact feelings of acceptance in a group, suggesting a need for strategies that encourage responses to posts (Crook et al., 2016). Kim et al. (2012) investigated the reciprocal relationship between reception and provision of emotional support. It was determined that those who receive emotional support are more likely to provide emotional support (Kim et al., 2012). This indicates that the benefits of being involved in an online support group are influenced by social support exchange between participants. Therefore, the act of social support exchange must be encouraged for participants to reap the greatest benefits from the online support group.

For behaviours such as quitting smoking, smokers who take on the role of persuading or helping others to stop may benefit from a greater sense of commitment to the act of quitting themselves (Levine 1964 as cited in Riessman, 1965, p.32). The positive impacts

of peer-to-peer support have been explored, with research suggesting that it is the provider of help/support who profits most from that relationship, rather than the recipient (Hether et al., 2014; Riessman, 1965). This has been referred to as the 'helper therapy principle' (Riessman, 1965). Benefits are derived from the importance and status associated with the helper role, greater commitment to the task as they must advocate or practice the dimension associated with the helper role, and improved self-image and self-worth as a result of helping someone in need (Riessman, 1965).

RQ3: Which, if any, subgroups correlate to successful quitting?

An outcome of RQ1-2 is identifying the various variables that can be used at the individual, relationship and community level, and the identification of various subgroups. Overlaying subgroups with the quality of these interactions can determine if any of these correlate to quit outcomes. While the modified version of stages of change is used, evidence of quit outcomes beyond 12 months will be explored to better understand the long-term effects of the iCanQuit forum.

RQ4: Which quitting strategies enhance or inhibit the occurrence of supportive exchanges and has this changed over time?

Examining the discussion between individual members can identify the individual actions and the influential factors of other members of the community towards the active and continuous participation on the iCanQuit forum and the achievement of quit success. The idea of the role of participation as a mechanism that supports user empowerment both as a process and an outcome is explored (Johansson et al., 2021).

Community mobilisation for behaviour change draws on elements of social contagion and/or the influence of peers. The UK campaign, Stoptober, was designed to build engagement and amplify the reach of the campaign by normalising a behaviour and turning it into a movement (Brown et al., 2013). Campaign evaluation indicated positive results, with more than a third of a million of smokers trying to quit in October 2012 (Brown et al., 2013). Christakis & Fowler (2008) note that "decisions to quit smoking are not made solely by isolated persons, but rather they reflect choices made by groups of people connected to each other both directly and indirectly at up to three degrees of separation" (p. 2256). The act of collective quitting will be explored whereby people act under collective pressure within groups of a network.

Australian and international research points to the observation that the proportion of smokers who attempt to quit smoking has remained stable (around 40%) and that many quit attempts are unsuccessful (Borland et al., 2012; Cooper et al., 2011; Zhu et al., 2012). One longitudinal study concluded that the estimated average number of quit attempts a person takes to successfully quit smoking is thirty (Chaiton et al., 2016). The Victorian Health Survey in 2010 noted that approximately 77% of current smokers reported having previously attempted to quit and 66% of current smokers could be classified as unsuccessful quitters (Greenhalgh et al., 2016). Further research is needed to investigate how to get more smokers to quit and to try more frequently (Zhu et al., 2012). Gaining the quitters' perspective on the process of quitting and successful or unsuccessful attempts can help practitioners and social marketers know how best to support smokers to quit and/or encourage more attempts.

2.4.2 Research limitations

Restricted to publicly available data

This research uses publicly available data and does not include registered user data as part of the analysis. From the limited data, it seems that users of the iCanQuit forum skew older, with greater usage found amongst those aged over 45 years old. Those under 25 years old appear to be underrepresented on the iCanQuit community. Given the use of publicly available data, demographic user findings from this research are inconclusive. Future use of registered user data may reveal evidence of under or over representation of certain socio-demographic cohorts. It could also provide further insight into the known social determinants of health and their relation to smoking behaviour such as socioeconomic factors, ethnicity including Aboriginality, remoteness, lower income settings (Hartmann-Boyce et al., 2021; Wilkinson & Marmot, 2003). The completion of demographic details is not a mandatory component of using the iCanQuit forum and the completion rate may be low. Therefore, the availability of registered user data may still not enable firm conclusions to be made about users.

Cues within the textual posts were used to determine the *method to quit* smoking. As this could only be determined for half the users, the utility of using method to quit for further comparisons was limited. However, the analysis for both 2012 and 2017 provides an indication that around three-quarters of users include pharmacological aids (nicotine

replacement therapy and prescribed medication) or quit cold turkey as their approach to quit. While understanding the relation between use of iCanQuit and *method to quit* is inconclusive, it does indicate that participation on the iCanQuit community is not limited to users of a particular method.

Quit outcomes

This study was interested in the incidence of self-reported quit progress, particularly for 'successful quitters' and 'long-time quitters' as these align to prolonged abstinence. Measuring abstinence on smoking cessation websites that have an online community component has varied. This has included follow-up surveys (Richardson et al., 2013), self-reported quit status at time of registration (Zhang et al., 2012), and declared status within the content of posts (Ploderer et al., 2013). This study used the latter. This research has not used biochemical validation to confirm self-reported quit outcomes with users. In accordance to Bricker et al. (2020), there are limited reasons to believe that users falsely report on their quit progress.

Disconnected users of the community

The three prime examples of users disconnecting from the iCanQuit forum are:

1. User relapse (unsuccessful quitters) - while this research found evidence of users returning after relapse to achieve quit maintenance, there is likely to be incidences where users have not returned to the community. This may be in line with findings related to social stigma, such as feelings of guilt and loss of self-esteem (Evans-Polce et al., 2015). This study focuses on active users and does not include an examination of those users who have relapsed and not returned to the forum.

2. User behaviour that was not perceived as in keeping with the cultural boundaries of the community – this research found evidence of a user effectively being pushed out of the community.

3. Observed user absence – this research found evidence of users reaching out to others who have not been seen on the community for some time. However, the frequency at which this occurs is unknown. This evidence would also exclude those who leave the community unnoticed. Users who stop using the website translate to member loss attrition and in a theoretical sense, diffusion of innovations reversed. Discontinuance "is a decision to reject an innovation after it has previously been adopted" (Rogers 1995, p. 21). This occurs at the confirmation stage of the innovation-decision process. An individual seeks

reinforcement for the innovation-decision already made and may reverse this decision due to dissatisfaction with the innovation (Rogers, 1995). While an examination of drop out users could identify other cues of social exclusion and potential design elements that may encourage or discourage continued participation, this was not addressed as part of this research.

While this research does not examine disconnection with the iCanQuit community in depth, it does provide knowledge into the type of disconnection that occurs to help initiate future interrogations.

Holistic view of lurkers and posters

Sun et al. (2014) recommended that a holistic view of lurkers and posters should be taken when interrogating an online community. There is often a large gap between those who visit, those who register and those who take action to post a story or comment. This group of users who may read the content generated by others but never post themselves is known as lurkers (Rafaeli et al., 2004). Van Mierlo (2014) estimated that lurkers made up approximately 90% of the user population and Selby et al. (2010) estimated that only 15% of users write at least one post. While previous research has investigated the reasons and proportion of lurkers in a community (Preece et al., 2004; Rafaeli et al., 2004; Sun et al., 2014), a limitation of this study is not being able to quantify this group of lurkers and determine if they are also benefiting from the site. According to Preece & Shneiderman (2009), reading is a typical first steps for users and lurkers will often partake in this activity prior to moving towards more active participation. This move from reading to active participation has been framed as the reader-to-leader framework. Log data was not available for this research which could have helped to quantify the extent of lurking or reading by registered users. However, while it might be interesting to understand the extent of lurking as well as the conversion of lurkers to posters, this is the first in-depth investigation of the users of iCanQuit community and focuses on active users.

The parameters of this study include the visible participants of the iCanQuit forum. As this is the first study on the iCanQuit forum, the findings accelerate the understanding of the role peer-led online communities have in maintaining abstinence amongst those who use the forum. The use of publicly available data does present some limitations as discussed above. However, the use of publicly available data helps to focus the research on

examining the written posts that illustrate the interaction and support provided online. This ensures the research focuses on the reportable elements of the iCanQuit website as defined in the NSW Tobacco Strategy 2012-2021. The written posts also centre the research on the public dialogue shared between users on the iCanQuit forum which are likely to illuminate an authentic and accurate reflection of their experience through the process of listening.

Chapter 3 Methodology

3.1 Overview

Various philosophical paradigms were considered in the context of the four research questions. The analysis draws on both positivist/postpositivist and naturalistic/interpretivist paradigms as discussed by Frey at al. (2000). As Creswell (1994) noted, a positivist approach uses the scientific method that underpins quantitative research methodology. While some researchers refer to all research that is not positivistic as post-positivist, Lincoln & Denzin (2000) note that post-positivist approaches also lean towards quantitative methodology. This approach focuses on the facts, statistics, and numbers. It seeks to explain or predict from an objective standpoint. Interpretivist approaches, also referred to as naturalistic, seek to study subjects in their natural setting rather than in a research-controlled setting. Interpretivist and naturalistic approaches lean towards qualitative methodology to gain a more holistic understanding of patterns of behaviour. This approach seeks to understand and provide meaning relative to the context, time, and culture.

This research resides between these two continuums by incorporating a mix of both qualitative and quantitative approaches. There is recognition that a combination of quantitative and qualitative data can provide the most complete analysis of problems (Creswell & Plano Clark, 2007). The nature of this research is retrospective, seeking to reflect and interpret the conversations that have occurred. This study used quantitative and qualitative research methods to fully explore the four research questions, thus applying positivist and interpretivist approaches. However, it primarily relied on an interpretivist approach using qualitative methods as outlined in this chapter.

3.2 Research approach

Content analysis

According to Neuendorf (2017) content analysis is quantitative only. However, there is support for the complementary nature of quantitative and qualitative content analysis to capture the meaning and potential impact of texts (Macnamara, 2005; Newbold et al., 2002; Shoemaker & Reese, 1996). Content analysis "seeks to analyze data within a specific context in view of the meanings someone – a group or a culture – attributes to them"

(Krippendorff, 1989, p. 403). This approach is necessary to understand the in-depth meanings about and within the posts submitted by users of the iCanQuit forum. Content analysis of posts can identify patterns or themes, quantify use such as the number of users during a defined period of time, and frequency of posts within that defined period of time (Burri et al., 2006; Eichhorn, 2008; Klemm et al., 1998; van Mierlo et al., 2012). This study presents an approach that is non-intrusive and allows the exploration of the text without direct human contact (Macnamara, 2018c; Neuman, 2006).

This research adopts a mixed method qualitative and quantitative approach to content analysis, drawing on techniques from textual analysis as identified by Newbold et al. (2002) and Shoemaker & Reese (1996). While the method is primarily qualitative and uses quantitative for more descriptive purposes, this blended approach enables both a behaviourist and humanistic approach to the content analysis. It explores both the identification and prediction of future effects, as well as a reflection of the existing attitudes, perception and culture of the online community (Macnamara, 2018c; Shoemaker & Reese, 1996).

3.2.1 Setting

This study analysed data from the posts on the iCanQuit forum on the smoking cessation website iCanQuit (www.icanquit.com.au). This online forum is free to access and is found at the 'Stories and experiences' tab of the website. Registration is only required if users wish to write story posts or comment on existing posts. Posts (story posts and comment posts) are published immediately after a user submits it. Unregistered users can browse all the posts located in the iCanQuit forum.

The iCanQuit forum maintains a unique and public historical record of the posts quitters have shared since its inception in December 2010. This is a dataset spanning over ten years, that has not been extensively analysed to date. This provides a rich source of information about the interactions between individuals who have opted to use the iCanQuit forum during their journey to stay quit.

The author's access to the site and data
The author has had previous affiliation with the Cancer Institute NSW as Program Manager, Tobacco Control from 2011 to 2014 and Project Officer, Cancer Prevention

from 2006 to 2011. At the time of employment, the author led the development of the iCanQuit website. While this research analyses data that is publicly available, pre-approval was received from the Chief Executive Officer, Cancer Institute NSW to conduct analysis on the iCanQuit website.

As a previous employee of the Cancer Institute NSW and project lead for the iCanQuit website, the author recognised the importance to remain neutral, objective and to set aside any prior assumptions or experience. As this thesis is the first study to examine the effectiveness of the iCanQuit website beyond website visits, no pre-judgements or beliefs from prior work were introduced and the author could attend to the purpose and significance of this research which was to afford voice to the users of the iCanQuit forum. This Chapter outlines the methodological approach undertaken by the author to reveal the perspectives of the users themselves in unveiling the effectiveness of the iCanQuit website.

3.2.2 Ethical considerations

The data used for this research is public archival data that can be freely accessed online. A Nil/Negligible Risk Declaration Form (UTS HREC 2014000136) was submitted to the UTS Human Research Ethics Committee and was approved in November 2014.

There have been questions raised on the ethical issues related to internet-mediated research in the area of health (Whitehead, 2007). Concerns relate to consent and whether a whole community should provide consent or only those individuals whose texts are drawn upon (Whitehead, 2007). This is particularly relevant to closed forums where one must register to contribute and participate, giving a sense of perceived privacy. As this research uses publicly visible data, the author did not need to register or disguise oneself as a user to access the data.

Registration is required to actively participate on the iCanQuit forum. As part of the registration process, users are presented with a checkbox to indicate agreement to privacy terms and terms of use. There is a link to each of these policy documents. A section of the Privacy terms state:

> CINSW may create a de-identified version of information collected
> through this website, and use this de-identified information for

research purposes. This can involve the disclosure of the de-identified

information to third parties, including publication of the information in

peer-reviewed journals and other publications. (Cancer Institute NSW,

2018)

Therefore, all data used in this research is from users who indicated agreement to the

privacy terms and terms of use. There is an argument that users do not necessarily read the

privacy terms or terms of use on websites (Steinfeld, 2016). Using de-identified public post

data mitigates if a registered user has actually read these terms.

3.3 **Sample**

Participant and post data

A census provides the greatest possible representation of the "message pool" (Macnamara,

2018c, p. 199). However, due to the large volume of posts, date limited sampling was

conducted. Table 3.1 provides an overview of the two-stage approach and Figure 3.1

outlines the process undertaken to arrive at the two distinct samples.

Table 3.1 Two stage approach

Stage	Sample	Time period
1a	372 users	2012 and 2017:
	1,739 posts	- January 16-31
		- April 1-15
		- July 16-31
		- October 1-15
1b	372 users	1 January 2011 – 31 May 2018
2	15 users	1 January 2011 – 31 May 2018
	2,652 posts	

Stage 1a consisted of 1,739 posts (story posts and comment posts) submitted by 372 users

in 2012 and 2017 during distinct time periods of the year:

1. 16-31 January
2. 1-15 April
3. 16-31 July
4. 1-15 October.

The four time periods provided a sample of posts for that year. The same time periods were used for 2012 and 2017 for consistency. For each of the four time periods, a day range of 15 days was selected. A systematic sampling technique of alternating between the first and last 15 days of the month was employed to counter any skew in the sample that may have resulted from collecting the data at the same part of the month. This approach to sampling provided opportunity for comparative analysis of the user population and activity five years apart. The years 2012 and 2017 were selected to reveal whether there were any changes over time and corresponded to the time periods of the NSW Tobacco Strategy 2012-2017 (NSW Ministry of Health, 2012). However, in 2019 the time periods of the Strategy were extended by an additional three years to 2021. This research retained the original two time points of 2012 and 2017.

The systematic sampling approach also addressed any potential bias that could be perceived by the author's previous affiliation to the Cancer Institute NSW and involvement in the development of the iCanQuit website. This sampling approach removes potential performance bias such as selecting users and their posts who demonstrate a more positive outcome upon using the iCanQuit website. The use of a second coder as described in Section 3.4.3 provided an additional safeguard against any personal bias into the process of coding and analysis of the data.

Stage 1b consisted of the same 372 users identified in Stage 1a. Posts submitted by these users between 1 January 2011 and 31 May 2018 were included for a quantitative analysis only.

Figure 3.1 Sampling process for research
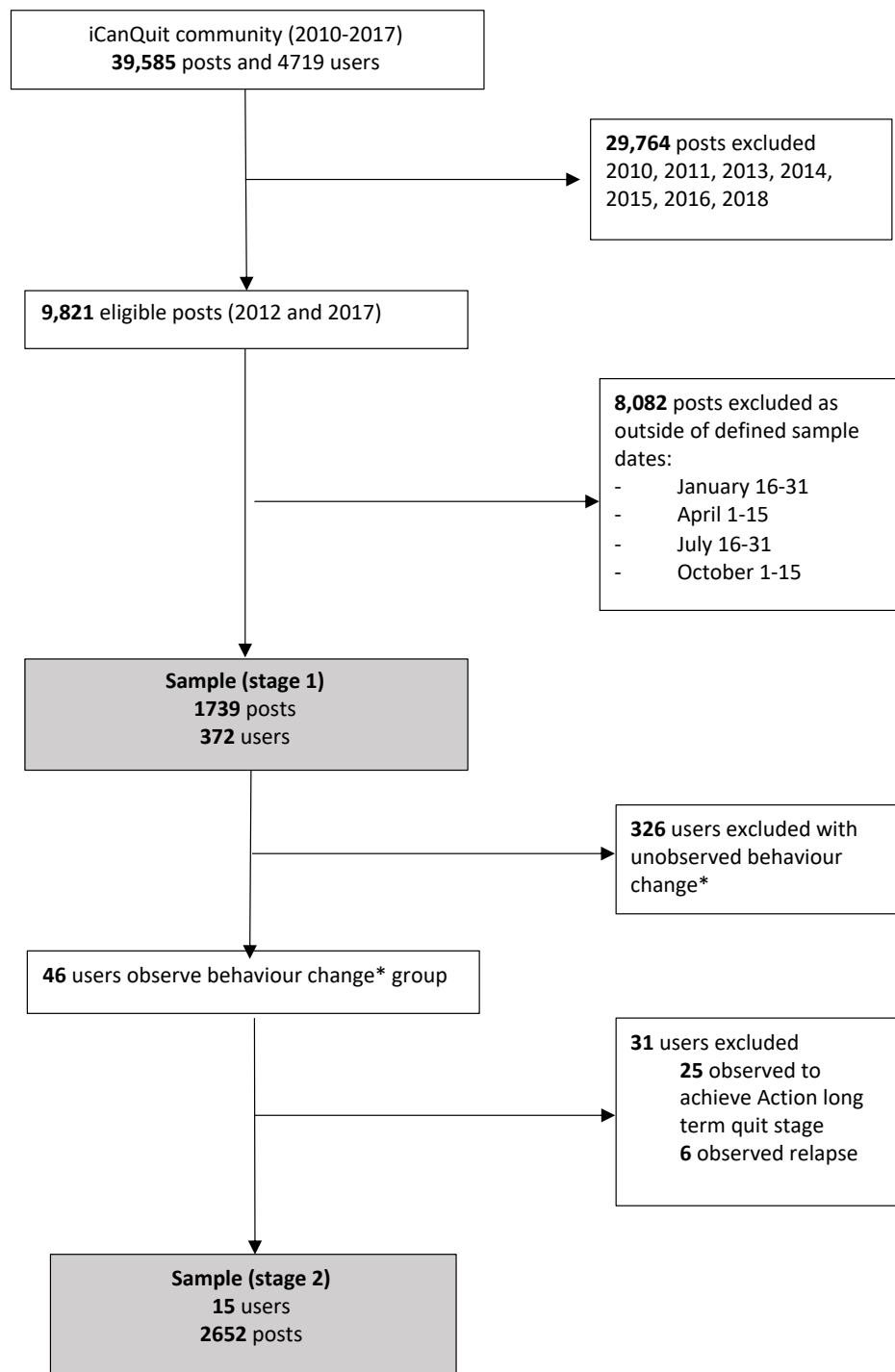
*behaviour change was recorded if a user was seen to move from one stage to the next (e.g. Action long-term to Maintenance staying quit). As posts were selected by time period, a user may not have written another post in the exact time period where posts were extracted. Thus, observed change was only possible if these elements aligned.

A purposive sampling method was used for Stage 2. Fifteen users were selected from Stage 1a analysis. These fifteen users supported the three-tiered sampling approach (Macnamara, 2018c; Miles & Huberman, 1994) which involves selecting:

1. typical/representative examples – studies have indicated that higher participation levels are linked to those who have successfully stopped smoking (Ploderer et al., 2013; Zhang et al., 2012). The majority of the fifteen users who were observed to reach the target stage of maintenance where they had been abstinent for over six months, were the highest level of users. Level 6 users were those who had contributed more than 50 posts. These users were also active for more than a year.

2. negative/disconfirming examples – contrary to the evidence of higher participation amongst those who had successfully quit smoking, one user in this sample had only posted eight posts and was a member for less than a year.

3. exceptional or discrepant examples – one user posted 406 posts which was much higher than the median contribution of 174 posts, and another user used acupuncture as the quit method while the rest used more traditional methods of prescribed medication, cold turkey or nicotine replacement therapy.

These fifteen individuals were observed to experience positive behaviour change and had reached the quit stage of Maintenance staying quit or Maintenance smokefree. Reaching the longest duration of abstinence was important as the research questions were directed at the subgroups that correlated to successful quitting. This sample was used for more in-depth quantitative and qualitative content analysis which when well-selected can produce findings that have broad generalisability (Macnamara, 2018c). These fifteen users submitted 2,652 posts within the time period of 1 January 2011 to 31 May 2018.

3.3.1 Data collection

Web scraping was the technique used for data collection. As noted by Bradley & James, "web scaping allows the rapid collection and processing of a large amount of data from online sources" (2019, p. 264). This technique is time efficient and less prone to human error (Bradley & James, 2019). Scraping is an accepted technique for digital social research that has enabled new ways to collect, analyse, and visualise social data (Marres & Weltevrede, 2013). This practice has been gaining attention due to its use by news publishers who mine online resources such as Twitter messages to predict and reveal human behaviour in events such as political crises (Marres & Weltevrede, 2013). Recent

applications of web scraping have been observed by news sites where the 'live' sentiment towards topical events such as elections has been reported. The data collected for this research was not intended for 'live reporting' but a retrospective view of archival data that can be viewed by anyone in the public domain.

The statistical language R was used to extract all story posts and comment posts from the iCanQuit website in October 2018. The following steps were followed to extract the data:

1. Downloaded R (https://cran.rstudio.com/) and RStudio (https://www.rstudio.com/) and installed it on the computer.
2. Downloaded and installed R packages (xml package to extract content from the web page and dplyr package for data cleansing)
3. Downloaded each story from the 'Stories and Experiences' section of the website as one web page and extracted the data from the downloaded webpage to create two csv files. A story csv. file and comment csv. file. The story csv. file scraped story id, author, title, category, date, text and the comment csv. file scraped story ID, author, date, text.
4. Merged the two files into one csv. file with story posts and comment posts linked by the story ID.

Ethical practice in web scraping was followed whereby pauses were inserted between downloading web pages to spread out the traffic to the iCanQuit website to minimise stress on the website (Bradley & James, 2019). Stress on the website occurs when multiple concurrent users may be trying to access the website at the same time, impacting on the website performance. Examples include government websites after a major announcement or online shopping sales where there are large volumes of people trying to access a website at the same time which may cause the website to go down and be inaccessible. While the risk of overloading the iCanQuit website was low, by inserting pauses between downloads, it spaced out this action to avoid these types of scenarios from occurring.

The only data that was extracted was text-based and only the text that is publicly available to anyone who visits the website. No data that is stored behind a username and password, such as registration profile data, could be accessed or was scraped which is in line with ethical practice (Bradley & James, 2019).

Data cleansing process

The data cleansing process was completed in two stages. The first stage used the R package for data cleansing. The R package identified and removed duplicate posts as well as posts by a set of fake users. Duplicate posts were identified by sharing the same story ID, same author, same title and same date. Fake users were identified by their illegible usernames and illegible posts.

The second stage of data cleansing used Microsoft Excel software which was used to open the csv. data file. Additional duplicate values were identified where users submitted the same post multiple times. For example, duplicate posts with a different story ID. However, posts that were repeated frequently but not sequentially, were kept in the data file. For example, one user repeatedly submitted posts with "good for you". As they did not appear in a sequential manner, it was noted as a common response by this user. Only duplicate values that appeared sequentially were removed.

During the first cycle analysis, it was also noted that there were posts by a 'test' or 'tester' username accompanied by incomprehensive text. For example, 'lorem ipsum' is often used as placeholder text for testing purposes. These were identified as irrelevant data and removed from the data file. Therefore, the cleansing of data was also incorporated into the first cycle of coding where these 'lorem ipsum' posts were identified.

3.4 **Data analysis**

The mixed method qualitative and quantitative content analysis for this research consisted of several cycles of coding. Coding is a method of discovery whereby codes or labels are given to parts of the data by the reading and reflection of the central meaning of the content (Miles & Huberman, 1994).

3.4.1 Stage 1 analysis

The first cycle and second cycle of coding was conducted manually using Microsoft Excel. The use of Microsoft Excel was selected for this first part of the analysis to break up the data set into components of data. While this data set provided the scale of multiple users, the extraction of posts at specific time points across the year did not allow for the examination of the continuous posts by unique users. This stage of analysis therefore

focused on assigning codes to data chunks, unifying codes to categories, and identifying repeat patterns on scale, particularly cross-user observations. The intended purpose was to gain familiarity with the datum in the datasets for 2012 and 2017, and after iterative reading and reflection, to conclude if there were similarities or differences in the corpus so as to understand if findings could be generalised as representative of the community, or if they were characteristic of that one year. This was then used to guide the approach and coding techniques for Stage 2 analysis.

3.4.1.1 Open inductive coding of the posts

An open inductive coding approach was taken for the dataset for the years 2012 and 2017. The inductive quantitative approach to content analysis highlighted repetitive patterns of content. This included descriptive statistics that related to general posting behaviour such as number of total posts, number of story posts, number of comment posts, number of users to identify any subgroups and form characteristics such as word count of posts, which when combined, initiated the consideration of both the content and form characteristics (Neuendorf, 2017) of the sample. However, as noted by Shoemaker & Reese, "reducing large amounts of text to quantitative data … does not provide a complete picture of meaning and contextual codes, since texts may contain many other forms of emphasis besides sheer repetition" (1996, p. 29).

Following the practical approach recommended by Neuendorf (2017), an initial subset of the sample was selected to immerse in the message pool. This initial subset included 100 posts. Reading this initial subset multiple times provided familiarity with the content and the short word count of each of the posts. Meaning could begin to be extracted from this subset with a tentative set of initial codes. This immersion led to the decision of analysing posts in their totality rather than separating analysis for story posts and comment posts. The assignment of codes to the text revealed repeated similarities in the text shared regardless of whether it was a story or comment post. The repetitive patterns across story and comment posts indicated that meaning could be lost or misguided by separating analysis by type of post.

As coding moved outside the initial subset of the sample, a variety of qualitative coding techniques (Miles et al., 2014) were employed to analyse the textual content of the posts and assign a code.

- Provisional coding – this approach used the list of codes that was generated from the initial subset, as well as references that emerged from the literature review and prior understanding of individual behaviour in relation to smoking cessation. These codes were developed for *methods to quit* such as prescribed medication, NRT, and cold turkey. Social support was another area where provisional codes were developed. This was based on the literature review and the types of social support that have been seen to exist in online communities such as emotional and information support. As noted by Miles et al. (2014), provisional code lists were treated as an initial list of codes that were not fixed, but were continually revised, modified, deleted, or expanded to include new codes as the iterative coding process evolved.

- Descriptive coding – this approach to coding was used to assign the basic topic of the text and provide a list of topics for categorisation which suited the short length of the posts. For example, time since quit date was coded as time quit. This coding technique was selected to gain familiarity with the datum and the extensive nature of topics. Subcoding was subsequently used as second-order tags to provide greater depth and detail. For example, the iterative approach to coding led to subcodes for the initial descriptive code of time quit. The subcodes were days, weeks, months, year.

- Attribute coding – this approach was used for descriptive information on user characteristics or demographics. Coding for attributes included gender, age, and location. Coding user information enabled further analysis and interpretation, particularly for quantitative descriptive analysis.

The first cycle of coding provided the initial starting point for the analysis and was treated as provisional and tentative (Saldaña, 2021). Multiple iterations were conducted in this first cycle of coding as new codes were added. Patterns did emerge in this first cycle, particularly the emergence of the most frequent codes which permitted the data to be grouped or categorised. This gave rise to the development of specific themes under which the various categories were assigned.

Throughout this coding process, the researcher employed the jotting technique to capture those fleeting and emergent reflections (Miles et al., 2014). A list of user quotes was developed. These quotes were ones which initiated reactions of uncertainty, surprise, or the Researcher's decision that further time to reflect and interpret were needed. In a sense, this is where *in vivo* coding was used where a descriptive code was not immediately apparent

and the references or words used by the user were highlighted (Saldaña, 2021). These were the more nuanced bits of data that seemed to raise questions or provoke thought on the "why", outside of the initial categorisation.

3.4.1.2 Second cycle coding via a qualitative assessment of themes and users

Second cycle coding included further interrogation and refinement of the themes and categories identified from the first cycle of coding. As a sole researcher, the author discussed themes with peers not familiar with the topic which helped to clarify definitions. This also acted as a reliability check throughout the second cycle to provide confidence in the codes applied to various text. Thus, this second cycle included continuous refinement of codes and themes and initiated the connection process between codes and categories.

Pattern recognition was the key focus for this second cycle of coding. This cycle focused on reviewing the codes and categories in combination with the quantitative descriptors to get a holistic view of the patterns that emerged. As the advantage of this dataset was the volume of posts by a multitude of users, the focus was on the initial categories present in the two datasets and the identification of the following types of reoccurring patterns as defined by Miles et al. (2014):

- Categories or themes
- Causes/explanations
- Relationships among people
- Theoretical constructs

During this process, some codes were removed due to close similarities or were deprioritised after reflection. For example, coding for the side effects of quitting included "short of breath", "breathlessness", "can't breathe", "tight breath". Breathlessness was retained as the code and the others were made redundant. Quit effects was selected as the overall theme to include the various positive and negative side effects such as breathlessness, headache, fatigue, improved taste, and smell. There were some patterns that emerged which were not included in the key findings of this research. For example, it was observed that there were users who experienced side effects such as dreams, sleeplessness and nausea that seemed to reoccur for people using varenicline (Champix). However, using *method to quit* as a comparative marker was excluded given the volume of unknown data for

method to quit and the deeper interpretation of the data whereby quit smoking method used did not seem to be a causal condition of phenomena within the community. Narrative descriptions were used to identify and elaborate on the patterns.

3.4.1.3 Comparative analysis of the 2012 and 2017 findings

A deductive approach to analysis was used to identify any explanations for the thematic patterns and any notable differences between the two time periods. Quit stage was a key variable for this stage which was ascertained throughout the cycles of coding from the theme 'quit progress' which referred to declaration of time a user had stopped smoking for. Posts could be sorted by quit stage and the defined user subgroups to define further patterns, concerns, issues or connections within the imposed themes. This stage of analysis examined the quitting strategies adopted by the different subgroups and highlighted users who experienced positive change (Stage 2 below). A quantitative comparative examination of posting behaviour and demographic characteristics between the two years was also conducted.

3.4.2 Stage 2 analysis

As outlined in Section 3.3 purposive sampling was conducted for Stage 2. The inclusion of 'changemakers' enabled deep analysis into this subgroup of users who represented those who had achieved abstinence from smoking of over six months. Therefore, a deeper examination into the quitting strategies of 'long-time quitters' could be conducted. The extraction of posts between 1 January 2011 and 31 May 2018 also enabled the coding of continuous posts by these fifteen 'changemakers'. This was not possible in Stage 1 analysis where posts were extracted based on the date that they were submitted.

For this deep dive analysis, NVivo software was selected to conduct a more comprehensive interrogation of the datum and to analyse potential differences across users. A line-by-line approach to analysis was conducted to investigate the themes and patterns occurring in the data. Each theme (node) and corresponding codes (child nodes) from Stage 1 were entered in the NVivo software. Coding cycles were repeated for Stage 2. An outline of the coding cycles are included:

3.4.2.1 First cycle open coding

Descriptive analysis was conducted that followed a similar approach to the Stage 1 dataset. Given the available data per user, quantitative content analysis could be conducted on a group and individual user level.

An open coding approach enabled the Stage 1 codes to be tested and refined for relevancy against this dataset. This iterative approach to coding ensured any new codes were captured and grouped into themes. This process continued until saturation; no new concepts emerged. Attribute coding continued and enabled completion of most of the gaps in user characteristics from Stage 1. As certain phenomena were identified in Stage 1 analysis, *in vivo* coding was the main technique used in Stage 2 given the approach of line-by-line analysis. This helped to unveil and make clear some of the causal conditions, strategies, consequences and context around the identified phenomena. The codebook was refined to include final definitions and examples of codes.

3.4.2.2 Second cycle coding

Patterns identified in Stage 1 were validated in Stage 2. No identified patterns were nullified. Cross-checking the meanings and patterns from Stage 1 was an important area of focus. It was essential to continuously question and check patterns to avoid the unintended consequence of applying the pattern to data incorrectly (Miles et al., 2014) and misrepresenting that data. Constant reference to the research questions ensured the meaning and interpretations were aligned to the purpose of this research. This cycle included re-grouping and re-organising the open codes into categories.

Tentative explanations to the connections between themes were further qualified in this second cycle of coding. Axial coding was conducted to re-group and assemble all the categories and subcategories of codes into causal relationships that could explain the identified phenomena. The interpretation of texts considered the context within which the themes appeared as well as elements such as tonal qualities (Macnamara, 2018a), which was more achievable in these continuous streams of textual content from each of the 'changemakers'. Hence, while Stage 1 was able to identify initial connections and relationships between codes, Stage 2 provided the richness and depth to make sense of these connections. Corbin & Strauss (2008) developed a coding tool called the Paradigm which is "a perspective, a set of questions that can be applied to data to help the analyst

draw out the contextual factors and identify relationships between context and process" (p. 89). The Paradigm was applied to extend reflection and analysis on the categories defined in this axial coding phase. This approach was applied to collate thinking on the linkages between the conditions (circumstances that have an impact on the actions taken), action/interaction strategies (the actions/interactions taken under these conditions), and consequences (the outcomes of actions/interactions) (Corbin & Strauss, 2008). As each of these elements of the coding paradigm were identified, propositions and explanations emerged that could explain why a phenomenon exists and occurs, under what conditions, and with what consequences. The coding paradigm was used as a general frame to analyse the relationships between categories and refine the thinking around these phenomena. Selective coding involved identifying a central or core category and relating it with the other categories defined as part of axial coding (Corbin & Strauss, 2008). Selective coding was conducted as a final phase of this second cycle of coding.

The applied coding techniques and tools refine the data analysis, reshape perspectives and qualify the findings. However, regardless of the techniques and computer software used, it is the role of the researcher to formalise and systematise thinking into a coherent set of explanations (Miles et al., 2014) that drive the analytical power of the conclusions on what is happening and why.

Overall, the approach to data analysis for Stage 1 and Stage 2 relied on the deep immersion and intimate understanding of the data. This quantitative and qualitative approach to content analysis allowed for an in-depth understanding of the interactions between users and the dialogue exchanged, leading to improved understanding of the role of the iCanQuit forum in individuals' journeys to stay quit.

3.4.3 Data reliability

Intercoder reliability analysis is necessary to test the objectivity and validity of the findings/interpretations (Macnamara, 2018c). For Stage 2 analysis, a colleague acted as a second coder to assess the degree of agreement on 154 posts, representing 6% of the sample. Purposive sampling was used where the first five posts of eight users per quit stage were selected. This ensured the subsample contained a range of posts that reflected the various quit stages so that as many aspects of the coding scheme could be tested. Table 3.2 outlines the process of sampling to determine intercoder reliability.

Table 3.2 Sampling approach for intercoder reliability

Quit stage	User [A] example
Action short-term	First five posts
Action long-term	First five posts
Maintenance staying quit	First five posts
Maintenance smokefree	First five posts

If a user did not have five posts in a particular stage, the process would move to the following stage until Maintenance smokefree. This process started at User A and continued until 154 posts were reached. Not all 'changemakers' were included in this subsample. However, users were representative of the three-tiered sampling approach adopted for this purposive sample of 'changemakers'. As recommended by Macnamara (2018c), various strategies were executed to maximise covariance among coders. Firstly, a codebook was provided to the second coder to gain familiarity with the coding guidelines. As part of the training process, each code was discussed with the second coder. In the earlier stages of the training process, it was decided that example posts were necessary. The example posts were a critical component of the training as they demonstrated the range of posts included per code and facilitated discussion on the various codes. Posts were coded together so that points of agreement and disagreement could be discussed. This process of coding together helped to pinpoint areas that needed to be better defined in the codebook. Secondly, pilot coding was conducted to practice and test understanding of the codes as well as further identify any misunderstandings or areas that needed greater clarification. The second coder then coded the subsample of posts using NVivo software. As each coder logged on as a different user, NVivo software was used to calculate the intercoder reliability via the Kappa coefficient. As explained by QSR International (2021), a Kappa coefficient of (K) = 1 indicates complete agreement. A Kappa coefficient of (K) ≤ 0 indicates no agreement among the raters. According to Neuendorf, "a coefficient of .80 or greater would be acceptable to all, .60 or greater would be acceptable in most situations, and below that, there exists disagreement" (2017, p. 168). For this study, an average weighted Kappa score of 0.79 was achieved or 0.78 unweighted which is considered acceptable.

Chapter 4 Findings – demographics, activity and identification of subgroups

4.1 Introduction

The research results of this study are presented in three chapters. This chapter deals with the first results and focuses on the online activity and quitting characteristics of users of the iCanQuit forum. It examines the general posting characteristics, participation characteristics, demographic characteristics and quit profiles of users. Chapter Five focuses on the qualitative findings and presents themes and types of activity as well as exploring interactions amongst various identified subgroups of users. Chapter Six is the final results chapter and examines a subgroup of users called 'changemakers'.

In accordance with Chapter Three, this study adopted a mixed method qualitative and quantitative approach to content analysis. Content analysis was conducted on story and comment posts extracted from 2012 and 2017. The posts included in the sample were extracted from the same time periods within each year (January, April, July, October) to allow for consistency. Table 4.1 outlines the sample characteristics for the study periods in 2012 and 2017.

Table 4.1 Characteristics of posting activity on the iCanQuit forum in 2012 and 2017

Characteristic	2012	2017
Study periods	January 16-31	January 16-31
	April 1-15	April 1-15
	July 16-31	July 16-31
	October 1-15	October 1-15
Duration (days)	62	62
Number of registered users who submitted at least one post	223	149
Total number of posts (story and comment posts)	942	797
Number of story posts	199	158
Number of comment posts	743	639

The analysis of posting and participation activity, as well as the findings from the content analysis of the posts (demographics, quit smoking method, quit stage) help to extend

understanding of the user interactions on the iCanQuit forum and address the first research question:

RQ1: What are the individual characteristics of those using the iCanQuit community?

Clarification of terms used in this study

The two terms, 'stories' and 'comments' have been adopted from the iCanQuit website. The terms are used to classify the two types of textual content posts published on the website by users. The iCanQuit forum prompts users to 'Share a story'. When a user submits a story, a new post or thread is created on the website. These story posts are published on the website in order of recency, from newest to oldest sorted by date and time of submission. All story posts have the option for registered users to respond. These response posts are called 'comments' and will appear within the story thread. Comments per story post are published from oldest to newest. 'Posts' is a general term that is used to refer to either story or comment posts. All posts are publicly available and can be viewed by anyone who visits the iCanQuit website. However, only registered users can submit a story or comment post.

This study focuses on the 'Stories and Experiences' section of the iCanQuit website. This is the only section of the website that supports community interaction and where the content is solely based on user-generated content (story and comment posts). The term 'iCanQuit forum' is used to refer to the 'Stories and Experiences' section of the website. The term 'iCanQuit website' refers to the website in general. The 'iCanQuit community' is used as a general term to refer to all of the participants of the iCanQuit forum.

4.2 Posting activity on the iCanQuit forum

Based on the sample (see Table 4.1), the total number of users was lower in 2017 than in 2012, representing a 33% decline in active users. The number of posts was also lower in 2017 than in 2012, representing a 15% overall decline in total posts. Table 4.1 provides information on the types of posts users were most actively engaged in. For both years, the number of comment posts outnumbered the number of story posts. However, the proportion of the total number of story posts and comment posts in relation to total posts was similar. In the 2012 sample, total story posts represented 21% of total posts and total comment posts represented 79% of total posts. In the 2017 sample, total story posts

represented 20% of total posts and total comment posts represented 80% of total posts. This indicates a preference for posting a comment in response to a story, rather than initiating a new story post. Based on these figures, it was unclear why users would prefer posting comments to stories.

There was a slight increase in the median word count per post from 2012 to 2017. In 2012, the median word count per post was 46 words and in 2012 the median word count per post was 58 words. The median word count in both years indicates that users of the iCanQuit forum do not write long posts.

4.2.1 Posting activity over time

As this study extracted story and comment data at four distinct time periods per year, it provided insight into the variations of user activity over time. The number of users, total posts, story posts and comment posts were plotted across the year as per the month of data collection. The results are presented in Figure 4.1 and Figure 4.2.

Figure 4.1. Site activity characteristics for sample time periods, 2012
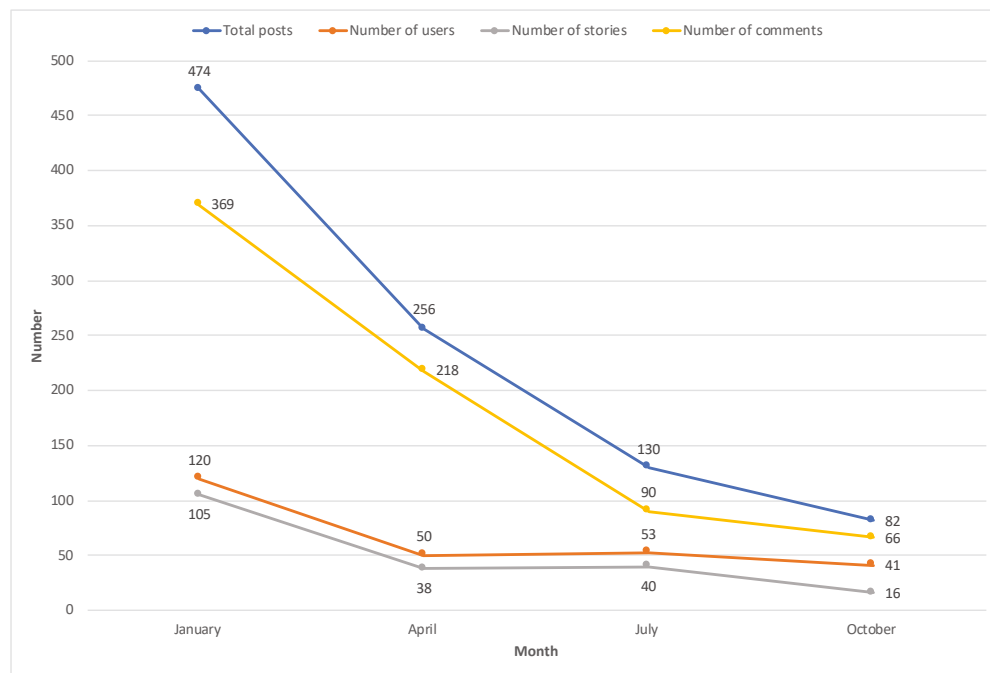
The findings identify January as a month of increased activity. This was noted in both 2012 and 2017, with January reporting higher levels of activity for all indicators (users and posts). The New Year is a calendar date that commonly signifies new beginnings and the increased

73

activity in January is most likely linked to New Year's resolutions. New Years is a calendar date that commonly signifies new beginnings. A survey conducted by Finder reported 79% of Australian's had committed to New Year's resolutions for 2020, with 9% setting quitting/reducing smoking as a New Year's resolution (Lloyd, 2019).

Figure 4.2 Site activity characteristics for sample time periods, 2017
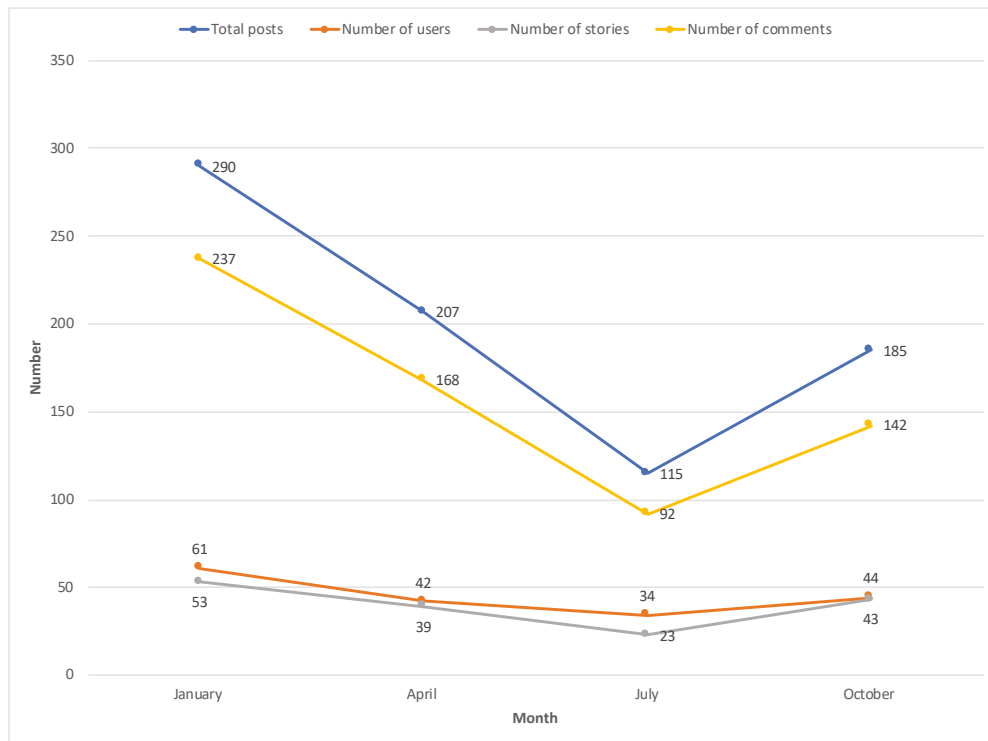
The subsequent data collection months of April, July and October reported lower levels of activity in both years compared to January. However, the decline in activity (story and comment posts) is more pronounced in 2012. This seems to be associated to the significant decline in the number of users on the iCanQuit forum from January. In 2012, the decline in the number of active users from January to July was 56%, with a further 23% decline from July to October. In 2017, the decline in the number of active users from January to July was less pronounced at 44%. Interestingly, the number of active users increased from July to October 2017 by 29% which corresponded to an increase in total posts. Advertising activity was excluded from this study but could provide explanation on the increase in users and posts. A possible reason for the decline in active users in both years could be the number of unsuccessful quitters and failed New Year's resolutions. An Australian study of smokers between 2002 and 2009 found that out of the 40% who had tried to quit, approximately 23% remained smokefree for at least a month (Cooper et al., 2011).

4.2.2 Contribution characteristics

While this research focused on user activity during the distinct time periods in 2012 and 2017, it was important to consider a user's broader site activity. For example, the sample period may have captured 10 out of 50 posts a user contributed to the iCanQuit forum. The 50 posts could have been contributed over multiple years. The publicly available post data was extracted from 2011 to 2017 and provided an opportunity to categorise users by their level of contribution over this seven-year time period. Contribution levels were assigned by the total number of posts an individual contributed from 2011 to 2017. Table 4.2 outlines the contribution level assigned by number of posts as well as the number of users per contribution level in each sample year.

Table 4.2 presents interesting findings on the overall contribution levels of users in 2012 and 2017. It was found that there was a greater proportion of users who only posted one comment (Level 1) in 2012 (29%) than 2017 (17%). This suggests users in 2017 were more compelled to write more than one post. Furthermore, there was a higher proportion of users who posted more than fifty-one posts (Level 6) in 2017 than 2012. This could reflect the duration of user membership, with users in 2017 having a longer opportunity to contribute posts over time. It could also indicate the role assumed by 'successful quitters', to be discussed in Chapter Five.

Table 4.2 Contribution level of users (total number of stories or comments) in 2012 and 2017

Contribution Level	Total number of posts (stories and/or comments) between 2011 and 2017	Number of active users, 2012	%	Number of active users, 2017	%
Level 1	1	64	29%	26	17%
Level 2	2-3	37	16.5%	37	25%
Level 3	4-10	53	23.5%	23	15%
Level 4	11-20	28	12.5%	16	11%
Level 5	21-50	14	6%	17	11%
Level 6	51+	28	12.5%	30	20%

Contribution level also helped to enrich the understanding of individual user behaviour and provided an important context in relation to the user's interaction on the iCanQuit forum. This study identified a subgroup of users, referred to as 'long-time quitters'. This was a

term that was used by a member of the iCanQuit forum, referring to 'successful quitters' who returned to the forum after quitting for an extended period of time that was more than one year. This term also included individuals who had stopped smoking for over one year but had not used the iCanQuit forum to stop smoking. These two types of 'long-time quitters' would not have been identified without categorising users by contribution level. An example is provided in Table 4.3 which highlights two 'long-time quitters' whereby one used the iCanQuit forum to stay smokefree and the other did not.

Table 4.3 Example posts of 'long time quitters' and their contribution level on the iCanQuit forum

User	Year of posts	Number of posts in 2017 sample	Contribution level (2011-2018)	Example post	Duration quit
1	2012	16	Level 6 (51+ posts)	"i did a course of champix my first week was great. i stopped smoking after day 3 i never had any cravings in fact i have not had a smoke since 23rd. dec. 2010 i was a real heavy smoker for 40 odd years and smoked around 50 a day, well all the best, and good to hear that you have stopped smoking."	1 year, 6 months and 24 days
2	2012	1	Level 1 (1 post)	"One day at a time. just say to yourself, 'Today I will not smoke' Before you know it you will have stopped for 12 years like me. Also, have some activities lined up and when you are going nuts go and do them, things like cleaning out cupboards, gardening, some craft activiities. It does get better and you will feel so much better for giving it away."	12 years

User 1 posted sixteen posts in the 2012 sample period. The example post is reflective of all sixteen posts by User 1 in that they do not provide any cues to previous use of the iCanQuit forum. However, by categorising User 1 as Level 6, it is evident that this user was very active on the iCanQuit forum. In contrast, User 2 posted one post in 2012 and was a Level 1 user (one and only post). User 2 did not use the iCanQuit forum in their quit attempt as the website did not exist twelve years ago, but this post demonstrates that User

2 made an effort to register and submit a post to provide advice and encouragement to a user of the forum. However, after this post, User 2 did not make any additional contributions between the time of this post in 2012 and 2017. There were a number of 'long-time quitters' who had not used the iCanQuit forum in their quit attempt but posted on the site to provide information on the length of time that they had remained smokefree and to provide advice to others users.

4.3 Demographic characteristics of users

Registration to join the iCanQuit forum is a one-step process. Once users provide an email, screen name, password and accept the website's privacy terms and terms of use, they are registered to use the forum. While this facilitates registration and can improve the number of people who complete the registration process, it is not mandatory to provide demographic information. The availability of demographic information is useful to better understand the profile of users who use the website and to identify subgroups. As this study did not access any demographic data, cues within the written posts were used to identify individual characteristics such as gender, age and location. Cues were either a direct indication of the characteristic or could be inferred from specific words within the posts. Table 4.4 provides examples of how demographic characteristics were determined.

Table 4.4 Categorisation of demographic characteristics

Characteristic	Direct or inferred	Example post and (categorisation)
Gender	Direct	"I'm male" (male)
	Inferred • reference to husband or wife • provision of real name • reference to a gender specific state	"My wife is my biggest supporter" (male) "My name is actually Karen" (female) "Just one month as an ex-smoker I got pregnant" (female)
Age	Direct	"I am also 23" (16-24 years old)
	Inferred • provision of smoking history (an approximation was used based on smoking history – in 2016, the average age of initiation of tobacco use for Australian adults was 16.4 years. Thus, 16 years	"I was a 60+ @day smoker for 46 years" (estimated at 60+ years (46+16=62) so allocated to 55-64 years old age category) "I have smoked for over 30 years" (estimated at 45+ years (30+16=46) so

|		
	was added to the number of years a user declared they had smoked)	allocated to 45-54 years old age category)
Location	Direct	"In Australia today, smokes are a roughly a dollar a throw so that's roughly $11680" (Australia)
	Inferred	"I am nearly two months and have only saved about 60usd" (United States of America)

4.3.1 Gender characteristics

The reliance on cues to determine gender resulted in over a third of unknown gender cases (39% in 2012 and 36% in 2017). The remaining categorised users consisted of a higher proportion of females than males in both years (Figure 4.3). This is consistent with other studies that showed a higher proportion of females using the online support components of digital interventions.

Figure 4.3 Gender characteristics of categorised users, 2012 (n=137) and 2017 (n=96)

4.3.2 Age characteristics

The categorisation of users by age group was more challenging. The number of users who provided a direct indication of age was low at 21 and 24 in 2012 and 2017 respectively. These low numbers combined with a reliance on users providing their smoking history resulted in a large proportion of unknown age cases. Age could not be determined in 74% of users in 2012 and 70% of users in 2017. Figure 4.4 outlines the age characteristics of categorised users based on direct and inferred cues in 2012 (n=58) and 2017 (n=46). To facilitate comparisons, the age group ranges that are used by the NSW Ministry of Health for population health data reporting have been applied for this study. As per Figure 4.4, the highest proportion of users in 2012 where age could be determined were in the 35-44 years, 45-54 years and 55-64 years old age groups. In 2012, the age groups with the highest smoking prevalence in New South Wales were those aged 45-54 years old (17.4%), followed by 25-34 years old (16.6%) and 35-44 years old (14.7%) (NSW Ministry of Health, 2020c). In 2017, the highest proportion of users where age could be inferred were in the 45-54 years, 65+ years and 55-64 years old age group. In 2017, the groups with the highest smoking prevalence were those aged 45-54 years old (14.5 per cent), 55-64 years old (14.4 per cent) and 35-44 years old (12.0 per cent) (NSW Ministry of Health, 2020c).

Figure 4.4 Age characteristics of users where age could be determined in 2012 and 2017
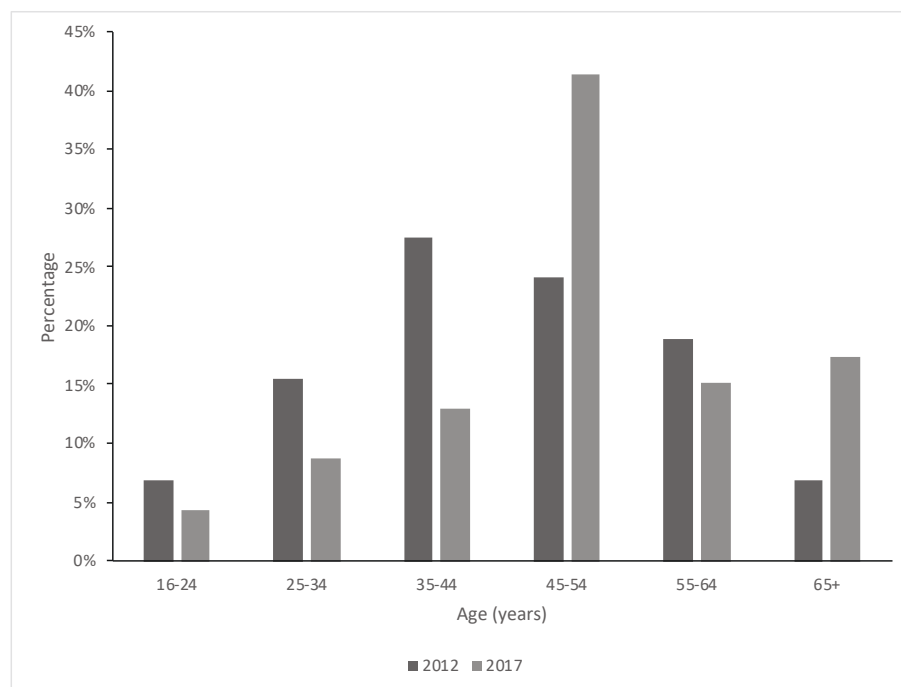
Based on NSW population health statistics, the users of the iCanQuit forum are fairly reflective of the smoking population at the time. However, the iCanQuit community skew towards older smokers. This was more pronounced in 2017. There was also limited representation of those aged 16-24 years old in 2012 and 2017.

4.3.3 Location characteristics

The results for location were very limited. The majority of users' location was categorised as unknown. In 2012, only sixteen users could be categorised to a location (Australia). In 2017, twelve users could be categorised by location (five from Australia, three from United States of America, two from United Kingdom, one from Bangladesh and one from South Africa). While limited, it does indicate that the iCanQuit community engages quitters outside of Australia. It could also suggest that the international reach increased over time as the website became more established.

4.4 **Quit smoking profiles**

Efforts in Australia and the world continue to target smokers to quit smoking as well as reduce the uptake of smoking. The journey to quit smoking is varied and when simplified, has two components. These are to make a quit attempt and to maintain abstinence (Greenhalgh et al., 2016). Estimates on the number of attempts a smoker makes to quit varies, with one study indicating that it can take 30 or more attempts before success (Chaiton et al., 2016). This study provided knowledge on the quit method and quit status of those who publicly interacted with the iCanQuit forum in 2012 and 2017.

4.4.1 Quit method

Smokers can take different approaches to quit smoking. Methods include stopping abruptly, which can be referred to as 'going cold turkey', gradually cutting down the number of cigarettes before completely stopping, and using quit aids such as pharmacological or behavioural treatments. Common pharmacological treatments include nicotine replacement therapy or prescribed medication. Prescribed medication in Australia includes bupropion (marketed as Zyban in Australia) and varenicline (marketed as Champix in Australia).

The quit method could be determined for more than half of the users on the iCanQuit forum in both years (see Figure 4.5). The proportion of users where quit method was unknown was 45% in 2012, and 41% in 2017. Based on the available data, in 2012 (n=133) the most frequent method used to quit was nicotine replacement therapy (34%), followed by cold turkey (30%) and prescription medication (26%) (see Figure 4.5). In 2017 (n=88), the most frequent method to quit was cold turkey (36%), followed by prescription medication (29%) and nicotine replacement therapy (22%). The findings suggest that for both years, approximately half chose to quit with assistance from pharmacological treatments and around one-third opted to quit cold turkey. In terms of prescribed medication, varenicline was the most commonly used. The use of bupropion was not mentioned in 2012 and once in 2017.

Figure 4.5 Quit method by user in 2012 and 2017
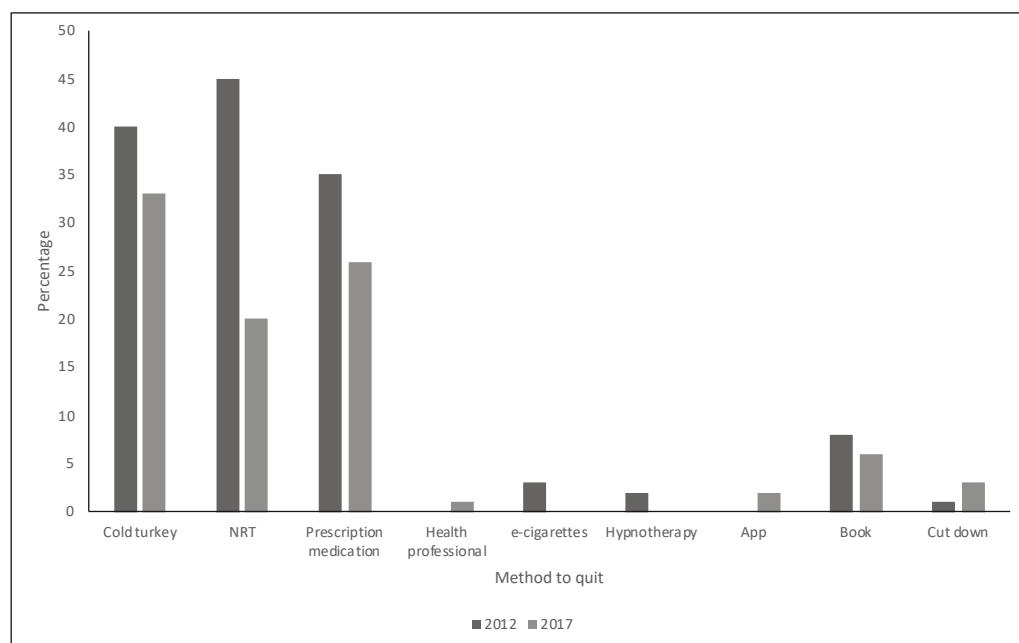
4.4.2 Stage of quitting

As in Chapter Two, a modified version of the transtheoretical stages of change model was used. This was to separate the action phase into short- and long-term. Quitters who reach the Action long-term stage of quitting are more likely to remain abstinent. Table 4.5 outlines how quit stage was determined for users. Cues used were the declaration of time quit. This was provided by number of days, weeks, months, and years.

Table 4.5 Categorisation of quit stage

Quit status	Length of time quit	Example post
Preparation	No clear indication that they have actually stopped.	"I'm trying to quit. Find it extremely hard to even make that first step"
	Planning to quit or committed to a quit attempt	"I am 61yr old 43yr smoker and I want to STOP"
Action short-term	People who have stopped smoking for 0 -3 months	"Day 16 and not one cheat"
		"I'm nearly 4 weeks quit, but coffee is foul now"
Action long-term	People who have stopped smoking for 3-6 months	"I'm feeling much better now, will hit 6 months next week"
		"105 days or 3 and a half months quit today"
Maintenance staying quit	People who have stopped smoking for over 6 months (ex-smokers)	"It's my 230 days smoke free it nearly 8 months already"
		"I am just hitting the 7 mth mark and it gets better.. doesn't it?"
Maintenance smokefree	People who have stopped smoking for over 12 months (ex-smokers)	"Had smoked for over 45 years. Stopped 26 months ago. Have not looked back"
		"503 days since my last cigarette and still can't believe after 53 years smoking I have finally quit"
Slip-up or relapse	People who have slipped up and smoked during their quit journey	"I'm in two minds about saying this on this forum, but as we've become quit buddies, I'm going to come clean and say that we're actually having a couple tonight! Agh!!!!"
		"last night I slipped up in a big way on night shift. feeling crap about it this morning."
Unknown	Quit stage could not be determined	"If you have a glass of milk with the champix it helps with the nausea"
		"Your post was very inspirational for me. Congrats!"

Quit stage could not be determined for all users. As the posts were extracted at distinct periods in 2012 and 2017, users who provided cues of quit stage in previous or future posts could not be captured. These users were categorised as unknown. The identification of quit stage provided an indication of whether users of the iCanQuit forum were successful in stopping smoking. This helped to partially address the second and third research question that investigates successful quitting.

RQ2: How does the quality of interaction relate to successful quitting?
RQ3: Which, if any, subgroups correlate to successful quitting?

Users could be captured in more than one quit stage as they may have progressed during the sample period. This is the reason for the grand total of users per stage exceeding total users of the sample. For example, a user who changed from Action short-term to Action long-term would be counted as a user in both stages. Successful quitting was defined as those users who reached the Maintenance staying quit or smokefree quit stage which means that they had stopped smoking for over six months and over 12 months respectively. For this study, the subgroup of users who had quit smoking for more than six months were titled 'successful quitters' and those who had stopped smoking for over twelve months were titled 'long-time quitters'. Analysis of posts to understand how users in the Maintenance smokefree quit stage interacted with others on the site in 2012 and 2017 is discussed in Chapter Five.

The iCanQuit forum attracts and retains users from the day they decide to quit smoking and be a part of the iCanQuit community. There are active users in each of the quit stages. As shown in Table 4.6 there are certain quit stages that have a greater number of active users. Nearly two-thirds of total posts in 2012 and nearly half of total posts in 2017 were related to the Action short-term stage of quitting. This indicates that quitters in the early stage of quitting who stopped smoking for less than three months are contributing the greatest number of posts on the forum. This reflects the need for greater quit smoking support in the earlier stage of quitting smoking to avoid relapse. The incidence of relapse is higher in the more immediate post-quitting period (Greenhalgh et al., 2020). The proportion of posts per user in the Action short-term and Action long-term quit stage for both years was similar, with just over four posts per user.

Table 4.6 Users per quit stage and number of posts, 2012 and 2017

Quit stage	2012			2017		
	Users per quit status	Posts	Ratio (user: posts)	Users per quit status	Posts	Ratio (user: posts)
Preparation *(no clear indication that they have actually stopped)*	24	38	1:1.6	23	71	1:3.1
Action short-term *(stopped smoking for 0 -3 months)*	130	610	1:4.7	84	375	1:4.5
Action long-term *(stopped smoking for 3-6 months)*	32	130	1:4.1	13	62	1:4.8
Maintenance staying quit *(stopped smoking for over 6 months)*	16	36	1:2.3	13	104	1:8
Maintenance smokefree *(stopped smoking for over 12 months)*	24	69	1:2.9	16	148	1:9.3
Slip-up or relapse	7	7	1:1	3	4	1:1.3
Unknown *(Quit stage could not be identified)*	35	51	1:1.5	19	33	1:1.7

New users of the iCanQuit forum were affectionately referred to as 'newbies' by longer-term users of the forum. Aided by the classification of users into quit stages, four subgroups were identified in this study: 1) 'newbies' who are those in the early stage of quitting at under three months; 2) 'resisters' who are those who have quit between three and six months; 3) 'successful quitters' who had quit smoking for over six months; and 4) 'long-time quitters' who had quit smoking for over twelve months.

There were observed differences between the two years for 'successful quitters' and 'long-time quitters'. The proportion of posts contributed by users in the Maintenance staying quit and Maintenance smokefree quit stage was significantly higher in 2017 than 2012. In 2017, the proportion of posts per user who had stopped smoking for over six months (staying quit) was 1:8. This increased to 1:9 for a user who had stopped for over twelve months (smokefree). For both of these Maintenance quit stages, the proportion of posts per user was lower in 2012 at around 1:2.

4.4.3 Change in quit stage

An analysis of active users who reached the Maintenance quit stage were titled 'successful quitters' and 'long-time quitters'. 'Successful quitters' and 'long-time quitters' provided evidence that the iCanQuit forum supported users who had remained smokefree for over six months. This finding identified the users who had successfully quit smoking and had sustained their positive behaviour change. Further analysis was conducted to examine if the journey of these individuals to reach a Maintenance quit stage could be determined. An analysis of the posts by users within the sample revealed individuals who experienced progressive behaviour change maintenance while using the iCanQuit forum. For example, if a user had a post in the Action short-term quit stage and another post in the Action long-term, this was identified as a positive behaviour change. By identifying these incidences of positive behaviour change, emerging patterns amongst those that experienced a shift in quit stage was explored. This research identified thirty-one users in 2012 and fifteen users in 2017 who changed quit stage during the sample period (n=46, 12% of total sample). In total, 87% (n=40) of those who identified as changing quit stage made a positive behaviour change, with the remainder experiencing a negative behaviour change, commonly known as relapse.

The positive behaviour change of users in 2012 and 2017 is mapped in Figures 4.6 and 4.7 respectively. The green arrows highlight the number of users who progressed to a Maintenance quit stage (staying quit or smokefree). In 2012, five users moved from Action short-term to Maintenance staying quit, two users moved from Action long-term to Maintenance staying quit, and one user moved from Maintenance staying quit to Maintenance smokefree. In 2017, three users moved from Action short-term to Maintenance staying quit, two users moved from Action long-term to Maintenance smokefree and two users moved from Maintenance staying quit to Maintenance smokefree.

Figure 4.6 Positive behaviour change observed in 2012 (n=27)

Preparation	Action (short-term)	Action (long-term)	Maintenance (staying quit)	Maintenance (smokefree)
→	3			
→		→ 1		
	→	→ 15		
	→		→ 5	
		→	→ 2	
			→	→ 1
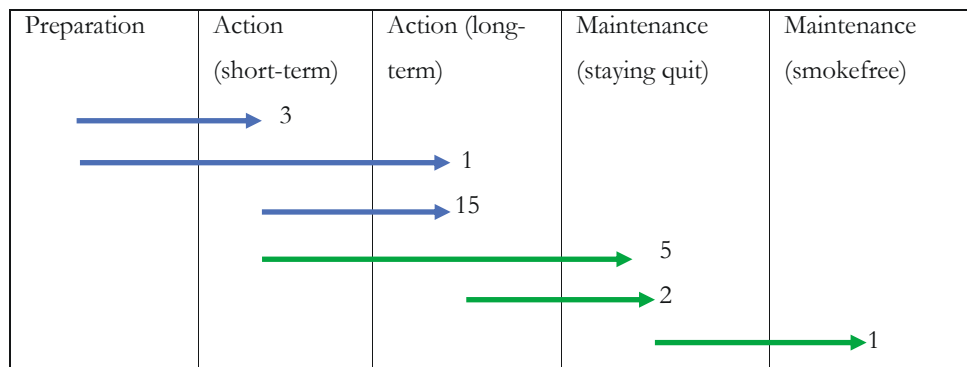
Figure 4.7 Positive behaviour change observed in 2017 (n=13)

Preparation	Action (short-term)	Action (long-term)	Maintenance (staying quit)	Maintenance (smokefree)
→	2			
	→	→ 4		
	→		→ 3	
		→		→ 2
			→	→ 2
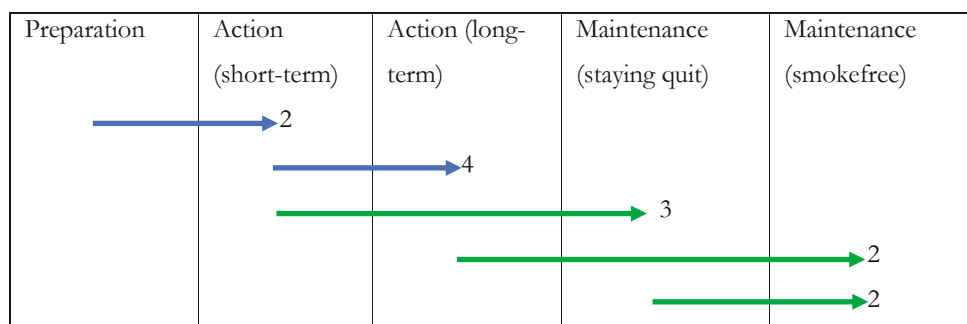
This study further investigated those users who experienced both positive behaviour on the iCanQuit forum as well as reaching the target quit stage of Maintenance staying quit and Maintenance smokefree. This information is important to respond to the second research question of findings that relate to successful quitting. Individuals who reach a maintenance quit stage have a higher likelihood to remain smokefree. Table 4.7 outlines the characteristics of eight individual users (2012) and seven individual users (2017) who demonstrated positive behaviour change by changing quit stage on the iCanQuit forum, and reached a Maintenance quit stage. While there is an element of unknown data, the available characteristics reflect a diverse group in terms of age, gender, location and method. All genders and age groups except 16-24 years old were represented. The methods used to quit smoking were prescribed medication (Champix), cold turkey and nicotine replacement therapy. A key finding is that thirteen out of fifteen users were recorded as contribution level 6 (51+ posts) meaning that they represented users who had higher rates of participation. For this study, this subgroup of users is titled 'changemakers'. Findings from further investigation of their participation on the iCanQuit forum is outlined in Chapter Six.

Table 4.7 Characteristics of users who experienced positive behaviour change and reached the Maintenance quit stage on the iCanQuit forum in 2012 and 2017

No.	User code	Age range	Gender	Location	Quit Method	Contribution level	Year
1	A *(Action short-term to Maintenance staying quit)*	Unknown	Unknown	Unknown	Unknown	Level 6 (51+ posts)	2012
2	B *(Action short-term to Maintenance staying quit)*	Unknown	Unknown	Unknown	Prescribed medication (Champix)	Level 6 (51+ posts)	2012
3	C *(Action short-term to Maintenance staying quit)*	Unknown	Unknown	Unknown	Unknown	Level 6 (51+ posts)	2012
4	D *(Action short-term to Maintenance staying quit)*	Unknown	Female	Unknown	Prescribed medication (Champix)	Level 6 (51+ posts)	2012
5	E *(Action short-term to Maintenance staying quit)*	55-64	Female	Unknown	Prescribed medication (Champix)	Level 6 (51+ posts)	2012
6	F *(Maintenance staying quit to smokefree)*	Unknown	Unknown	Unknown	Cold turkey	Level 3 (4-10 posts)	2012
7	G *(Action long-term to Maintenance staying quit)*	Unknown	Unknown	Unknown	Prescribed medication (Champix)	Level 6 (51+ posts)	2012
8	H *(Action long-term to Maintenance staying quit)*	Unknown	Unknown	Unknown	Unknown	Level 6 (51+ posts)	2012
9	I *(Action long-term to Maintenance smokefree)*	Unknown	Female	Australia	Prescribed medication (Champix)	Level 6 (51+ posts)	2017

10	J *(Action long-term to Maintenance smokefree)*	35-44	Female	United States of America	Cold turkey	Level 6 (51+ posts)	2017
11	K *(Maintenance staying quit to smokefree)*	65+	Male	Unknown	Nicotine Replacement Therapy	Level 6 (51+ posts)	2017
12	L *(Maintenance staying quit to smokefree)*	45-54	Male	Australia	Prescribed medication (Champix)	Level 6 (51+ posts)	2017
13	M *(Action short-term to Maintenance staying quit)*	Unknown	Female	Australia	Cold turkey	Level 6 (51+ posts)	2017
14	N *(Action short-term to Maintenance staying quit)*	35-44	Female	Unknown	Cold turkey and Allen Carr book	Level 6 (51+ posts)	2017
15	O *(Action short-term to Maintenance staying quit)*	Unknown	Male	United Kingdom	Nicotine Replacement Therapy	Level 4 (11-20 posts)	2017

4.5 Summary

This chapter presented the findings of user activity on the iCanQuit forum during the study periods in 2012 and 2017. The publicly available post data (story posts and comment posts) was extracted from the iCanQuit website to understand the types of users of the forum and their level of contribution as they embark on a journey to quit smoking. Content analysis of the data led to findings in relation to (i) posting activity; (ii) contribution levels; (iii) demographic characteristics, and (iv) quit smoking profiles. Comparisons were made between the 2012 and 2017 samples.

While the total number of posts was lower in 2017 than 2012, the findings of this study showed that in both years there were more comment posts than story posts. The proportions were consistent across both years at approximately 20% story posts and 80% comment posts. January seems to be a period of high quitting activity when compared to

the other data collection points across the year in both 2012 and 2017. The higher number of posts and users recorded in January is correlated to New Year's resolutions.

The categorisation of age, gender and location was reliant on direct declaration or inferred data provided by the user within their post. This resulted in a higher proportion of unknown cases across all demographic characteristics for both years. However, based on the categorised users, the results imply that users of the iCanQuit forum are reflective of the NSW smoking population. Within the parameters of this study, there was a skew to older people and females. The inclusion of users from international locations, specifically in the 2017 sample, demonstrate that online social support services have no geographic boundaries.

In this chapter, the results provide an overview of the users of the iCanQuit forum and the identification of five subgroups. These subgroups categorise users by the length of time they have stopped smoking. Subgroups include: (1) newbies who are users who are identified as being quit for less than three months, known as being in the Action short-term quit stage; 2) resisters who are users who are identified as being quit for three to six months, known as being in the Action long-term quit stage; 3) successful quitters who are users who are identified as being quit for six to twelve months, known as being in the Maintenance staying quit stage; 4) long-time quitters who have stopped smoking for over one year and are known as being in the Maintenance smokefree quit stage, and (5) changemakers who are users who have made a positive behaviour change on the iCanQuit forum and reached a maintenance staying quit or smokefree quit stage. These subgroups have confirmed that most users participate in the iCanQuit forum to remain non-smokers as they tend to participate after making the decision to quit smoking. However, how these subgroups interact and the relation to successful quitting is still unknown. The findings in the chapters Five and Six aim to address this gap in the current research.

Chapter 5 Findings – themes emerging from quitters' posts

5.1 Introduction

In the previous chapter, findings relating to online activity and the identification of subgroups on the iCanQuit forum were reported. In Chapter Five, the textual content exchanged between users on the iCanQuit forum is analysed in detail. A total of 1,739 posts were included in this content analysis. This was made up of 942 posts (199 story posts and 743 comment posts) from 2012 and 797 posts (158 story posts and 639 comment posts) from 2017. Reports issued by NSW Ministry of Health on the use of the iCanQuit cessation service focused on the number of unique visitors to the iCanQuit website. Whilst this type of reporting offers further understanding of the potential reach of iCanQuit as a support service, it does not illuminate how users are interacting with each other within the online community. The content of these publicly available posts demonstrates the quality and nature of users' interactions and the themes that have emerged.

In this chapter, particular attention is paid to the subgroups identified in Chapter Four as 'newbies', 'successful quitters' and 'long-time quitters' in order to further understand and respond to the following research questions:

RQ2: How does the quality of interaction relate to successful quitting?
RQ3: Which, if any, subgroups correlate to successful quitting?

5.2 User interaction on the iCanQuit forum

Users voluntarily opt to join the iCanQuit forum and remain anonymous by using a username unless they offer personal information within their post and/or use their real name. When submitting a post, the user decides if they submit a story post or comment post. As found in Chapter Four, there were significantly more comment posts than story posts, indicating that users preferred to respond to a story rather than start a new one. Without the content analysis of posts, a conclusion could have been drawn that users preferred to support another user in their quitting journey rather than tell their own story. However, it was observed that users indeed shared their own story as part of their

responses within comment posts. This interaction of sharing personal experiences within a comment post was observed in both the 2012 and 2017 samples. For this reason, the study analysed posts in their totality rather than separating analysis for story posts and comment posts.

A total of 1,739 posts were coded to reveal and identify the key themes that emerged from the analysis. Ten themes on the iCanQuit forum were identified: 1) social support; 2) site interaction; 3) quit progress; 4) quit determination; 5) quit motivation; 6) smoker history; 7) quit ease; 8) quit effects; 9) distraction techniques; and 10) seek advice. Table 5.1 provides the list of themes in order of frequency. The frequency at which the themes were coded in 2012 and 2017 was relatively stable. The two dominant themes of social support and site interaction align with the purpose of the iCanQuit forum, highlighting what the community offers and how the forum operates. A comparison between the frequency of posts for 2012 and 2017 is shown in Figure 5.1. It was noted that the frequency of social support did decline from 2012 to 2017. The decline in the number of posts per theme was observed across most of the themes.

Table 5.1 Themes identified on the iCanQuit forum in order of frequency

No	Theme	Definition	Example post	2012	2017	Total
1	Social support	Posts where users express elements of encouragement, esteem empathy and informational support.	"Congratulations on your amazing success in the face of adversity.. Keep up the great work :-)"	740	688	1428
2	Site interaction	Posts that capture users' interaction with other users and/or references to how users use or recommend using the iCanQuit forum (e.g. address user by username, provision of real identification, quitting groups, instructions on using the site).	"OMG!! Thank you soooo much Pauly, Gayld and Kathyrose !! I didnt think anyone would read, let alone respond to my post.	619	603	1222
3	Quit progress	Posts where users communicate their quit progress based on time (day, weeks, months, year) and/or other indicators such as amount of money saved or unsmoked cigarettes.	"Who would have thought after so many try's I would succeed at quitting 8 months now…"	269	182	451
4	Quit determination	Posts where users express their mindset to remain quit and/or the mantra or thought that keeps them focused on staying quit.	"I think the key here, is proper mindset. You must WANT to stop. You must NOT WANT to smoke. I had made up my mind that I WANTED to be free of smoking. I DO NOT WANT TO SMOKE !"	151	160	311
5	Quit motivation	Posts where users communicate their reason to quit and/or what motivates them to remain abstinent.	"I am struggling with quitting and lapsing again and again. My husband's death six weeks ago has been the worst grief I have ever felt but we have a wonderful 23-year-old son who I want to stay quit for - not just for my own health but also for his faith in me."	125	123	248
6	Smoker history	Posts where users reflect on their smoker history such as the years smoked, number of cigarettes smoker per day, number and/or type of previous quit attempts.	"…smoked 25/35 cigs per day 37 years - gave up a couple of times lasting up to nine months…"	101	97	198

7	Quit ease	Posts where users reflect and express their thoughts on how easy or difficult it is to remain abstinent.	"I don't want to say that the last 2 days were easy, but it wasn't the earth-shattering, soul destroying trauma that I was expecting."	60	57	117
8	Quit effects	Posts where users communicate the various challenges or side effects to remain abstinent (e.g. sleepless nights, weight gain, temper, indigestion).	"i am on champix and they make me extremely nauseous, especially in the morning."	38	61	99
9	Distraction techniques	Posts where users communicate the various techniques used to take their mind off smoking, tackle cravings, change habits (e.g. go to gym, breathing exercises).	"For me, distraction has been the key...whenever I get a bad craving, I do a crossword, go for a walk etc or play a game on my pc...."	50	41	91
10	Seek advice	Posts where users posed a question to the community or a user for specific advice	"I have been smoke free for 3 months - not bad... Have now stopped taking Champix altogether after cutting down for the last couple of weeks, and I am a certifiable nut case. Lost the plot on Sunday, am teary at work (not good for the manager) and am thinking that it's all too hard. I'm not craving a cigarette, but I think this is worse... Anyone else have this problem once weaned off the champix?"	36	45	81

Figure 5.1 Themes identified on the iCanQuit forum and their frequency
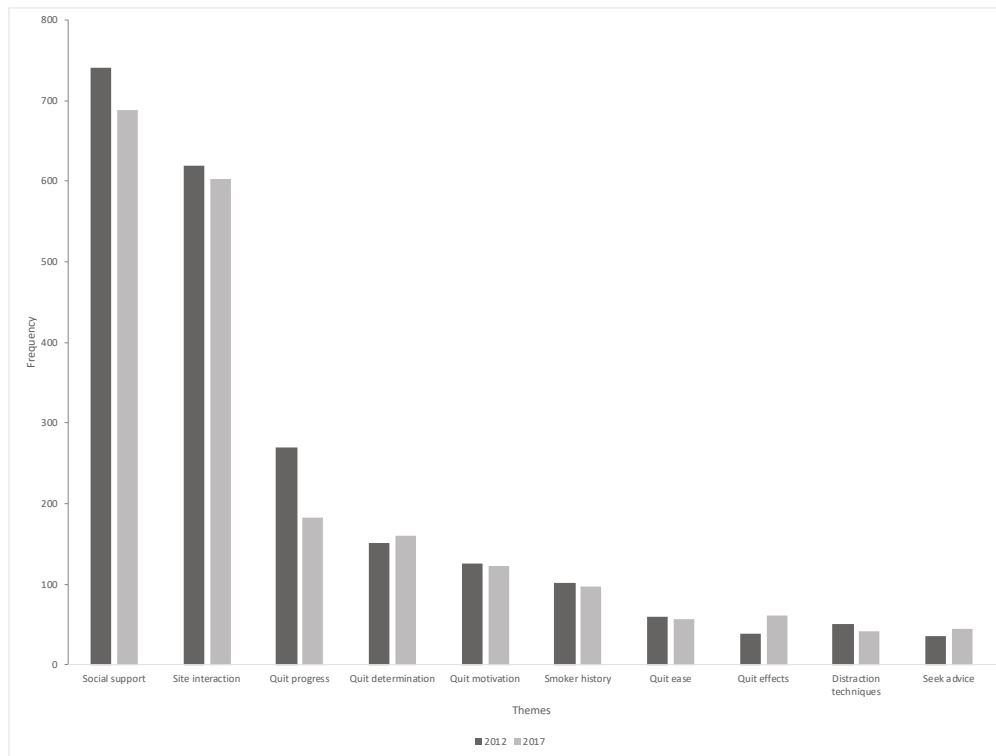
Declines in frequency can be generally observed across all themes. As discussed in Chapter Four, this may be linked to the decline in the number of users and total posts on the forum in 2017. The findings from this thematic analysis are outlined below.

5.2.1 Social support

Social support was the dominant theme of discussion on the iCanQuit forum. As per Table 5.2, there were various expressions of social support. The classification system was based on the dimensions defined by Cutrona & Russell (1990) which includes esteem, emotional and informational support. Messages of esteem include bolstering a person's sense of competence or self-esteem and informational support includes advice or guidance. Emotional support which are expressions of comfort and caring was broken down into encouragement and empathy. The social support dimension of network support is discussed below in Section 5.2.2.

Table 5.2 Example messages of social support on the iCanQuit forum

Encouragement	"Well done so far & good luck with your onward journey! You CAN do it, and really, you must. Keep being awesome!"
	"Hi Rusty, well done on getting thru your first day"
	"Good on you. (insert cheering squad here)"
	"Well done Gam, you're doing a great job, keep it up."
Empathy	"Heh chief I'm a shift worker as well on day 93 cold turkey. I know how hard it is to stay focused on a night shift block. Hang in there mate !!!!!!"
	"it is the common problem when quitting. I've quit 3 months ago and still have some trouble sleeping, but not so much like in the 1st month."
	"Hi Shelly, You sound just like me."
Esteem	"You're amazing! ..."
	"So great to read success stories like yours, it truly is inspiring for myself who is still currently on day 3 that i can make it.."
	"What an achievement already, you should be very proud of yourself!!"
Informational	"You have to make sure you do not have any cigs in the house on your quit date. I found that while I had access to smokes I was not quitting - just kidding myself, so I gave the remainder of packs away and it is now 12 days since I quit"
	"6 days to you may not sound long but it's a wonderful start. Try anything you can to keep going. If you can tolerate Champix then I've heard they help enormously, if not the patches with an occasional lozenge helps me."

Posts often had a combination of varying types of social support. 'Newbies' appeared to attract social support given their expressions of hardship and challenge in the early stages. It was evident that the receipt of social support was important to overcome moments of doubt and uncertainty. It was also observed that 'newbies' provided social support to other users, whether they were newcomers or more successful quitters. The provision of support was shared across all subgroups of users. Users did not limit the provision of support to only those who were in the same quit stage as them. This demonstrates the supportive

environment created by the iCanQuit community in that the provision and receipt of social support is practiced by users regardless of how advanced they are in remaining smokefree.

The comparison between the two years identified a change amongst 'successful quitters'. 'Successful quitters' in 2017 contributed more posts of encouragement and esteem to fellow quitters than in 2012. This suggests that as the iCanQuit forum became more established and the number of 'successful quitters' on the forum increased, users were more aware of the influence they have on those who had just started. Through the analysis of posts by 'successful quitters' in 2012 and 2017, results revealed that posts in 2012 were more focused on self-reflection in relation to quit progress and quit options. In 2017, the increased posts of social support in the domains of encouragement and esteem provided to those whose progress was not as advanced revealed an evolution over time. 'Successful quitters' shifted from an internal focus to a more external, community focus.

A significant finding in this study was that there were two components to esteem social support. One was in relation to a user's quitting achievements and the other was in relation to the evolving role of a user. Over time, a user who was following another user's progress for inspiration was soon being followed. This cycle of following to being followed could contribute to the feeling of commitment to the iCanQuit forum as well as a user's own motivation to stay smokefree due to their responsibility of being a role model to others. The recognition that one can be an inspirational role model to others as well as expressions of following others is demonstrated by the following posts:

> Wow popcorn, I have to admit I'm feeling a little chuffed that I can inspire someone.. Lol

> I always read everyone's stories and are personally inspired by them all the time, but someone saying it to me seems so surreal and to be honest I'm feeling a little proud :-) all the more motivation for me to keep charging on, so big thanks indeed!! :-D

> Happy Birthday Meanie and congrats on your 80 plus days. Great to see a post from you again, I miss reading them. Glad to hear everything is going well for you:)

Further examination of the phenomenon of role modelling amongst users is discussed in Chapter Six.

The provision of social support was often supported by stories of personal experience. Sharing a personal experience seemed to provide greater clarity and weight to the advice. The dialogic format on the iCanQuit forum provided the conditions for users to integrate experience within the written posts. Informational social support was often provided in the context of one's own experience with different methods or side effects. Advice was provided to encourage another user to stay focused or to reinforce a similar experience. It appeared that this advice was predominantly given to 'newbies' who were experiencing challenges in the early stages of quitting smoking. While users would outline their success with the method they had chosen there was general neutrality on what option others should take. The provision of informational social support prompted exploratory responses as users determined what options would suit their own individual success. While individuals provided advice from their experience, there was respectful understanding that individuals needed to use the method that worked best for them as evident in the posts below:

> The patches gave me a rash also, and the Nicabate Mini's made my heart race and my body go numb. I ended up using Quit x gum this time, have been smoke free for 44 days (no slip up).

> I think it is important for people to take the path that works best for them. My efforts so far are heading in the right direction, especially my efforts today. I've got a quit smoking book to read too which hopefully will help me with breaking the psychological attachment to smokes.

> It's all a mind game and you need to have your 'A' game on to be able to do it. Each time you attempt to quit, you learn things about yourself and your addiction. I know I did. It took me a few goes and I learnt how I had to have strategies in place & I had to be busy all the time. ALL the time. I feel fantastic now. I used Champix, and I had tried them before and failed on them but I wasn't in the right mind space. When I finally quit this time I hated them, I despised that they were in control of me. The Champix for me helped take the edge of the cravings. You will know when you are ready, then its full pelt ahead. It's a crazy ride but so worth it..

> The main thing is to choose a method which suits you.

This theme illustrated the advantages of having the volume of users and experiences on the iCanQuit forum as it enabled the identification of someone who was using the same option and could provide advice. The range of experiences contained within posts also cements

the understanding that there is not one method that is the most effective. The iCanQuit forum provides a place for experiences to be contained so that users can explore the options and gain an understanding of the varying responses to different approaches in order to find the right method for them.

5.2.2 Site interaction

Site interaction was the second most frequent theme on the iCanQuit forum. This theme included posts that captured users' interaction with other users and/or references to how users use or recommend using the forum. These interactions highlight the relationship building patterns of users and stem from the dimension of network support of the feeling of belonging to a group where members share common interests or concerns.

5.2.2.1 Social introductions and recognition of peers

There is a mutual understanding between users that they are participating for the purpose of quitting smoking or staying quit. In contrast to standard introductions that may be observed in social settings such as introducing oneself by first name, there were very limited instances where users would follow the standard protocol of introductions on the iCanQuit forum. Instead, users would launch straight into their quit experience, avoiding any formality by way of introduction. The visual design of the iCanQuit forum may influence this community norm of skipping introductions. Figure 5.2 shows how a profile picture and username are included on the left-hand side of every post which could act as a user's introduction to the iCanQuit community. It should be noted that various improvements have been made to the website. In 2012, there was no information related to the number of stories a person had posted or the date joined.

Figure 5.2 Image of how a post appears on the iCanQuit forum (Cancer Institute NSW, 2020)
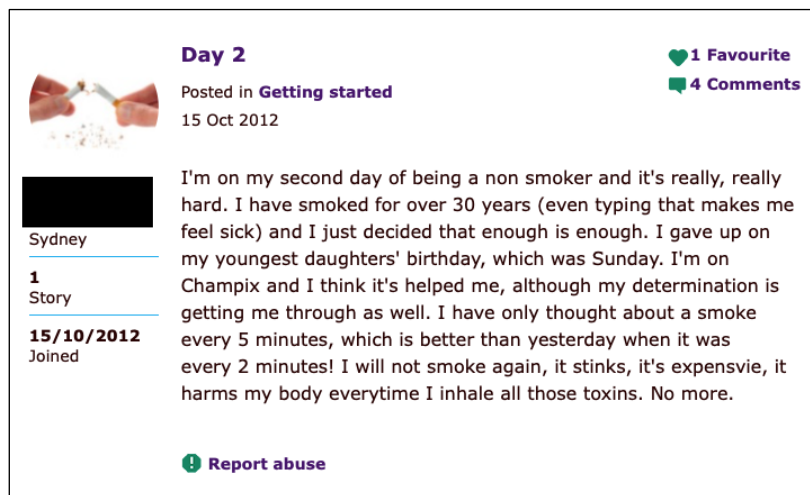
While introduction protocols were skipped, there was the frequent inclusion of usernames within posts. As interaction on the iCanQuit forum is limited to text-only posts, the use of usernames provides elements of personalisation and signals the recognition of users within the community. It was found that users would frequently address other users by their username and reference users by their username when in agreement or disagreement. The inclusion of usernames within posts may act as social cues of acceptance and a feeling of closeness or sense of familiarity which can be seen in the following lines:

Hi Blue 57

Gerry1 & Tige68, thank you

Go for it Jacqui11

This sense of closeness was further observed in posts where users would reveal their real name and/or personal life circumstances. These snippets into their personal life were honest and authentic and as demonstrated in the quotes below, reveal the other challenges or stressful situations users faced in daily life:

Borderline is a frightening diagnosis as my son has it along with other personality disorders as well. With your daughter up and leaving and cutting contact (for no reason) this is quite typical of a borderline, I pray for your sake this is not the case.

I suffer with Depression as well I am taking antidepressants to help me and I understand what you are going thru agoraphobia has been a problem for me too.

> …as a single mum of a terminal 11yr old I get a lot of stress and watch my boy trying
> to breathe through no fault of his own..

While these personal details provide context into the challenge to quit smoking or to stay smokefree at that particular time in their life, they are details one would expect to share with a close friend rather than an online acquaintance. The shared purpose of joining the iCanQuit forum to quit smoking is important in the rapid formation of feeling connected to fellow users. There seemed to be an underlying agreement that users could provide support because they intimately understood the quit smoking journey, unlike people who have never smoked. There was also a sense of security where users felt less judged by others, particularly in regard to fear of failure as seen in the quotes below:

> This site is great and the support we receive here is something non smokers probably don't
> understand, but I like you appreciate reading other people's journeys and their support.

> I have just reset my profile and have set a date & I don't intend to tell anyone in my
> immediate circle that I am planning to quit, because I don't want to fall on my face!!

> Only another smoker can really understand what this is like!

This comfort found in people who share the quit smoking experience highlights the importance of connecting with others within the iCanQuit community. The iCanQuit community facilitates the connection with those who they may not be able to find in their immediate social network.

5.2.2.2 Formation of quitting groups

Registration on the iCanQuit website is the action users take to formally join the online community, providing them the ability to contribute to discussion. Unlike other quit smoking websites, such as Becomeanex.org (American quit smoking website), users don't have the option to join specific groups. For example, users of the BecomeAnEx ExCommunity can join specific quitting groups such as celebrating milestones, February quitters, December quitters, newbie quitters, pet lovers and cold turkey quitters. While this structured option to join a group does not currently exist on the iCanQuit forum, it was found that the formation of groups happened organically between users. This was identified through the explicit reference to how users had supported each other on their

journey, how users were following specific users on the site, or specific requests from a user in search of a quit buddy. These results demonstrated the existence of closer relationships that are formed on the iCanQuit forum between 'strangers' and was often observed in posts of returned users such as in the examples below, where users reflected on the support the iCanQuit community had provided them:

> Remember when the site went down and we all were freaking out? Remember being so proud of Tiger and JoC and Rockyrush and KathyRose and making sure we all kept going? I kind of miss it in a way. But look at all the new people here who can do what we all did and help one another keep going.

> Following hot on Gams heels, today I've also reached 100 smoke free days. Looking forward to even more money saved, better health and more time to enjoy life

> I wanted to say a bit heartfelt thank you to all of those people who helped with my journey on here and kept me on the straight and narrow. Firegod, BlueSuzi, JoC, Kathyrose, Rocky-Rush, Meanie and of course Tiger74. What winners we all are and what a blessing you guys were to me

The bonds and affection these users have for their smaller support group was evident within the posts. There were also instances where users would provide explicit cues to join forces with another user:

> Hi Pammymess, I am on Day 1 and feel so overwhelmed it's ridiculous. My husband has not smoked in 5 days ... I feel like I'm gonna fail it's really hard. I just wanted to say that I am on the same journey as you if you wanna vent, chat or let off steam. This is gonna be soooo difficult but we will do it !! :)

> Well done to us 3, Yeap the 3 musketeers. We are so good!!!! Yepity Yeap Yeap. So good that we have all made the same progress, Hopefully this means we can support each other and we can relate cos we are all at the same point. Yous'e get where I'm going with this. I am soo hearing you both on the weight thing. Maybe we could be the 3 little non smoking pigs..Naaahhhhh. Musketeers are better. I too have a plan to loose weight, No action as yet but its playing on my mind to get more active and serious about loosing the weight. Anyway Musketeers- All for one and One for all... well done!

These findings suggest that while users took the action to join a large online community, there was perceived additional value in finding a smaller group of fellow quitters who were

at the same point in their quit journey and/or could provide continuous support throughout the quit journey ahead. These smaller groups demonstrate the spontaneous ties that form between individuals and that these ties could be stronger with some more than others.

5.2.2.3 Interactive behaviour on iCanQuit throughout users' quit journeys

The types of interactions users have within the iCanQuit community were found in posts where users (i) provided advice to 'newbies' on how to use the site; (ii) referred to their interactive behaviour on the site; and/or (iii) reflected on how their use of the site had changed, particularly in regard to frequency. These findings indicated the value the iCanQuit forum provided as a quit smoking aid. The changing value of the iCanQuit forum as a quit aid was more evident when analysed from the perspective of the subgroups, specifically 'newbies', 'successful quitters' and 'long-time quitters'.

Interactive behaviour of 'newbies'

Chapter Four defined 'newbies' as a subgroup of the iCanQuit forum as those participants who are in the Action short-term quit stage which are defined as those who had quit for less than three months. This subgroup is in the first stage of quit smoking success, in that they have taken the action of initiating an attempt to stop smoking. This is the time where quitters are at the highest risk of relapse and in most need of support (Borland & Balmford, 2005).

As discussed in Chapter Four, 'newbies' contributed the largest number of posts on the forum indicating that they found benefit in writing posts. However, in terms of the interactions, this reesrach has identified the additional value gained for 'newbies' from reading posts on the forum. It was not possible to determine the frequency at which users read posts as there was no visible action that could be recorded. Website analytics data may be able to report on how many people clicked on a post to indicate number of views. However, this type of data was not included as part of this research. Therefore, there were no explicit cues as to how often and how many posts were being read by users. Yet, within posts, there was evidence that users engaged in this behaviour with clear benefit.

'Newbies' read posts as a distraction and social learning tool. The early stage of staying quit is when cravings or the urge to return to smoking is strongest and more frequent. Urges to

smoke are most intense in the first two days after quitting but experiences vary and these cravings can continue to occur months or years after quitting smoking (Greenhalgh et al. 2020). This research provided evidence that users read posts on the iCanQuit forum as a way to distract them when these urges appeared as seen in the posts below:

> It's hard to quit but I can and I don't want to smoke again. I will start meditating or should I have a shower. It's a start of my third day and I got up at 2 o clock in the night. I am reading articles from last hour or so and trying to convince myself that once in a while Its OK.. but it's not. I was searching on Google like benefits of smoking if they are any .. I found absurd arguments which don't make any sense. I know how bad it is cause I have relapsed may be 100 times in last 16 years. I am 30 now and started smoking when I was 14, oh man now when I am writing it for the first time I am realizing how bad and long my addiction is. . Anyways, let's do it for the sake of our own future, for the sake of our present..:).. I don't know guys ...all the best I won't smoke.

> Hi All! Well today is day 14 without a smoke and I am stoked! Had social drinks with friends last night which was the first time I had placed myself in a high risk situation since quitting and I definitely felt the urge constantly to have a smoke but I am not giving in to the bastards! Keep posting everyone as I find reading the posts when I do get the urge really supportive and reassures me that I am making the best decision of my like for me and my family!

> Yesterday was day 11 and I was faced with another challenge. My first long drive alone since quitting. 3 hours each way, with a high power meeting in the middle. The voice in my head took advantage of the situation and returned with renewed vigour. "Just one will be OK" You really feel like one - just pull into the next petrol station and get a small pack!. I fought the creature off by recalling things I've read on this website. There's no such thing as just one. It will lead to just another one. The last 11 days wasted effort. How hard was it getting to this point only to throw it all away. I made it back without giving in to the temptation. I think that's all it is now - I don't think the physical cravings are there anymore- it's just temptation.

'Newbies' were seen to disclose taking the time to read multiple posts and communicate the benefit it provides. Reading past posts suggested that the archives of posts kept on the iCanQuit forum are an effective resource for 'newbies' as they navigate the journey to stay smokefree. It reinforces that not only is the iCanQuit forum used as a tool of distraction in times of immediate need, but also a social learning tool to prepare users for what may be coming next or an experience comparison tool to strengthen that they are not alone. The

complexity of staying quit means that so many users have different experiences. It is this diversity and volume of posts that enrich the iCanQuit forum offering, with reading posts defined as a valuable quitting strategy by users. The following posts provide examples of how users express their gratitude to being able to read about the experiences of others:

> I think you may benefit from reading some of the many amazing quit suggestions on this site till you read one that truly speaks to you.

> Despite my constant dreams (Nightmares) I have made it to the magic 28 days. For some reason this is a major milestone in my mind. I actually feel like I can really do this. For the last 28 days I have expected to end up smoking again at some time. Today I feel like I may never smoke again. I have been reading the many stories on here and I find them so helpful.

> Ok, so I have made it to day 10....but for some reason am REALLY struggling today!!! Have had a very hectic week both at home and work so maybe that's why..... I just keep reminding myself WHY I am quitting and am sure this crappy phase will pass. Just wanted to thank everyone on here for their stories...you guys are all helping keep me sane and its really good to know that there are other people going through the same as me......sharing helps! Keep up the good work everyone!!!

The unmonitorable act of reading posts was seen as a quality interaction for 'newbies' on the iCanQuit forum. Given the increased frequency of cravings during the early stage of quitting, the availability of posts to read twenty-four hours a day, seven days a week, seemed more critical to 'newbies', as well as the knowledge of being a part of a supportive, active and responsive community. The post below provides an example of the emotion felt when reading posts that have been written in direct response to their own:

> After a really crappy day yesterday I must say that today I'm feeling a lot better (Day5). Every message of support I received punched huge holes in my depression and woke me up. So thanks. I'm sure the hard times now will pay off ten fold..........

During the earlier stage of having quit smoking, 'newbies' provide the evidence of reading and writing posts to get through the difficult moments.

Interactive behaviour of 'successful quitters' and 'long-time quitters'

Chapter Four defined 'successful quitters' as a subgroup of the iCanQuit communty. 'Successful quitters' are in the Maintenance staying quit stage which is defined as those who have stopped smoking for between six and twelve months. 'Long time quitters' have remained abstinent for over twelve months and are the evidence of those experiencing the long-term effects of behaviour change. As reported in Chapter Four, there was a notable difference in the number of posts per 'successful quitter' between 2012 and 2017. In 2012, the number of posts per successful quitter was 1:2. In 2017, this ratio increased to 1:9.

The 'successful quitters' and 'long-time quitters' who had been active on the iCanQuit forum throughout their quit smoking journey appeared to develop a sense of commitment to the online community. It was found that these quitters felt indebted to this community due to the support they had received. It was evident that these users felt that their membership to the online community had made a difference to their final success. The findings indicate that this gratitude and commitment to give back to the community may be the driving force behind the increased number of posts per 'successful quitter' in 2017. Given the site launched in December 2010, the number of successful quitters in 2012 would still have been in its infancy. The number of 'long-time quitters' who had used the iCanQuit forum as a quit aid would have been small. There were also more frequent references to 'how to use the iCanQuit community website' in 2017 than 2012, with 'successful quitters' taking on the role of guiding users on how to make the most of the forum. The impact of the iCanQuit forum on individual long-term abstinence was illuminated through the posts of 'successful quitters' and 'long-time quitters'. The sense of gratitude these quitters have for the iCanQuit forum is outlined in the below posts:

> Wow its 365 days, one whole year!. Thank you to everyone who helped with my journey. This is a wonderful site and I am so thankful to NSW state for allowing non Australians here. I think you are all great ...

> PS This is the best quitting site I have found on the internet. I should know. Tried for years to find such a supportive group.

> Well I've finally made it to my grand goal of 365 days (1 year) quit and still count each day free from smoking as a blessing. (…) I joined this forum in 2014 as a 30 plus per day addict (…) Thanks everyone for sharing all your stories and comments too which continue to help me navigate down a successful smoke free path.

I must say I really enjoyed the feedback whenever I vented or expressed an opinion, having quit cold turkey. I searched for information on the net and often posted what I had found. These posts related to Health, effects on family & friends, legalities re smoking and likely monetary gains from abstaining. By posting my thoughts, this reinforced what I felt really very passionate about. The positive, reassuring and responses I had received on numerous occasions helped spur me on. Now 26 months later I know I owe it not only to myself but to those who supported me and my thoughts on this insidious habit. There seemed to be an amazing camaraderie among the quitters when I joined the trail... And there was and always is if one reaches out. I can only hope newbies find the same.

The impact on quit smoking success has also led to this intention to give back to the iCanQuit community. As examples:

I have been absent for sometime from this site, apologies for that, I have been dealing with some very stressful issues. It is 12 months today since I quit smoking and it really has flown, it was one heck of a wild ride of emotions. I am so grateful to everyone on this site for their support, this platform was integral to my staying quit & staying sane! Thank you! from the bottom of my heart - thank you to all of you who were on the wacky adventure with me. For newbies, stay strong, all the frustration, anger, sadness etc does pass. There is a light at the end of the tunnel. I will be back on this site more regularly to try and help those struggling and give back what advice and help I can. In the meantime I am going to celebrate this milestone... Cheers!

To all quitters, do not think just because you have reached a few milestones, be they hours, days, weeks etc that your presence on this site is not welcomed. There are always quitters who can benefit from stories posted. At nearly 2 years quit, I still can remember "the good old days". Unfortunately that was pre what felt like emphysema and pre $35+ a packet. But $14000 later, I get it... Mind you, there are far and few of that quitting time that continue to post. I owe it to the past supporters who propped me up in the early days to give encouragement to anyone on this journey who chooses to listen. Anything is possible.

While these 'successful quitters' and 'long time quitters' are successful in remaining smokefree, the findings show that their reliance on the iCanQuit forum continues. There were indications that they would still come to the forum to read the posts of others, particularly those who they had followed in the past for inspiration. Results indicated that no matter the quit stage, reading posts was an important interaction on the iCanQuit

forum. This findings of returning to the forum demonstrated that the urge to smoke or the experience of cravings continued for these 'successful quitters' and 'long-time quitters'. The posts below show that they do not feel completely exempt from returning to the habit of smoking:

> Thanks for posting. It's always good to hear from long term quitters as it gives comfort that you can not only quit but stay quit. I am 83 weeks away from my last cigarette but the demon always sits on your shoulder. I visited the Canadian Embassy in London today to obtain my passport (My father was Canadian). After being told I would receive the passport in 6 weeks I was so elated that when I left the Embassy the thought of having a congratulatory cigarette flashed through my mind (I quickly laughed it off). However, I was surprised that the thought returned after so long without thinking about smoking. Keep posting Lia it is always good to see your thoughts.

> Like us all the early days were difficult but with determination and teeth gritting we have come into the light. Strange habit though as every couple of months I have a desire for a cigarette; however, those screaming cravings are no longer part of my life. 760 days quit now and loving the sense of freedom. Especially when I see those poor smokers who think they have no choice but to continue.

> So good of you to take the time to return and encourage those who are on the quit trail. I have just passed 2 years and as there are not too many long time abstainers it is always encouraging to discover I am riding in the wake of a success story and am not alone. It gets scary when no long timers return and one wonders if the success will end as so few come back to report on their new life. Your contribution is appreciated. Your success is applauded.

The above posts also indicate that there is a continuous search for 'long-time quitters' to confirm the achievement of staying smokefree long-term. This could be another reason why 'long-time quitters' returned to the site. The results from this study demonstrate that while users' interaction (written posts as interaction) on the iCanQuit forum may be less frequent over time, that does not mean these users are not revisiting the forum and reading posts. Unlike the writing of posts, reading of posts is not a monitorable interaction but reading posts seemed to play an important role in one's strategy to remain smokefree within the iCanQuit community.

5.2.3 Quit progress

Quit progress was the third most dominant theme. Messages belonging to the quit progress theme were those that declared the length of time a person had succeeded in remaining smokefree. It was observed that users would either commence a story outlining their progress or include it as part of their comment to a user. For example:

> So i am currently day 5 and going strong!

> i am 63 days smoke free, good for on your 5 days stay strong and all the best.

It was found that reporting quit progress served three purposes: (i) a reflection of a user's pride in their own achievement; (ii) a motivator for those who were making less progress in their quit journey; and (iii) an indicator of experience to validate their social support. The pride associated with a user's quit progress was often expressed with disbelief that a user had reached a certain time point which is demonstrated in the posts below. This suggested the level of difficulty associated to staying quit as well as the number of times a person may have tried quitting in the past.

> 503 days since my last cigarette and still can't believe after 53 years smoking I have finally quit (just for today as they say).

> Wow i can't believe it. It's my 230 days smoke free it nearly 8 months already. And i got another four months to go to reach my one year non smokers. Can't wait I'll be celebrating my first year without the cigarettes.

> From a pack a day smoker for five years, I am on day 43 of being quit. I still can't believe that I was able to find it within myself to quit. I feel so much better!

> This is a good place to visit as the numbers get bigger and you start pinching yourself to make sure it is real.

In combination with social support, quit progress solidified a user's experience in staying smokefree. The progress was frequently provided within a post that offered social support based on personal experience. For example:

> Hey Paul....106 days you doing well. If you can stick it out to 180 days.....i.e. the 6mth mark then you will be basically on your way to freedom. From my experience I found

> the 2mth, 3mth and the 5th mth the hardest. You get attacked left, right and centre
> while the nico demon gives it all his got. But mate stand strong do not yield if you
> genuinely want to quit and yes you will survive. I am just short of 9mths now and
> cravings ...nil....odd urge yes...habit hard to break but will get there. Good luck.

The two common metrics of quit progress were time and money saved. The iCanQuit website has inbuilt tracking tools, a savings calculator as well as a days quit tracker. These personal tracking tools can be accessed once a user logs onto the website and inputs details to their profile. The specificity of the number of days quit or money saved provided some evidence of the tracking tools in use as it would be questionable if users could recall such exact figures. It also explained why users most frequently referred to number of days, rather than weeks, months and even years:

> Do post and visit this site often says me on day 599 smoke free cold turkey.

> 762 days nicotine free and am still surprised that miracles can really happen.

> $11680 I have saved in one year not to mention 76440 mg of tar I haven't sucked into
> my lungs!

There were a greater number of references to the exact period of time that a person had stayed smokefree for in 2012 than 2017, particularly in the early stages of quitting (those quit between zero and six months). There was no clear explanation of why this would have happened except the lower number of active users in 2017.

5.2.4 Quit determination

Quit determination was the fourth most frequent theme on the iCanQuit forum. These posts displayed users' determination to remain non-smokers. It was often expressed as a mindset and/or a mantra or thought that kept them focused on being a non-smoker. The expression of determination was more pronounced amongst 'newbies' who were starting their journey to stay quit. It seemed to reaffirm their decision but also acknowledged the mindset they would need for success:

> second day, o dear its been42 hours, but I am determent'no poison shall touch my lips.
> at time I feel like pulling my hair out hahahah

But I'm grateful to myself that I have made the choice to Not Smoke and am pretty confident I'm heading in the right direction.

It is not easy...I used a lot of pure old fashioned stubbornness to beat it...you know the type..."I will not give in" "I will not admit defeat" "This will not beat me" "I soooo refuse to have to tell people that I failed again"

I am determined to stick with it, as I never want to take it again. I have broken out a couple of times, but not often. My resolve to succeed is, for all of it, stronger.

Users suggested that they regularly entered this mindset indicating the frequency at which cravings occurred in the earlier stages. The repetitious behaviour of articulating their determination in their mind and in their written posts is seen as a useful aid to remind them of the decision that has been made. The nature of such thoughts can be appreciated from the following entries:

I can never never have another smoke in my whole life

its going to be a struggle, i know that. but I'm determined

I tell myself that to give in just once will undo all the work done, This is how I've kept going as I never want to take up the habit ever again.

Day 41 and today the craving is real strong. I've to keep telling myself that if I so much as take a puff, I will regret and become a prisoner to smoking again. I have to resist, no matter what!!!!

I tell myself constantly that I can beat this addiction

I'm determined and I keep telling myself that I will NEVER QUIT QUITTING.   It is hard so I feel you. Keep ya chin up :)

But I will never smoke again, I will take control of my life again!

'Successful quitters' and 'long-time quitters' were observed to provide this advice to 'newbies' and 'resisters'. Quit determination was presented as a component of success that was as relevant as it was in the earlier stages of the quit smoking process. Despite passing the six-month mark, quitters continued to experience cravings and quit determination continued to be critical for success:

Each cigarette you don't inhale is a huge success and you will find after a month it is so much easier. Good luck and keep positive.

haha Mickey, I am here with you. 6 months, wow. The cravings for me are but a slight whisper and becoming less frequent. Looking back I know now that I was ready when I made the decision. To me that was the main thing, that I could say to myself "I am ready to quit smoking" and then a bit of determination plus allowing me to pat myself on the back occasionally. I now know I will never, ever smoke again and I am proud of that.

5.2.5 Quit motivation

Quit motivation was the fifth most frequent theme which included posts where users communicated their reason to quit and/or what motivates them to remain abstinent. It was more pronounced amongst 'newbies' to discuss their reason to quit and the results experienced from having stopped. Table 5.3 outlined the top four reasons to quit smoking as cited by users on the iCanQuit forum. The top two reasons to quit in both 2012 and 2017 were health and financial reasons. This finding was consistent with the NSW Smoking and Health Survey which is conducted every two years by the Cancer Institute NSW. In 2019, 80% of adult smokers reported health and fitness as the main reason for considering quitting in the next six months, followed by cost of cigarettes at 44% (Cancer Institute NSW, 2019).

Table 5.3 User reasons to quit on the iCanQuit forum

	2012	2017	Total	Examples
Health and fitness	55	57	112	Like you I hated myself for smoking too, until realising I did not hate myself enough to kill myself from smoking, which is the reason I stopped
Financial	32	36	68	Well, it has come to the point of "will I buy groceries this week or cigarettes?"
Family	31	19	50	I want to be here for my beautiful daughter's wedding and to see my 7 week old granddaughter grow up
Smell, taste, teeth	11	10	21	I did not want to smell like an ashtray

The health and fitness motivation was linked to either a health incident (e.g. seeing a doctor and being told they had emphysema) or wanting to improve one's health and benefiting from increased fitness. A positive outcome of health as a motivator was that users could

experience the benefits in the short-term which provided further motivation to remain smokefree. Being able to breathe more easily was a common experience of quitters:

> My doctor said my lungs sounded like Sh*t and he thought I had emphysema or COPD. This scared me enough to have second thoughts about smoking.

> Without being too descriptive, at 38 years old, my doctor thought I was pre menopausal. Sometimes my cycle was a week early, sometimes it was 22 days late (which is practically missing a month!) I quit smoking and two months later, my cycle completely normalized.

> Before I quit I had to do breathing treatments 2 times a day. Now, I don't do them at all because I CAN BREATHE!

> Just spent 3 hours with my daughter on a bike ride.

> hi, like you i tried a few times, this time it is totally different, I walk everyday, now I am actually going for a jog as well. staying focused on not smoking

> My goal was new years to be smoke free. By the 6th of January I became smoke free. 3 weeks now and I'm so proud of myself as I'm starting to feel much better already and cough free. I look forward to running up the stairs. I'll never smoke again.

The immediate benefits are also associated with financial gains. Financial rewards are tangible and the amount that was spent on smoking could easily be converted to money saved. This also reinforced the use of the inbuilt calculator on the iCanQuit website by users. The progressive and continuous rewards of saving money was celebrated amongst users and evident in the posts below:

> Yes i am going to treat myself a cruise next year

> I used to buy 2 cartons every fortnight @ $175.00, come next week there will be $525.00 put away in an envelope. Seeing that money grow is so rewarding !!

Financial motivation also demonstrated the effectiveness of broader tobacco control policy. The discussion on policy initiatives by the iCanQuit community was not voluminous enough to be included as a significant theme of discussion for this research.

However, the below posts provided a snapshot of the positive influence tobacco control measures have on quitting behaviour, namely increasing the price of cigarettes:

> the cost of cigarettes in this country is massive... And for me as well the main reason to stop, once I moved to Australia

> Basically I gave it up because of the horrendous cost and as a retiree I simply couldn't afford it anymore.

> I was scared shitless about quitting but I can't afford the cost of smokes

The thought of family as a motivating factor to stop smoking was the only reason that declined from 2012 to 2017. This research could not find any explanation for the reasons behind this occurrence.

5.2.6 Smoker history

Smoker history was the sixth most frequent theme on the iCanQuit forum. These were posts where users reflected on their smoker history such as the years smoked, number of cigarettes smoker per day, number and/or type of previous quit attempts. In Section 4.4, smoking history was noted as being used to determine the age of a user. The thematic analysis found that in 2012 and 2017, users of the iCanQuit forum used smoker history information as a way to identify or introduce themselves. It seemed to be the evidence users provided to validate that they were participating on the iCanQuit forum for the same reason as everyone else; to stop a prevailing habit. The following posts support this study's observation that some users saw smoker history as a point of connection that demonstrated the similarities between users and affirmed their experience when providing words of encouragement:

> Hi Kevin, I get you completely. I've tried spontaneous quitting, long range quit dates, patches, hypnotherapy, smoking myself sick etc. I started smoking when I was 14 and am now 40 so 26 years as a pack and half a day smoker. I have tried around 5 times before to quit and never made it past 2 weeks. I have tried cold turkey, Zyban and patches. This time I decided to go cold turkey.

> Keep going Jude....it is worth it....believe me. Urges will come and go but there are so many "long term" benefits. I was a heavy smoker for many years and have been off the

smokes now for 3 years. Best thing I ever did was getting off them and I enjoy spending the money I save :-)

But, yes, like you, a long time smoker. 45+ years.

I am also 23 and started smoking at much too young an age to know any better because that's what the cool kids did.. 12 years on and the filthy habit was still with me!! Jeez if I had known then what I know now I certainly would have made a different decision... Lol So, like you I finally made the decision to quit.. I am now on day 3.

The inclusion of smoker history within posts appeared more pronounced amongst 'newbies' who introduced themselves to the group or by 'long-time quitters' who reflected on their achievement.

5.2.7 Quit ease

Quit ease was the seventh most frequent theme on the iCanQuit forum. Quit ease included posts where users reflected and expressed their thoughts on how easy or difficult it was to remain abstinent. It was noted that for both years, the frequency of posts that expressed that quitting was easy was significantly less than those that expressed the difficulty of quitting smoking. It emphasised the significant challenge stopping smoking presented to users of the iCanQuit forum and potentially the reason why social support was the dominant theme.

The number of posts outlining the difficulty of quitting was predominantly from 'newbies'. This finding reinforced that the initial weeks of quitting may be the determinant of whether a person can stay smokefree or relapse:

I have been a smoker for 35years.Kicking this habit is hard work BUT the best thing I ever have done for myself....I feel great and breath better then ever in my life.....I will continue too battle with my brain for as long as it takes. Some days are better then other's today is a difficult 1. Thanks I can quit I am able to vent.....mmm

I'm on my second day of being a non smoker and it's really, really hard

I am on day 18 and getting through that first week was hard, but it has been SO worth it! Hang in there - tomorrow is a new day and remember it gets easier every day.

> I'm currently on day 4 and struggling, although I'm determined not to give in this time.

All subgroups from 'newbies' to 'long-time quitters' were found to reflect on past difficulties. This shared experience was the mechanism by which they encouraged those who had just started to persevere with their journey to stay smokefree. It further demonstrated the finding that as users advance day by day, they progressively increase their status as an experienced quitter on the iCanQuit forum:

> Well done, am 68 Days into non smoking now, and is the best thing I have done, it was so difficult in the first weeks, but now I love waking up in the mornings and not smoking, and am so pleased that my daughter does not see my smoking which is my greatest inspiration

> 183 days smoke free for me today. For those in the early days of this quit journey, keep strong and keep your guard up against the little voice of addiction

Different to users in their earlier stages, 'long-time quitters' could use the longevity of their time smokefree to demonstrate that it was possible to overcome those difficult earlier stages. As 'long-time quitters' can reflect back on their own experience, it was evident that the process of staying quit had not been an easy one as seen in the following posts:

> What a trooper. Well done. Like us all the early days were difficult but with determination and teeth gritting we have come into the light.

> Hi Ron, yes mate it is not easy. Everyone that quits goes through the trauma you are now experiencing. You need to persist with it, use nrt or whatever and think about the high cost of cigarettes today in our nation.....that will help. Mate i smoked for 52yrs and been quit 15mths.
> It does get easier believe me. First 90days are the hardest then you start to come out of the woods. Hang in there Ron. Cheers.

The repeated expressions on the difficulty of quitting smoking illustrates the magnitude of this change from the perspective of users within the iCanQuit community. It reinforces why users seek those who can understand the challenge quit smoking represents.

5.2.8 Quit effects

Quit effects was the eighth most frequent theme on the iCanQuit forum. Quit effects included posts where users communicated the various challenges or side effects to remain abstinent. It was found that symptoms such as nausea and vivid dreams were associated with those who used varenicline (Champix) as their method to quit. While there were some positive effects of quitting such as improved smell and general wellbeing, most of the side effects that users discussed on the forum were negative effects of stopping smoking. Positive effects were expressed as a motivation to remain smokefree and hence, captured in the Quit motivation theme. In 2012, the most common side effect was dreams and weight gain while in 2017, it was fatigue and coughing. Figure 5.3 presents the most common quit effects across the two years as a word cloud. The top five quit effects are: 1) fatigue; 2) weight gain; 3) sleeplessness; 4) dreams; and 5) depression. The mental health of users is not an area that has been investigated by this research. However, the top five quit effects suggest that users are at a particularly vulnerable point in their lives when trying to stay abstinent.

Figure 5.3 Most common quit effects experienced by users in 2012 and 2017
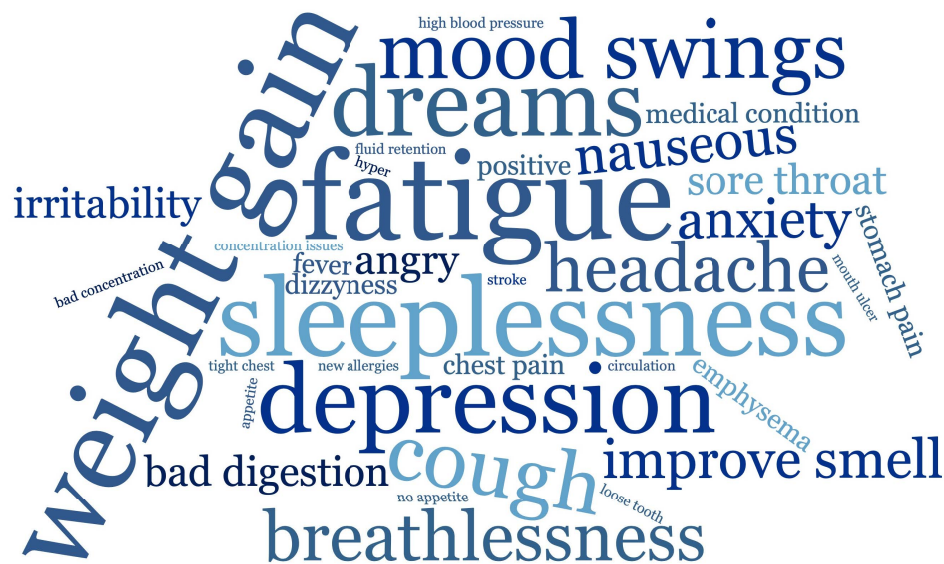
The dialogue around quit effects was dominated by 'newbies'. It appeared that effects from stopping smoking were more pronounced in these early stages. The benefit and solace expressed by 'newbies' was knowing others were experiencing similar side effects as this was a period where they seemed most at risk to relapse:

> You give me hope. My quit date is October 10. I too am doing breathing treatments, coughing, shortness of breathe. My fear is that even with quitting it's too late and the damage has been done. Perhaps it's not too late

> I'm very moody today and wanna crack it at so many people.... I'm sooooooo tempted to just walk across the road and buy a packet of smokes :(I'm not on Champix this time around and not using NRT and am finding it very stressful to keep this up. I'm going to try and push thru, but I'm feeling very weak right now :(

5.2.9 Distraction techniques

Distraction techniques was the ninth most frequent theme on the iCanQuit forum. Distraction techniques included posts where users communicated the various techniques they used to take their mind off smoking, tackle cravings, change habits (e.g. go to gym, breathing exercises). This was another theme that was mostly discussed by 'newbies' who provided recommendations on what had worked for them. Distraction techniques varied but exercise and going to the gym were frequently mentioned which had the dual benefit of positive wellbeing.

Distraction techniques provided information on the habitual behaviour users were trying to break. Techniques were linked to keeping one's hands busy such as playing computer games, gardening and doing puzzles as well as activities that mimicked the hand to mouth movement of smoking a cigarette. Examples included drinking water or herbal tea, chewing sugar free gum, eating fruit or sucking a lolly. These techniques were used until the craving passed:

> Distraction is the trick. I was up at 6:30 this morning spraying weeds.

> Also, playing electronic games such as tetris or strategy games helps distract the mind and occupy the fingers.

> I often found things like gum or going to the gym and punching the crap out of a
> boxing bag seemed to help relieve some tension..

> i have gone for a walk to calm down and listened to my ipod to drown out "the little
> voice"

These distraction techniques were also timed to replace the habit of smoking. Activities were completed at the times when users were used to smoking such as the early morning (first smoke) or during a work break (slowly eating fruit). The slow speed at which users drank the water or sipped on the herbal tea were all ways to help them get through the craving. It was evident from the posts that while users searched for various techniques to make it easier, these were challenging moments for them.

5.2.10 Seek advice

The tenth most frequent theme was seek advice. This theme included posts where users were actively seeking advice from other users of the iCanQuit forum. Advice was sought from users with direct questions to the community rather than questions directed at specific users. Questions were often related to the effects of quitting smoking as seen in the quotes below:

> Hi one day to go I will be using champix has anybody found them helpful?

> I am going to start the oral strips has anyone been on these strips and worked for
> cravings?

> Thanks Johnnie, it's good to hear other people's experiences and that there is light at
> the end of the tunnel. I'm interested to know how often you login after 9 months
> strong? I thought I was done with it till this week

> I'm 34 years old and I was a smoker for 10 years, I quit cold turkey 5 weeks ago and
> despite strong triggers I managed to stay quit but fatigue and feeling tired still
> bothering me even exercise help a little but all day I feel tried, is it normal? And how
> long it could last?

> I only have to lose another 11kg having lost one after 602 days living a smoke free life.
> Maybe we need another section on this site! How to lose weight. Feel free to share any
> get fit tips...

These questions to the community seemed to be from users who wanted to know if their experience was normal. Again, it highlighted the uncertainty of the experience with these questions demonstrating that users looked towards the community to help prepare for the unknown. As mentioned above, the iCanQuit forum value is in the volume of users and posts. While users have not been seen to demand immediate response to their questions or situations, having a volume of users would assist this question and response process as well as the ability to search older posts within the forum.

5.3 Reflections for Stage 2 analysis

The ten themes represent the initial categorisation of the datum across 2012 and 2017. Findings demonstrated that there were strong similarities between the two years which aided the identification of emerging patterns. The identified patterns were interrogated using the elements of the coding paradigm (Corbin & Strauss, 2008) and key patterns by subgroup were reported. A key finding was the discovery of reading as a strategy employed by users on the iCanQuit forum. The behaviour of reading was most frequent amongst 'newbies' who have stopped smoking for less than three months and the top two subgroups of 'successful quitters and 'long-time quitters', who have stopped smoking for more than six months. Figure 5.4 outlines how the strategies of reading and writing were explored using the elements of the coding paradigm of causal conditions, phenomenon, strategies and consequences. For 'newbies', the strategies of reading and writing were linked to the fear of smoking again, while for 'successful quitters' and 'long-time quitters', it was linked to helping others and giving back to the iCanQuit community. These connections are tested in Chapter Six via the subgroup 'changemakers' to deepen the understanding of this process as users move from one subgroup to the next.

Figure 5.4 Reflections related to the strategy of reading and writing posts

Newbies

Causal condition	Phenomenon	Strategies	Consequences
Frequent cravings	Fear of smoking again	- Reading posts - Distraction techniques	- Emotional benefit - Social support received - Social learning

Successful quitters and Long-time quitters

Causal condition	Phenomenon	Strategies	Consequences
- Previous receipt of social support - Unpredictable cravings	Helping others (give back)	- Reading posts - Writing posts	- Maintained motivation - Feeling positive about oneself

Five themes were more pronounced amongst 'newbies. These five themes were quit motivation, quit effects, quit ease, smoker history and distraction techniques as outlined in Table 5.4. This prompted reflection on the experience of 'newbies' who were in the first few months of trying to refrain from smoking. The first three months appear to be a significant challenge and hurdle for those who have just quit smoking which is why these themes are more pronounced. These themes are individual focused as they describe the personal motivations, experiences, and effects of stopping smoking. The themes direct attention to the immediate transformation individuals are experiencing to adjust and change habitual behaviour. In combination with the quantitative analysis, important activities for 'newbies' to overcome those first three months appear to be increased participation and the exchange of social support. 'Newbies' were the more frequent posters and social support was the most dominant theme.

Table 5.4 Reflections in relation to themes and 'newbies'

Theme	Observations/reflections
Quit motivation	Motivation to quit is more front of mind for 'newbies'
Quit effects	Experience of negative side effects related to stopping smoking is discussed more by 'newbies' who are adjusting to this new behaviour. 'Newbies' seem stressed and challenged by these side effects, closely linked to the theme Quit ease.
Quit ease	'Newbies' are more likely to communicate that it is difficult. There seems to be an experience of becoming easier the longer someone has remained smokefree.
Smoker history	The use of smoker history as part of introductions is more evident amongst 'newbies'. Most users start as a 'newbie' as opposed to joining at a later stage. Smoker history is part of one's initial identity on the iCanQuit forum.
Distraction techniques	The dialogue around distraction techniques is more frequent amongst 'newbies' which is likely linked to the increased incidence of cravings and trying to overcome this difficult period.

This idea of individual transformation emerged in the 2012 and 2017 sample. Transformation seemed to be an underlying connection point between various themes and subgroups. There were two key areas of transformation that prompted further exploration. This was the transformation of connection and the transformation of identity. The theme of social support was related to all thematic areas given it was the basis of the dialogue exchanged between users. A network display as shown in Figure 5.5, was used to examine the transformation process of connection. The phenomena of 'feeling alone' was identified through the theme of site interaction where users had not told people within their immediate social network that they had stopped smoking. It was this interaction between strangers on the iCanQuit forum and the condition of feeling alone which seemed to prompt the rapid formation of ties and formation of small support groups. The theme of smoker history had emerged particularly amongst 'newbies' as a connection piece between users. The transformation from feeling alone to feelings of belonging stemmed from this higher category of connection. The category of connection is further examined in Chapter Six through the 'changemakers'.

Figure 5.5 Network display of the transformation process of connection

CONNECTION

FEELING ALONE → Username, smoker history

Theme: Site interaction, smoker history, social support

Small support groups → BELONGING
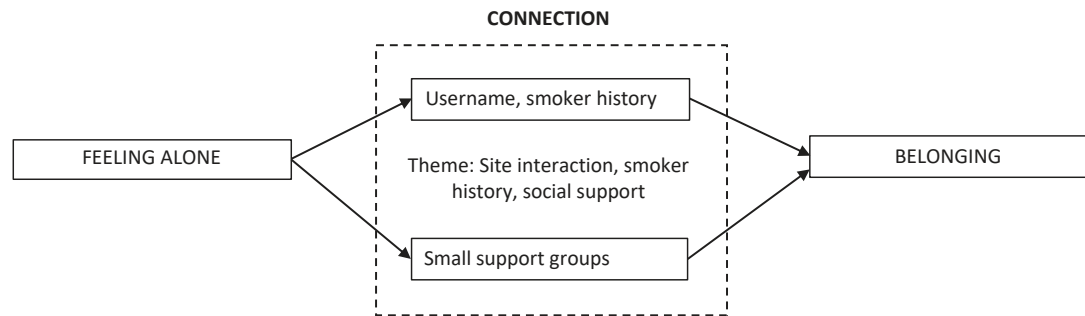
The other process of transformation was related to 'identity'. The themes of smoker history, quit progress and social support appeared to be the key transition enablers in this transformation. A network display was used to examine this transformation which was labeled as identity (see Figure 5.6).

Figure 5.6 Network display of the transformation process of identity

IDENTITY

| SMOKER IDENTITY | Years smoked, time quit, experience | NEW - PRIDE IN ACHIEVEMENT |
| FOLLOWING | Theme: Quit progress, smoker history, social support | FOLLOWED |
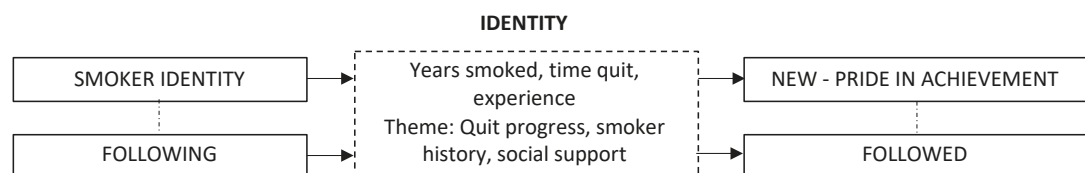
As 'newbies' entered the iCanQuit forum, identity was expressed as years smoked and cigarettes smoked. These elements of identity appeared to be a unifying piece that cemented the common connection between strangers. While 'long-time quitters' would bring up smoker history in posts of reflection, the smoker identity was replaced with a new identity. This new identity was expressed with pride and communicated as the duration of time smokefree. Quit progress was one of the top three themes identified in the iCanQuit forum and it seemed to precede posts regarding an experience and social support. Quit progress was used by users to articulate pride in achievement and an indicator of experience. It was also used as a motivator for others who were less advanced. Therefore, expressions of the length of time one had remained smokefree appeared to have a role in self-identity as well as the identity formed by others based on their smokefree experience. In addition, through the exchange of social support, 'newbies' began their experience on the iCanQuit forum by following others. This enabled them to look ahead, learn from other users' experiences and believe that progress was achievable. The changing role to being followed was then observed as users became 'long-time quitters'. Thus, the transformation from following to being followed was another identified stream within the

identity category. The analysis by subgroup, specifically 'newbies' and 'long-time quitters', provided this insight into the transformation process experienced by users on the iCanQuit forum. The evolution of this process was further examined through the continuous posts of 'changemakers', as outlined in Chapter Six.

An additional area that generated attention was the theme and phenomena of quit determination. Critical mindset was the category label used to encapsulate the determination displayed by different users and the change from reaffirming one's decision to quit smoking as a 'newbie' to being the topic of important advice from a 'long-time quitter'. Quit determination was positioned as a key component of success by 'long-time quitters'. There were references to mantras, repetition and the passing down of lessons learned. As 'changemakers' represented the subgroup of users who had been successful in staying smokefree for the longest time-period, the category of critical mindset was highlighted for further examination as part of the strategies of successful quitting.

5.4 **Summary**

This chapter presented the findings of the thematic analysis of the posts exchanged between users on the iCanQuit forum. These posts were analysed in their totality rather than separating story posts and comment posts as it was found that users shared their personal experiences within comment posts. A total of ten themes were identified on the iCanQuit forum, with the three most prominent being social support. site interaction and quit progress. These themes appeared relatively stable over the two years, albeit with slight declines.

Social support was the most dominant theme and provided clarification that this was a key benefit sought by users of the iCanQuit forum. The exchange of social support in the form of encouragement, esteem, empathy and information demonstrated the importance of social support to help quitters remain smokefree. The extent and content of social support on the forum in both 2012 and 2017, coupled with the theme of site interaction informed the relationship building behaviour and exchange process between users. Esteem could be related to the growing sense of commitment within users as they progressed towards long-term abstinence. The act of following others, only to be later followed created a cycle of motivation and role modelling. Quit progress was another theme that related to users reflecting on their achievements as well as acting as a motivator for others. The continuous

use of quit progress and the associated pride reflects the level of difficulty associated with staying smokefree. Site interaction provided knowledge on the cues used by users to form a sense of closeness and familiarity. The rapid formation of connection to fellow users seemed to stem from sharing the common purpose of quitting smoking and being able to share experiences with people who could personally understand them. Apart from belonging to a larger iCanQuit community, there were observations of smaller group formations that acted as further levers of motivation. Differences in site interaction between the subgroups identified in Chapter Four were discussed.

The remaining seven themes of quit determination, quit motivation, smoker history, quit ease, quit effects, distraction techniques and seek advice seemed more internal or individual focused. While the interpersonal communication benefits the community, these appeared to be elements that a user would need to tackle on an individual level. In addition, quit ease, quit effects and seek advice included elements of prediction and planning as users turned to these to alleviate uncertainty regarding what was to come. All of these individual and future focused elements are seen to be significant components of one's transition to long-term success. The transformation process related to connection and identity was identified for further examination and discussed in Chapter Six.

The results also found that in all subgroups, the non-visible act of reading posts was an important strategy when using the iCanQuit forum as a quit aid. The frequency of reading varied between subgroups, with 'newbies' appearing to engage in this activity more frequently. 'Successful quitters' and 'long-time quitters' still received benefit from reading, particularly with the ongoing occurrence of urges to smoke and the need for continuous motivation to remain abstinent. This study found that 'successful quitters' and 'long-time quitters' developed a strong sense of gratitude to the users that had supported them on their journey to stay quit. This cultivated a commitment to give back to the community which may explain the higher ratio of posts per user for this subgroup in 2017.

In this chapter, key findings related to the relationships between quitters and the interactions that aid feelings of connection and closeness. The formation of smaller quitting groups demonstrated the bonds and signs of affection that develops between users over time. These relationships fostered motivation for oneself as well as for others. There seemed to be benefits of using the iCanQuit forum as a quit aid for individual purposes

and that this benefit extends to the community, as individual users grow a sense of gratitude and commitment to give back to the community. This was heightened amongst 'successful quitters' and 'long-time quitters'. While this chapter has identified elements of successful quitting, the transformation process along a continuous journey to stay smokefree needs further investigation. This area is explored in Chapter Six through a more extensive analysis of the critical subgroup identified in Chapter Four, the 'changemakers'.

Chapter 6 Findings - 'changemakers'

6.1 Introduction

In Chapter Four, fifteen users were identified as experiencing positive behaviour change on the iCanQuit forum. These users were successful in reaching the Maintenance quit stages. These are Maintenance staying quit where individuals have stopped smoking for over six months and Maintenance smokefree where individuals have stopped smoking for over twelve months. This subgroup of users who reached prolonged abstinence were named 'changemakers' by the author of this study. They represented 4% of the total sample (372 users). Findings from Chapter Four clarified that the majority of users on the iCanQuit forum had already made the decision to quit smoking. Therefore, the additional knowledge that can be gained from 'changemakers' is the ability to follow their continuous experiences as members of the iCanQuit forum through the written posts that mark their progress and lead them to the long-term effects of this behaviour change.

The unique username for each of these 'changemakers' was used to extract all posts by each 'changemaker' between the period 1 January 2011 to 31 May 2018. A total of 2,652 posts were included in this content analysis. The seven-year time period allowed visibility of the posting behaviour of 'changemakers' over time as well as the role 'changemakers' play in the make-up of the iCanQuit forum and the strategies employed to maintain behaviour change. 'Changemakers' help to validate and provide greater clarification to respond to the second and fourth research questions:

RQ2: How does the quality of interaction relate to successful quitting?
RQ4: Which quitting strategies enhance or inhibit the occurrence of supportive exchanges and has this changed over time?

6.2 Individual characteristics of 'changemakers'

The 2,652 posts extracted over the seven-year period allowed for greater accuracy in recording the changes in the quit stage experienced by the 'changemakers'. Table 6.1 presents the individual characteristics of 'changemakers', including age range, gender, quit smoking method, duration of membership and the number of posts submitted on the forum.

Table 6.1 Individual and posting characteristics of 'changemakers' on the iCanQuit forum

No	User code	Age range (years)	Gender	Location	Method	Contribution level	Date of first post	Date of last post	Membership (days)	Story		Comment		Total posts
										n	%	n	%	n
										327	**12**	**2325**	**88**	**2652**
1	A	55-64	M	Unknown	Acupuncture	Level 6 (51+ posts)	29/11/2011	2/6/2013	551	5	2	310	98	315
2	B	65+	M	Unknown	Prescribed medication (Champix)	Level 6 (51+ posts)	7/1/2012	12/11/2014	1040	15	9	159	91	174
3	C	45-54	M	Unknown	Cold turkey	Level 6 (51+ posts)	23/11/2011	27/9/2015	1404	18	25	55	75	73
4	D	35-44	F	Unknown	Prescribed medication (Champix)	Level 6 (51+ posts)	4/11/2011	24/4/2013	537	7	4	180	96	187
5	E	55-64	F	Unknown	Prescribed medication (Champix)	Level 6 (51+ posts)	20/1/2012	23/2/2018	2226	12	21	45	79	57
6	F	55-64	F	Unknown	Cold turkey	Level 3 (4-10 posts)	15/1/2012	17/7/2012	184	7	88	1	12	8
7	G	35-44	F	Unknown	Prescribed medication (Champix)	Level 6 (51+ posts)	21/12/2011	27/6/2013	554	17	9	163	91	180

8	H	35-44	F	Unknown	Cold turkey	Level 6 (51+ posts)	5/10/2011	19/9/2013	715	35	24	111	76	146
9	I	35-44	F	Australia	Prescribed medication (Champix)	Level 6 (51+ posts)	2/7/2016	12/8/2017	406	62	21	236	79	298
10	J	35-44	F	United States of America	Cold turkey	Level 6 (51+ posts)	24/9/2016	20/4/2018	573	43	15	248	85	291
11	K	65+	M	Unknown	Nicotine Replacement Therapy	Level 6 (51+ posts)	1/8/2016	17/5/2018	654	37	9	369	91	406
12	L	45-54	M	Australia	Prescribed medication (Champix)	Level 6 (51+ posts)	14/1/2014	28/3/2018	1534	19	6	325	94	344
13	M	35-44	F	Australia	Cold turkey	Level 6 (51+ posts)	21/11/2016	1/3/2018	465	19	28	50	72	69
14	N	35-44	F	Unknown	Cold turkey and Allen Carr book	Level 6 (51+ posts)	21/11/2016	9/5/2018	534	20	24	63	76	83
15	O	45-54	M	United Kingdom	Nicotine Replacement Therapy	Level 4 (11-20 posts)	28/1/2017	2/5/2018	459	11	52	10	48	21

The same approach as described in Chapter Four of using direct or inferred cues within the textual content was used. Age and gender characteristics were identified for all 'changemakers'. Nine out of the fifteen 'changemakers' were female and six were male providing further evidence to support findings from Chapter Four where there was a skew towards female users. There were no 'changemakers' below the age of 35 years old. As per Figure 6.1, the majority of 'changemakers' were aged between 35-44 years old, followed by 45-54 years old and 55-64 years old. While this is reflective of the age groups with higher smoking rates in NSW, it does point to a gap in the use of the iCanQuit forum by younger smokers. Furthermore, while there was visibly a higher number of 'changemakers' aged 35-44 years old, no conclusions could be made as to whether age was a factor in their success to remain smokefree.

Figure 6.1 Number of 'changemakers' by age group on the iCanQuit forum
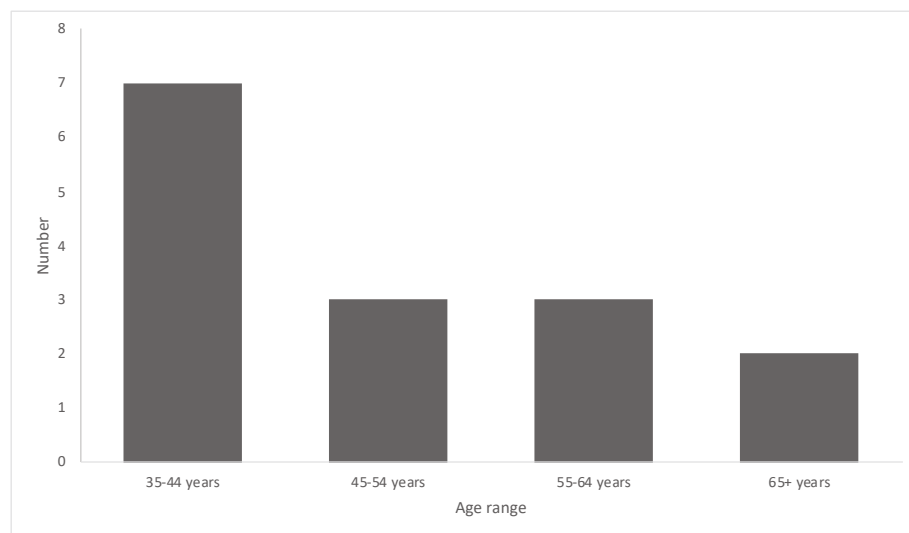
In terms of chosen method to quit (Figure 6.2), 'changemakers' were more likely to use the prescribed medication varenicline (Champix) or quit cold turkey. The remainder used either nicotine replacement therapy or the alternative method of acupuncture. No further analysis was done on quit smoking methods. While the variety of methods used by 'changemakers' is reported, no firm correlations are made between the method used and likelihood to remain smokefree while using the iCanQuit forum.

Figure 6.2 Changemakers chosen method to quit smoking
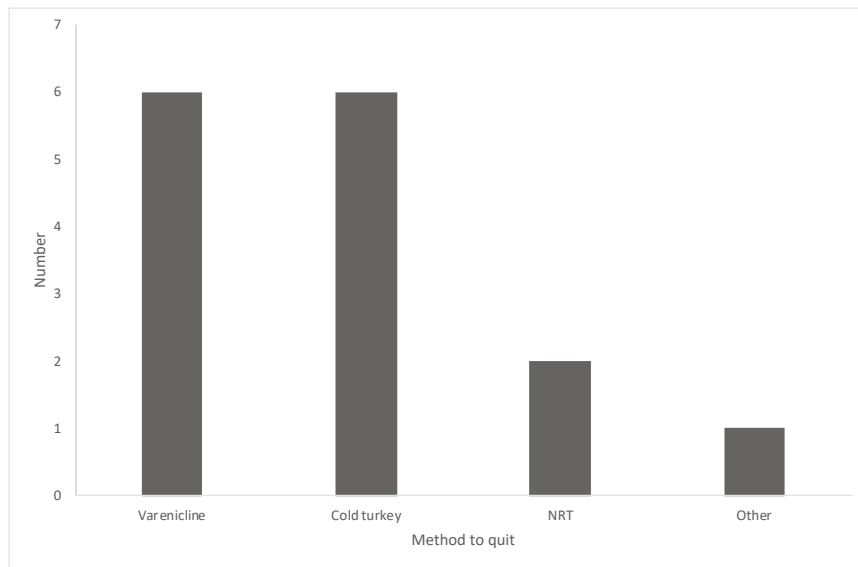
6.2.1 Behaviour change maintenance journey

The complete behaviour change maintenance journey of each 'changemaker' could be ascertained given the extraction of data over an extended time period. All 'changemakers' reached the target quit stage of Maintenance smokefree, meaning they maintained abstinence for over twelve months. Table 6.2 provides the extended understanding of behaviour change for each of the fifteen 'changemakers'. Fourteen of the 'changemakers' experienced the four behaviour change stages of Action short-term, Action long-term, Maintenance staying quit and Maintenance smokefree, with three of those using the iCanQuit forum from the first Preparation quit stage. One 'changemaker' started posting activity from Action long-term and continued to Maintenance smokefree. 'Changemakers' demonstrated continuous posting activity on the forum throughout the quit stages which indicates that they attributed positive benefits to being a member of the forum to remain smokefree.

Table 6.2 Comparison of quit stages for 'changemakers' on the iCanQuit forum

User code	Behaviour change journey as per 2012 and 2017 sample	No. change stages	Behaviour change journey 2012-2018	No. change stages
A	action short-term to maintenance staying quit	3	action short-term to maintenance smokefree	4
B	action short-term to maintenance staying quit	3	preparation to maintenance smokefree	5
C	action short-term to maintenance staying quit	3	action short-term to maintenance smokefree	4
D	action short-term to maintenance staying quit	3	preparation to maintenance smokefree	5
E	action short-term to maintenance staying quit	3	action short-term to maintenance smokefree	4
F	maintenance staying quit to smokefree	2	action long-term to maintenance smokefree	3
G	action long-term to maintenance staying quit	2	preparation to maintenance smokefree	4
H	action long-term to maintenance staying quit	2	action short-term to maintenance smokefree	4
I	action long-term to maintenance smokefree	3	action short-term to maintenance (smokefree)	4
J	action long-term to maintenance smokefree	3	action short-term to maintenance smokefree	4
K	maintenance staying quit to smokefree	2	action short-term to maintenance smokefree	4
L	maintenance staying quit to smokefree	2	action short-term to maintenance smokefree	4
M	action short-term to maintenance staying quit	3	action short-term to maintenance smokefree	4
N	action short-term to maintenance staying quit	3	action short-term to maintenance smokefree	4
O	action short-term to maintenance staying quit	3	action short-term to maintenance smokefree	4

6.2.2 Smoking history of 'changemakers'

The approximate smoking history for all 'changemakers' except one could be determined from the content of the posts. Generally, as can be seen in Table 6.3, 'changemakers' represent a cohort of long-term smokers who have been smoking between 16 and 52 years. The evidence that 'changemakers' have been smoking for over 16 years is important. This

research illuminates the quitting practices of people who have successfully changed a multi-decade habit by using the iCanQuit forum. 'Changemakers' represent a group of individuals who have tried multiple ways and times to quit in the past.

Table 6.3 Smoking history of 'changemakers'

User code	Years smoked	Post content
A	30	i was a smoker for 30 odd years
B	50	I smoked for 50yrs
C	29	i have smoked for 29 years
D	>20	I have been a smoker for over 20 years
E	39	after 39 yrs of smoking
F	>40	after 40+ years.
G	25	I don't want a cigarette but after doing everything with a smoke for 25 years I'm at a loss as to what I'm meant to do with myself sometimes.
H	-	Unknown
I	24	have smoked for 24 years
J	16	over a pack a day for 16 years
K	52	I too am 68 and smoked since i was 16
L	37	after 37 years at 25 to 30 on average per day
M	20	I have been smoking for 20 years
N	26	I started smoking when I was 14 and am now 40 so 26 years as a pack and half a day smoker.
O	20	I started smoking when I was 32, I know, who the heck starts at age 32? That was twenty years ago and I was smoking up to 30 a day when I stopped

'Changemakers' encouraged those who had relapsed to keep going and this exchange provided an indication of their own experience of slipping up and trying again. The sharing of their experiences as they responded to others revealed their own past attempts, and the granting of permissions to 'slip up' as an avenue to build a stronger resolve. It reinforces the strong sense of empathy between users and the advice that comes from a place of understanding and personal experience. Such empathy is evident in the following examples:

> I know exactly how bad you feel blowing that good quit as I've done it myself. It's great you're back on track again. The best thing is to draw strength from the stumble and feed it into this new and possibly final quit. It takes several goes for some of us.

> Oh Annie Dear, don't be ashamed! This is a lesson to help you understand what you
> can and can't do with stress. I'd be worried if you were overjoyed about smoking. Chin
> up! Just start over. You'll be fine.

> No need to beat yourself up. For a while there I was the master of slip up's

> Welcome back! I am very proud of you for admitting that you slipped up and trying
> again. You are building the resolve to a permanent quit. :)

The significance of being successfully free from smoking cannot be underestimated. The references to the difficulty in quitting, past attempts and the declaration of milestones achieved provided an indication of the importance of this behaviour change. Considering the change involves a behaviour that has been embedded in someone's life for decades highlights the gravitas of this achievement. The research into 'changemakers' cemented the finding that the iCanQuit forum appeals to users who have smoked for a long time and provides an indication that these individuals are in greatest need of social support. These 'changemakers' have also demonstrated that they return to the iCanQuit forum years after they have successfully stopped smoking, driven by a sense of gratitude and commitment to support others. This sense of gratitude and the timing of social support is explored further in Section 6.5.3.1.

6.3 Posting activity characteristics of 'changemakers'

The fifteen 'changemakers' contributed a total of 2,652 posts to the iCanQuit forum. Consistent with the findings in Chapter Four, there was a significantly higher proportion of comment posts to story posts. While on average the ratio of story posts to comments posts was 1:7, by looking at each 'changemaker' the percentage of comments to total posts ranged from 13% to 98%. Out of the total posts per 'changemaker', six of them posted over 90% comment posts, seven of them posted between 70% to 89% comment posts and two of them posted under 50% comment posts. These findings confirm that posts in their totality should be reported and analysed, rather than focusing on story posts alone. It also confirmed that showing the number of story posts submitted by a user as part of their public profile as seen in the previous chapter in Figure 5.1, does not provide a complete view of the user's participation and contribution to the iCanQuit forum.

6.3.1 Duration of membership and contribution on the iCanQuit forum

The ability to extract posts of each 'changemaker' over a seven-year period established the duration of active membership. Duration of active membership is defined by the number of days between the date of the first post and the date of the last post. As outlined in Figure 6.3, the majority of 'changemakers' were active for over one year, with ten out of the fifteen 'changemakers' active on the iCanQuit forum between one and two years. Two 'changemakers' had an extended membership period of between two and four years, and there were two 'changemakers' who were active for over four years. This provides evidence of users on the forum exemplifying long-term behaviour change maintenance.

Figure 6.3 'Changemakers' active membership duration
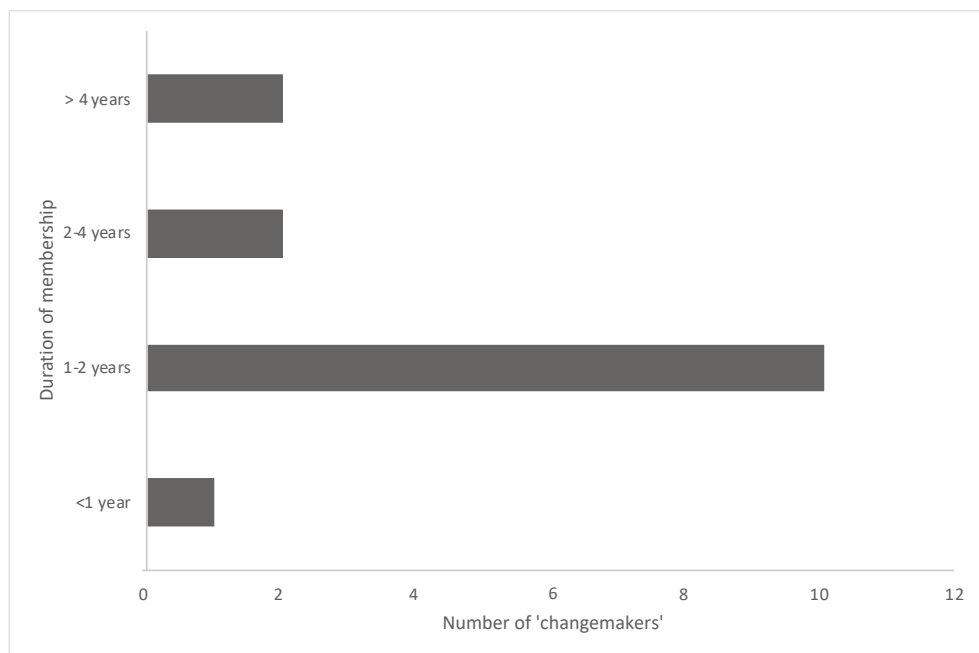
The median contribution made by 'changemakers' was 174 posts which indicates users may gain more from the iCanQuit forum through the contribution of a greater number of posts. Given the quit maintenance success of 'changemakers', it could be suggested that increased user participation as measured by the number of written posts on the forum for at least twelve months may be linked to long-term quit success. There was only one 'changemaker' (User F) whose activity was less than one year. This user also corresponded to the lowest number of total posts. Membership duration did not correlate with the number of posts. User E who was a member for 2226 days posted a total of 57 posts, while User K posted the highest number of posts (406) and was a member for 654 days. Hence,

the interactive behaviour of writing posts is variable amongst users and is likely to be dependent on user's individual need.

One-third of 'changemakers' (five) started posting in the month of January and another third in the month of November. In Chapter Four, January was found to be a period of high posting activity with the explanation that January aligns to New Year resolutions. This finding supports leveraging the New Year as a time for new beginnings and a new start to quitting and staying quit. No clear rationale for November being a popular quit month was found. 'Changemakers' do confirm that while there are failed New Year's resolutions, there are incidences of successful outcomes and hence, value in promoting New Year as a time to quit.

Table 6.4 outlines the number of posts submitted by 'changemakers' by quit stage. This provides the total number of posts by quit stage submitted by the fifteen individual 'changemakers' which is different to the results presented in Chapter Four which were based on the sample of posts submitted by various users that were extracted at specific time points across the year.

Table 6.4 Posts by subgroup and quit stage for 'changemakers'

Subgroup	Quit stage	Total posts	Average no. posts	Median no. posts	% difference
	Preparation	11	1	0	-
Newbie	Action short-term	995	66	63	-
Resister	Action long-term	609	41	38	-40%
Successful quitter	Maintenance staying quit	539	36	22	-42%
Long-time quitter	Maintenance smokefree	498	33	20	-9%

'Changemakers' posted the majority of posts as 'newbies' in the Action short-term quit stage, with a median number of 63 posts. This higher number of posts was consistent with the findings in Chapter Four where posting activity was highest for 'newbies'. For each of the next quit stages, the median number of posts dropped by 40% from Action short-term to Action long-term, 42% from Action long-term to Maintenance staying quit, and a further drop by 9% from Maintenance staying quit to Maintenance smokefree. This decline in the median number of posts as 'changemakers' moved from 'newbies' to 'long-time quitters', indicates that the benefits are greater or that the need for participation is higher for 'newbies' and 'resisters'. It appears that there is a greater need for connection and social

support amongst 'newbies' and 'resisters' that is attained through that writing of posts. In Chapter Four it was reported that 'long-time quitters' were the second most frequent contributors while the findings from 'changemakers' reveals that the next highest frequent period is realised at the time when they are 'resisters'. The findings amongst these 'changemakers' demonstrate a decline each time a 'changemaker' moved from one subgroup to the next. This recorded decline suggests that the need to participate as 'successful quitters' and 'long-time quitters' is lower. The positing activity of 'changemakers' indicates that a key strategy is to post frequently as a 'newbie'.

The decline in posting activity by 'changemakers' over time is shown in Figure 6.4 through the average number of posts per day by the fifteen 'changemakers'. As each 'changemaker' stopped smoking on a different date, the first date smokefree was recorded as Day One. The number of posts thereafter were aligned to the day from Day One. The natural posting behaviour of 'changemakers' to concentrate participation on the iCanQuit forum at the start of the quit smoking journey mirrors recommendations from health professionals to front-load smoking cessation interventions, as the success to remain smokefree is linked to that first period of abstinence (Hughes et al., 2004). The findings also show the ongoing posting activity of 'changemakers' to the one-year mark and beyond, demonstrating that the decline in posting activity continues with longer gaps between those periods of participation. The longer gaps between posts that appear more pronounced after 900 days could represent the commitment of long-time quitters to return to the iCanQuit forum as identified in Chapter Five.

Figure 6.4 Average number of posts per day by 'changemakers'
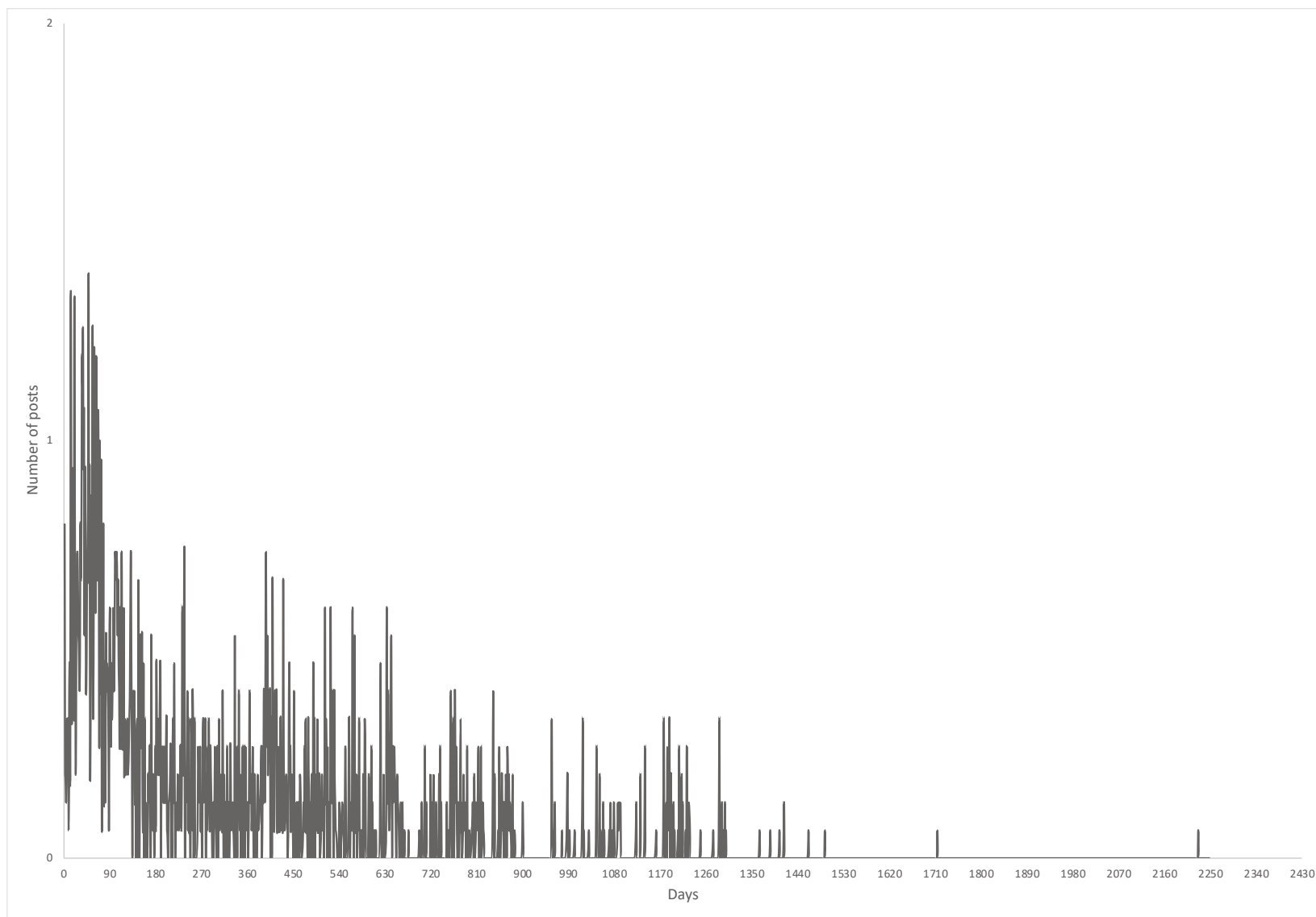
6.3.2 Patterns in posting activity by individual 'changemakers'

An examination of the behaviour of writing posts by 'changemakers' revealed the similarities and differences in their approach to participation on the iCanQuit forum. For comparative purposes, this study focused on the first 365 days from the first day 'changemakers' stopped smoking. Figure 6.5 provides the account of these first 365 days for all of the fifteen 'changemakers'. Charts for the fifteen 'changemakers' that illustrate their complete posting activity on the iCanQuit forum are included at Appendix D.

'Changemakers' varied in how they contributed to the iCanQuit forum as seen in the charts in Figure 6.5. 'Changemakers' such as User A and User B showed a level of consistency in their posting behaviour. Both User A and User B seemed to pause posting activity at around the 100-day mark before recommencing, with pauses extending as they reached the later time points towards 365 days. User K also showed consistent posting behaviour but seemed more likely to write a higher number of posts on certain days, particularly in the first 100 days. In contrast to this consistent posting behaviour were irregular posters such as User C, User N and User O. These irregular posters displayed longer breaks between posting activity that were spread out across the 365 days. The posting behaviour of 'changemakers' highlighted patterns of activity that appeared to correspond to helpful quitting strategies. These patterns are further examined as they related to successful quit outcomes.

Figure 6.5 First 365 days of posting activity by 'changemaker'

E User E post activity in first 365 days

F User F post activity in first 365 days

G User G post activity in first 365 days

H User H post activity in first 365 days

I — User I post activity in first 365 days - first attempt

I — User I post activity for first 365 days - second attempt

J — Post Activity in first 365 days by User J

K — Post Activity in first 365 days by User K

Post Activity in first 365 days by User L - first attempt

User L post activity for first 365 days - second attempt

User M post activity in first 365 days

User N post activity in first 365 days

O

User O post activity in first 365 days

6.3.2.1 Front-loading and periods of heightened activity

Multiple 'changemakers' illustrated the pattern of front-loading activity. This is where posting activity is more intense at the start and then tapers off to more intermittent periods of written engagement. This finding corresponds with the observed decline in the number of posts as seen in Table 6.4 as 'changemakers' moved from 'newbies' to 'long-time quitters'. As outlined above, front-loading smoking cessation interventions is common practice by health professionals due to the risk of relapse being higher in the early stages of quitting smoking. The behaviour of 'changemakers' indicates that the need for more intense support at the start corresponds to the natural posting behaviour of individuals. Thus, front-loading is recognised by both individuals and health professionals as an important strategy for quit smoking success.

The spikes in activity by 'changemakers' demonstrated a tendency to write multiple posts at a point in time. 'Changemakers' are seen to have increased activity on particular days. For instance, User J wrote 11 posts on Day 36. The action of writing multiple posts on the same day may be an indicator of the volume of posts a user is reading in one session and the result of using the iCanQuit forum as a form of distraction in response to a craving. The action of writing multiple posts in a day also indicates that users stay on the iCanQuit community for extended moments of time.

6.3.2.2 Limited evidence of posting on Day One

Only six out of the fifteen 'changemakers' wrote a post on Day One. If a user did not post on Day One of their journey to stay quit, Day One could be calculated based on the date of the post where quit progress was first declared. This is a significant finding as it indicates that while a commitment has been made to quit smoking, it is only declared to the community days later. This may reflect findings from Chapter Four where previous failed attempts prompted the behaviour to not tell family or friends that they had quit. While users felt safe to discuss their experience on the iCanQuit forum, there may still be a tendency to withhold immediate public declaration, potentially for the similar reason of fear of failure. The results also confirmed that users are likely to start posting from the point of behaviour change (stopped smoking), with only a small number who may start posting in the Preparation quit stage. This validated the forum as a place that may be more conducive to supporting behaviour change maintenance. As found in Chapter Five, the

behaviour of reading and gaining knowledge about what lies ahead may be used as a strategy in the preparation stage but, the findings amongst 'changemakers' indicates that writing starts after the behaviour of stopping smoking has been initiated.

6.3.2.3 Participation can be learned

The investigation into the posting activity over time for each of the 'changemakers' (Appendix D) highlighted the incidence of relapse for two users, User I and User L. Validated by user declaration within a post, Figure 6.6 and Figure 6.7 illustrate the posting activity of User I and User L. Both Users I and L had stopped smoking for around 59 days and 118 days respectively before they declared a relapse. This reflects the risk of relapse particularly for 'newbies' and 'resisters' in the first six months. The experiences of User I and User L are contrary to the literature which reports that the majority of smokers relapse in the first eight days (Hughes et al., 2004; Zhu & Pierce, 1995). These two users were able to sustain abstinence for approximately two to four months. A positive finding is that both returned to the iCanQuit forum to recommence their quit journey. User I returned after 330 days and User L returned after 514 days. Interestingly, both users did not immediately restart their renewed attempt to quit smoking but waited for approximately one to one-and-a-half years before recommencing activity on the iCanQuit forum. In the second attempt while using the iCanQuit forum, User I was recorded as stopping smoking for over one year and User L was recorded as stopping smoking for over four years.

Figure 6.6 Posting activity of User I
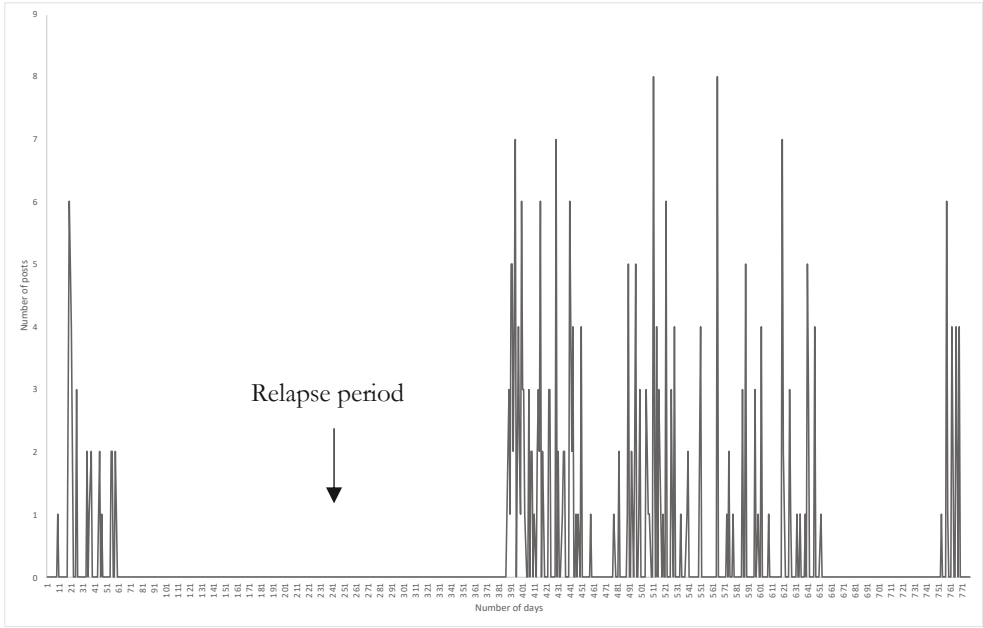
Figure 6.7 Posting activity of User L
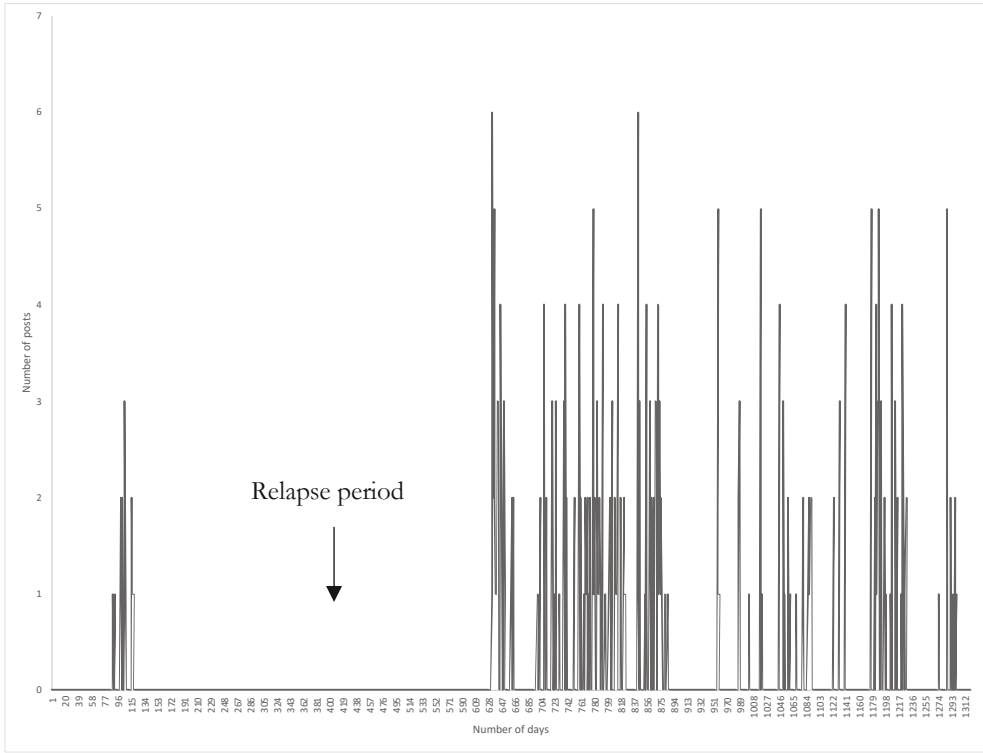
Figure 6.5 includes two charts for both User I and L for their first and second attempt. For both users, their second attempt displayed an increase in intensity and volume of posting activity and a greater number of days where multiple posts are made. Posting activity was particularly more intense in the first 90 days of their second attempt. This was especially pronounced for User L whose first post was recorded on day 89 of his first attempt using the iCanQuit forum. This may demonstrate the realisation from both users that increased participation on the iCanQuit forum may improve their likelihood of sustaining their smokefree behaviour. This finding also aligns to quitter recommendations as identified in Chapter Four where users would share their learnings that reading and writing posts are key strategies that users employ to remain smokefree.

The variation across each of the fifteen 'changemakers' reflects the variation of support needed by individuals and the inability to predict the optimal level of writing posts for each quit stage. However, these findings do support a higher posting intensity in the first 90 days and a higher level of total posts by 'changemakers' over their active membership on the forum.

6.4 Interactive behaviour on the iCanQuit forum

There are two types of interactive behaviours available to a user on the iCanQuit forum. They are reading and writing. The behaviour of writing is visible to all users and can be measured by the number of posts on the forum. The behaviour of reading that was first discussed in Chapter Five cannot be measured. 'Changemakers' confirm that reading is a critical behaviour of users at all points throughout the quit journey.

The impact of each of the reading and writing behaviours is unknown but this research has found that when they are employed in combination, users are armed with the most important actions to remain abstinent. The benefits from engaging with the iCan Quit forum are accessible and the barriers are minimal. Users need to be able to read and to write and have a device connected to the internet to be able to access and participate on the iCanQuit forum. The experience of these 'changemakers' provides deeper knowledge to the benefits gained from belonging to the iCanQuit community. Whilst these 'changemakers' account for only 4% of the sample, the quit success of these fifteen 'changemakers' provides some evidence of the iCanQuit forum being an effective component of one's quit maintenance journey.

Consistent with the approach outlined in Chapter Five, posts of 'changemakers' were analysed in their totality rather than separating analysis for story posts and comment posts. The same ten themes identified in Chapter Five were used in the analysis of posts for all fifteen 'changemakers'. These ten themes were social support, site interaction, quit progress, quit determination, quit motivation, smoker history, quit ease, quit effects, distraction techniques, and seek advice.

There were some similarities and differences in the order of frequency for each of the ten themes which can be seen in Table 6.5 below. The themes that ranked the same in the 2012/2017 and 'changemakers' sample are shaded in grey. Consistent with findings from the 2012/2017 sample, the three most dominant themes for 'changemakers' were social support, site interaction and quit progress. This was followed by quit determination and quit motivation. After the top five, the next five themes for 'changemakers' were quit ease, quit effects, distraction techniques, smoker history and seek advice. The key difference between the two was the rank of smoker history. For the 2012/2017 sample, smoker history was ranked as the sixth most frequent theme but for 'changemakers', smoker history was ranked ninth. This finding is logical given 'changemakers' are a group of fifteen users, whereas the 2012/2017 sample included a group of 372 users. Hence the frequency at which smoker history was declared was likely to be higher. It also supports the use of smoker history as a self-identifying factor that was more frequently used by 'newbies' and was not necessarily an identifier that 'changemakers' repeated regularly in their posts as they moved through the process of quit maintenance. Therefore, the strong similarity of findings validates the occurrence and relevance of these themes on the iCanQuit forum.

Table 6.5 Rank of themes for 'changemakers' and the 2012/2017 sample

Changemakers	2012 and 2017 sample	Theme
1	1	Social support
2	2	Site interaction
3	3	Quit progress
4	4	Quit determination
5	5	Quit motivation
6	7	Quit ease
7	8	Quit effects
8	9	Distraction techniques
9	6	Smoker history
10	10	Seek advice

The percentage proportion of the top five themes is outlined in Figure 6.8. The dominant three themes of social support, site interaction and quit progress validated the main value of the iCanQuit forum across the three levels of influence: individual, relationships and community. The focus of the following two themes of quit determination and quit motivation are more intrinsic or internal focused. The findings in Chapter Five demonstrated that these intrinsic factors weave into the themes of social support, site interaction and quit progress. Therefore, the findings for 'changemakers' focus on the top three themes.

Figure 6.8 Top five themes amongst 'changemakers'
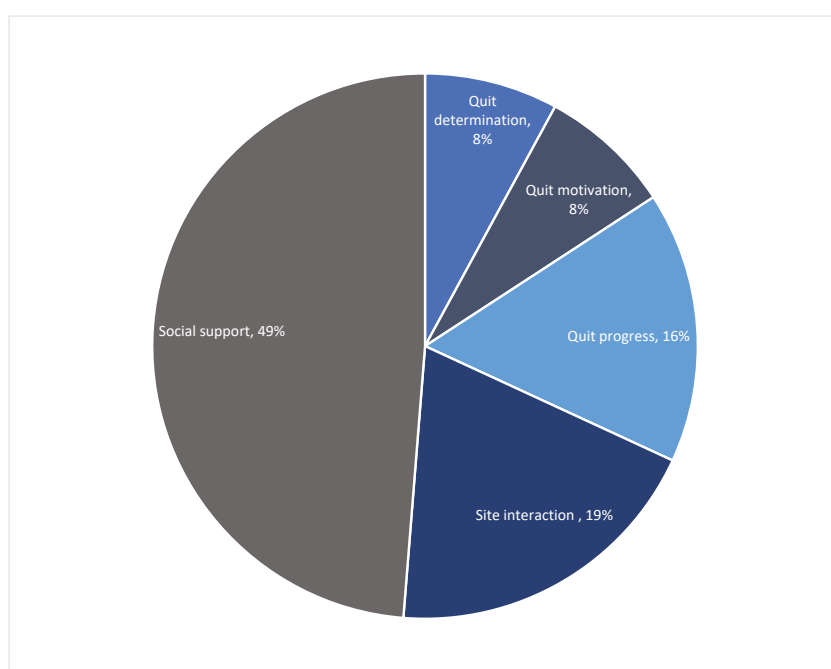
6.4.1 Theme of social support

Social support was the dominant theme amongst 'changemakers'. Encouragement was the most frequently occurring form of social support, followed by informational, esteem and empathy. The prevalence of social support ties in with the challenge or difficulty faced when staying smokefree and the role of the forum in encouraging continued positive behaviour. Appendix E includes an expanded suite of examples of the social support exchanged between users. It was through esteem support that 'changemakers' were seen to express the behaviour of role modelling and a sense of achievement. It was evident that 'changemakers' celebrated the milestones of others and that each smokefree day was a reason for celebration. There was no definition of what a major milestone entailed as Day

17 was as big an achievement as Day 400. Social support provided in combination with quit progress reinforced the pride in one's achievement and strengthened the authenticity of the support as it came from a place of experience as evidenced by the posts below:

> AND 93 days- that's impressive

> Keep strong and look for diversions every time you feel the craving which even after a year and 4 days happens every day at some time. I tell myself that to give in just once will undo all the work done, This is how I've kept going as I never want to take up the habit ever again

The written posts by 'changemakers' confirmed the role of social support in enabling identity and connection transformation as identified in Chapter Five. The following posts demonstrate how 'changemakers' communicated the inspirational role others offered through their achievement in remaining smokefree:

> Congratulations on crossing over 400 days! I'm at 1/10th that time and seeing that you can make it this far is such an encouragement for me.

> I'm a week behind you and look forward to being where you are now

> I can't wait to be able to say I'm now Day 17 without a smoke, that is so wonderful.

Social support dominated the dialogue between users on the iCanQuit forum and the benefits that have derived from this are discussed in more detail in Section 6.6.

6.4.2 Theme of site interaction

Site interaction proved to be the second most dominant theme on the iCanQuit forum. While site interaction was identified as a separate theme, it became evident through 'changemakers' that this was aligned to network social support. The relationship building and connection between users reaffirmed evidence of strong ties between strangers, social bonding between individuals and the formation of support groups. While real identities were not used, the use of usernames facilitated the community dialogue that prompted the return of 'changemakers' and the discourse amongst certain groups of individuals over time as identified in Chapter Four. 'Changemakers' confirmed that interactions between users

was not synchronous and there did not appear to be any impact on their connections because of this. Gratitude was addressed to groups of users by addressing more than one username in the one post. This indicated that there had been previous posts where multiple users had written to the 'changemaker'. This demonstrated that the value attributed to the written posts was positive even though it may not have been seen immediately after the initial post was written. Posts which articulated gratitude to a group of users are provided below:

> Thanks Dougie, Jenno and Brooky

> Thank you Dobbin, WaveRippers and SueR

> Thanks White Willow and WeeWillem ... seems there's way more members and helpful people on this forum than there was 2 years ago.

As found in Chapter Four, 'changemakers' practiced the action of referrals or addressed users by their username to recognise their relationship or concurrence with a point of view. These actions appear to be mechanisms that strengthen the closeness between individuals

> Hi Jennylynn, I agree with Nanette's s- give yourself a break and also be kind to yourself

> Hi RiseandGrind, all very good advice from Wendy and Red

> RoseyK I am so excited for you! Well done. And listen to Meanie's words of wisdom - he is right. It will get better.

The gratitude expressed to specific users illuminates the impact 'changemakers' attribute to the individuals they have connected with on the iCanQuit forum and their success in remaining abstinent from smoking. Examples include:

> Gam and Ican, you both rock, thanks for your kind words, you both have been a big part of my journey.

> I am just so excited, and have to say the BIGGEST thank you to Tiger, Jo, Fire God, Violet, Jo C, Blu Suzi, Eric, Kathy Rose anyone on here that has been of more help than you know

The benefit of connection and engagement with the iCanQuit community is further discussed in Section 6.6.2.

6.4.3 Theme of quit progress

Quit progress was the third most dominant theme and supported findings in Chapter Five which concluded that progress was used to self-monitor achievement and verify one's experience in being a non-smoker. The findings via 'changemakers' reinforced that time quit was the most common way for users to declare their achievement, followed by money saved and cigarettes not smoked as can be seen Figure 6.9. While Chapter Five indicated financial reasons as the second most motivating factor to quit smoking, this finding revealed that the use of money saved was not frequently used to monitor quit smoking progress. As shown in Figure 6.10, days quit was the most frequently used metric followed by months quit to report on one's achievement.

Figure 6.9 Measure used by 'changemakers' to report on quit progress
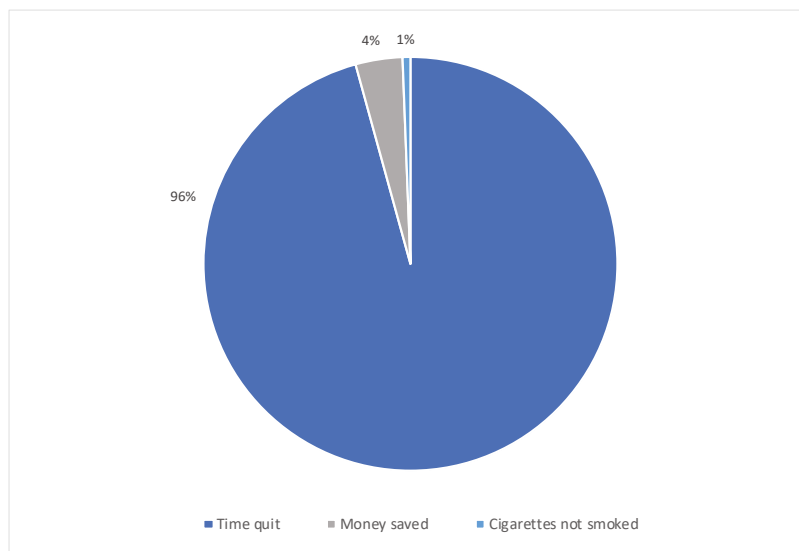
Figure 6.10 Metric used by 'changemakers' to report on the time quit
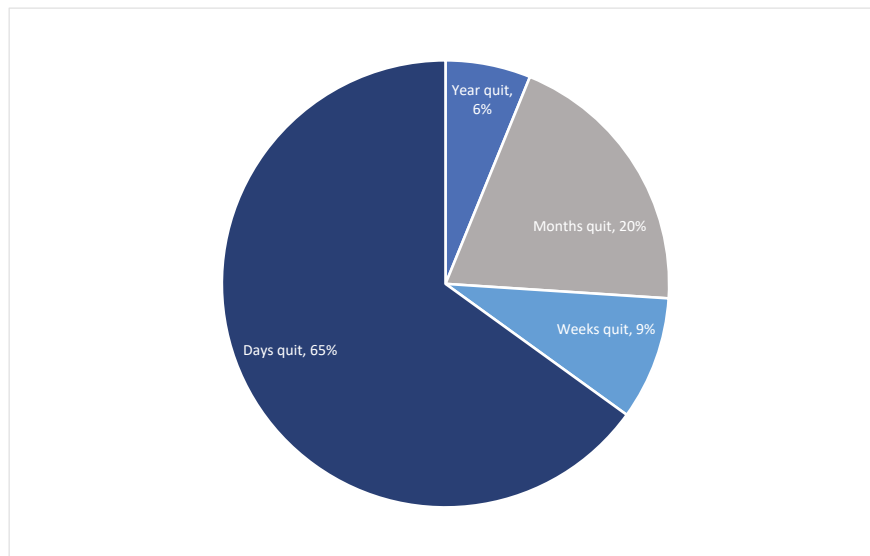
'Changemakers' provided the evidence of the use of the inbuilt tracking tools to report on their quit progress. There were direct references to using the tools for that information. This revealed the importance of having the self-monitoring/tracking tools as an aid for users to report on their continuous achievement. The specificity of the numbers provide examples of the use of the inbuilt tracking tools:

> I only drop in here now and again to see where I am at and see today I have got to 1250 days and saved over $20,000
>
> First time I have signed in for months and months and how funny I see your post. 530 days smoke free for me. Not that I'm counting anymore, just saw it as I signed in.
>
> I just heard the *Icanquit* ad on the radio and thought to myself, hey, I use to go in there everyday when I first tried to give up smoking...well that was 2240 days ago just over 6 years and I'm still as strong if not stronger in my determination to stay quit.

The above quotes also reinforce that 'long-time quitters' continue to return to the iCanQuit forum after years of remaining smokefree. The iCanQuit forum is a place for them to return to that reminds them of their personal achievement.

6.5 **Identification of key benefits**

The value of analysing the total number of posts by each of the fifteen 'changemakers' is significant. The posts provide privileged access to their thoughts, attitudes and actions as

they progress from preparation/action short-term to maintenance smokefree. While the validation of themes was important to understand the dominant areas of community discussion, it is the interrelation between these themes that have provided greater significance and meaning. The ability to immerse oneself into this shared experience provided insight into behaviour change maintenance over time which has led to the identification of four key benefits experienced by users as they read and write throughout their journey to stay quit on the iCanQuit forum. The four key benefits are: 1) tangible support; 2) connection; 3) social support, and 4) self-awareness.

6.5.1 Benefit: Tangible support

> welcome on board. Look on this site we all try hard to inspire each other and it is fun too communicating with people you cannot see but are all on the same ship

There is a universal understanding that the iCanQuit forum is a place for quitters who have the same goal in mind which is to stop smoking and to stay smokefree. The iCanQuit forum is the one place quitters can go to where they can be consumed in the behaviour of quitting smoking. The analysis of posts by 'changemakers' has identified the variety of experiences users share on the iCanQuit forum. While similarities exist between experiences, the experience itself is unique to that individual. Understanding when and how the forum is used provides the untold understanding of the value users associate with this place. An element that has emerged strongly is the continuous challenge of cravings experienced amongst 'changemakers', regardless of the stage they are at. Users recognise that their response to a sudden craving could be the decider as to whether they remain smokefree or return to smoking as this is what has happened in the past when previous attempts to stop smoking have failed.

The quit maintenance journey is a long-term commitment and as outlined in Chapter Five, 'long-time quitters' were seen to return to the iCanQuit forum after prolonged abstinence. This research found that amongst 'successful quitters' and 'long-time quitters', the urge to smoke continues after years of being smokefree and they constantly feel at risk of returning to the habit. Examples include:

> I don't want to discourage you, but even after a year, you are still going to want a smoke every now and then. (Changemaker at one year quit)

> Urges I find at this point of time very minimal but the darn habit sometimes still embraces me.....hand reaching into pocket whilst conversing with others or having a coffee. In time this will disappear. (Changemaker at two years quit)

This return to the forum demonstrates the importance of having a 'place' to return to that they can access at any time and from anywhere. The onset of a craving is where the tangible benefit of the iCanQuit forum is most realised. No matter the time a craving occurs, the forum is the one place that is reliable and available in that time of need. Users have expressed the behaviour of going to the forum in response to a craving:

> I have made a promise to myself, that when the craving gets too much and I want to drive down the shop to buy a packet of smokes, I will instead sign onto this forum and read all your wonderful stories for inspiration to keep on going.

It is this promise and commitment to oneself to return to the forum when the cravings begin that initiates the change of replacing the habit of smoking to the habit of reading and writing which has emotional and tangible benefit.

6.5.1.1 Translating felt experiences into tangible objects

The iCanQuit forum is the place where writing a post converts the felt experience into a tangible object or resource. Through the documented experience of 'changemakers', this research provides evidence of how translating a felt experience into a tangible object benefits users of the forum. The strategies of reading and writing on the forum to regulate emotion is presented in Figure 6.11.

Figure 6.11 Relationships that underpin the regulation of emotion
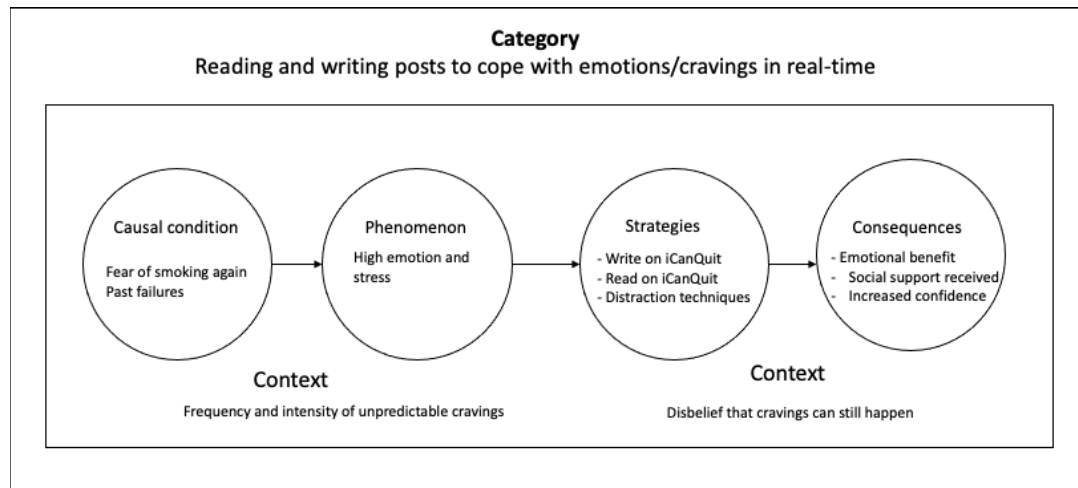
The frequency, unpredictability and intensity of a craving is different for different users and can change depending on what stage they are at on their quit maintenance journey. The stress imposed by a craving is exacerbated by users' past failures and fear of smoking again. The consequences of emotional benefit, increased confidence and social support received was revealed through the analysis of these posts. An example is provided through User L.

User L demonstrates the effect writing had on his ability to manage cravings on two occasions which are provided at Table 6.6. User L is an Australian male, aged 45-54 years old who used prescribed medication (Champix) to quit smoking (see Table 6.1). User L uses this strategy for the first time when he is in the Action short-term quit stage and repeats this behaviour for the second time when he is in the Action long-term quit stage. After the second time, User L communicates a sense of disbelief that intense cravings could still occur at 156 days smokefree. The contents of the posts reveal the stressful emotion felt by User L at the exact time the craving was experienced.

Table 6.6 Posts by User L as a craving was experienced at two time points

Time point	Post content
1	**During a craving**
	Woah... eeergh.. rough day today. 3PM and a mega craving wave is sweeping over me. Thought I'd log in quickly and starting writing, if not for anything else but as a simple diversion technique. Fingers tapping on the keyboard, grab a glass of water.... Easing a bit now, that was without doubt the strongest withdrawal moment in the last 9 days. Interestingly, I had my first dream about smoking last night but it wasn't just about the act of smoking but also involved the emotional connection to a brand of cigarettes I loved and smoked in the 80's to mid 90's before they were no longer available and I had to change brands. How amazing is our subconscious to drag up such a specific thing and essentially from nowhere and sooo long ago in a dream. Yes, the dream took me back in that lovely little Greek run corner shop who always had my absolute favorite brand ready for me each afternoon on my way home from work. The ritual of the friendly discussions, lovely people, less stressful, no information overload from an internet that barely existed. Even as I write about this now I realise that dream for what it was.. a subconscious and emotional based counter attack on my quit commitment. Even when I woke I was feeling the cracks.. the dream had done a good job and I knew it was going to be a rough day. But the rough moment really only came at 3PM.Having bored you all with my little overnight experience... ahhhh feeling a lot better now just having typed it out as the wave has slowly subsided. Thanks for listening :-)
2	**During a craving**
	I am probably typing this as much for my own benefit as also in sharing my thoughts that may help someone else experiencing festive time of the year difficulties. I couldn't believe it, even at 156 days quit I am as I type having incredible strong psychological urges to smoke today despite christmas eve and christmas day being no problem at all. What tha !?!?... where has this come from !?!? Hasn't bothered me in ages even though I knew this time of year would be difficult. Afterall, it's not stressful but quite relaxing. No surprise, smoking doesn't just go along with stressful times but also a thing we really enjoyed relaxing with too. You know what I mean..., hmmm nice wine or beer in hand, laying on a deck chair by a pool, full xmas belly, happy and peaceful thoughts. Then the nightmare thought enters the mind! The thing that might just complete this special lovely moment. Oh how my mind started compromising my good sense. The old thought... one won't hurt, I feel so much better now anyway... remember how good the drawback felt..? Then my other side kicked in... ahhhgghh nooo I don't want this!*!*^$#$ as I recalled how it was not long after New Years last year that I stumbled and gave in to this very same mental urge for a cigarette throwing away 4 solid months of great progress. And for what I ask!?!? Another sad and pathetic return to a $960 per month habit that would continue to suffocate me physically and financially. How miserable I felt shortly after the first then second then 5th cigarette that day and within

a week the old familiar hacking cough had returned (how quickly it came back) and depression set in as I wished to be a non smoker again and how weak I was that these damned things controlled my life. Well thanks for reading... I think I feel a little reaffirmed and stronger now. It does help to head dump here especially as a distraction while going through a temporary crisis moment like I just did. Whew... all good now :-) Don't let New Years celebrations blow your great quit effort. Good luck all and hope to see you all still smoke free on the other side in 2017 :-)

After-event (short-term)

Thank you Dobbin, WaveRippers and SueR. So far so good made it through xmas and New Years. Smoking relatives have all gone home and I'm still smoke free! So it should be pretty smooth sailing from here

After-event (mid-term)

Hi Crasher Yep, it seems the around 150 or so days super crave event may be pretty common. Here's a line of my experience with that a couple of posts ago."I couldn't believe it, even at 156 days quit I am as I type having incredible strong psychological urges to smoke today despite christmas eve and christmas day being no problem at all. What tha !?!?... where has this come from !?!?"So you did well moving past it and rewarding yourself with something to encourage staying healthy too. We just have to stay focused

There is a sense of urgency communicated in the posts. Not only does the first post communicate a rush to log on and start writing but the fast decisions he expressed shed light on the increased stress level he was experiencing in that moment of time. The words "easing a bit now" provide a sense that he too was calming down in response to the craving. By the end of the post User L indicated that the wave had passed. The post written during the second craving was 1.4 times longer than the first at 383 words compared to 275 words. The writing style employed by User L indicated a higher intensity in both duration and felt experience. The contents of the second post revealed heightened emotion with words such as "What tha !?!?... where has this come from !?!?" and "And for what I ask!?!?". The post ends with a more positive tone and indicates that the craving has passed "Whew... all good now :-)"

The two posts where User L was writing in the moment demonstrate the value of writing to regulate one's emotions during a highly emotive and stressful event. The wave of stressful emotion can be seen to subside by the end of both posts. The ability to capture an

after-event post also demonstrates the behavioural outcome (See Time point 2 in Table 6.6) of succeeding to overcome the cravings and greater confidence to remain smokefree.

In addition to providing benefit to the writer (User L), the act of converting the felt experience into a tangible object has extended benefits to the broader iCanQuit community. This cycle of conversion from felt experience to tangible object is the backbone of the iCanQuit froum. In this case, User L provides reference to his post to another user as a way to indicate a shared connection (you are not alone), achievement (you survived) and community (we are in this together). The behaviour of writing to convert an experience to a tangible post which is publicly shared on the iCanQuit forum has clear individual and community benefit as seen in the following posts:

> just getting it off my mind and on a page really helps. This site is excellent.

> Posting on non-smoking boards is a great distraction

The community benefit is evidenced by the reading of these posts in one location. In the similar context of managing a craving, the behaviour of reading posts enables users to manage these emotional circumstances. This study demonstrates the value of having a 'tangible place' to go to at any time of day, for example, 2am in the morning, or from wherever they are, for example, on the bus, with relatively easy access, as seen in the posts below:

> I wonder if that is what is causing me to visit this site at 2am when I can't sleep :)

> I have been logging onto this site every couple of hours and it has been helping me. I know this will be one of my biggest support systems in helping me stay smoke free. I'm glad I found this site. I will be sure to keep everyone posted on how things are going.

> Sometimes hanging in the background reading posts by others is enough help. I know this site has been a good distraction for me.

> This morning on the bus, I was so engrossed reading Meanie's post here

This tangible place also appears to provide an alternative behaviour to replace an ingrained habit, as well as the reward of social support and remaining smokefree. 'Changemakers' have positioned the iCanQuit forum as a place to go to overcome a craving. This behaviour

of returning to the forum when a craving arises seems to be a critical component of success. The new behaviour of reading and writing posts to overcome the urge to smoke is demonstrated by the following posts:

> This forum was my biggest weapon on not caving in. Every time I felt like having a smoke, I just signed on here instead and posted or read other peoples stories and it really helped me.

> It's around this time I would normally go and have my first smoke, so I thought I'd jump on the forum instead.

The evidence that 'changemakers' are seen to return years later when they experience this sudden urge to smoke reflects the automatic and habitual response that has developed over time. The iCanQuit forum has a role in habit reversal which helps users transition to being smokefree long-term.

6.5.1.2 Reliance on the iCanQuit forum

The iCanQuit forum is a reliable and trusted place for quitters. 'Changemakers' expressed their attachment to the service after the online forum was momentarily unavailable. It provides evidence of the reliance users have on the iCanQuit forum as a place to go to throughout their quit maintenance journey as can be seen in this post:

> So glad to see the site up and running again, and everyone posting stories. I didn't realise how much support you all give me and how much I rely on this forum until I couldn't post or read anything!!

While this demonstrates the reaction of a 'changemaker' in response to a temporary outage, it reveals the potential impact on users should access to the iCanQuit forum be hindered for extended periods of time.

6.5.2 Benefit: Connection

we are strangers united in a quest for non smoking who along the way have found out
bits and pieces of one another's lives.

As outlined in Chapter Five, site interaction was the most frequent theme on the iCanQuit
forum and the high usage of usernames and lack of standard introductions by
'changemakers' reinforces the rapid formation of relationships and connection with others
on the forum. From the posts analysed, the action of quitting smoking represents stopping
a behaviour that has been practiced for many years, as outlined in Table 6.3. Connection is
driven by the phenomena of feeling alone and the fear of disappointment as outlined in
Figure 6.12. Feeling alone is due to having to cut ties with those in their current social
network who may not align to the new belief of stopping smoking. The fear of
disappointment is linked to previous quit attempts where others have not understood why
they may have restarted smoking or why they had not yet succeeded in quitting smoking.

Figure 6.12 Relationships that underpin connection
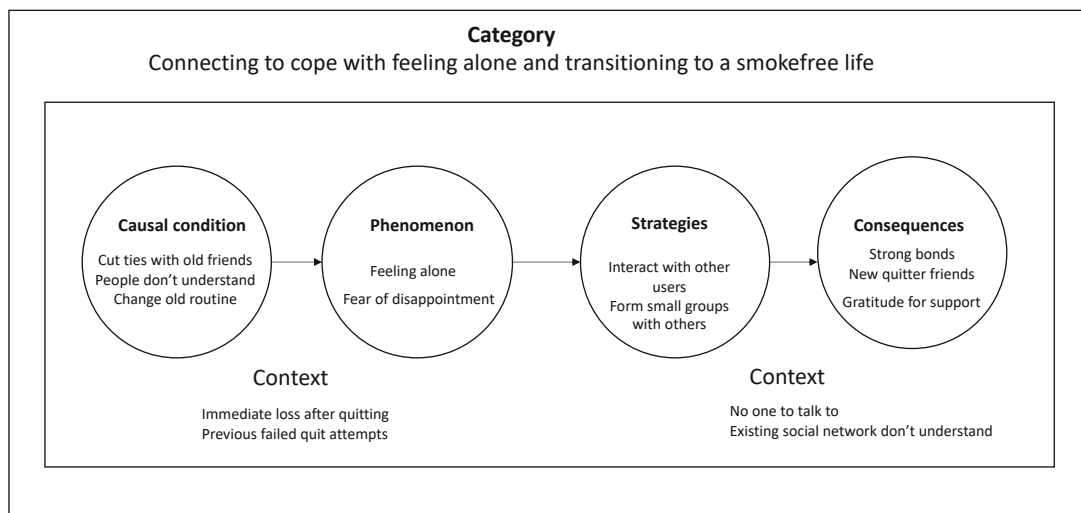
Feeling alone has stemmed from the act of smoking which is a behaviour that has been
cemented into their way of living over many years. 'Changemakers' verified the feeling that
stopping smoking was like losing a best friend and that quitting smoking meant creating a
whole new identity. The quitting process led to feeling lost and unsure of who they were.
Quitting required major adjustments like avoiding friends who were smokers, avoiding
previously frequented hangouts or stopping other vices at the same time such as alcohol.
The drastic changes are experienced when stopping smoking heightens the need to
associate with others experiencing the same identity transformation. The iCanQuit forum

brings together these 'lost individuals' to create a sense of certainty that they are not alone. The behaviour that they are trying hard to stop becomes the identity and connection piece that supports their presence on the forum. Facts about how long and how many cigarettes they had smoked define who they were and the identity they want to change. Posts from users show that there is recognition of separating their old identity with the new one:

> A little part of me still feels a bit lost and like I am not really me, maybe because I smoked for 20 plus years?

> What an interesting day. I rolled out of bed, straight to the kitchen bench for my pack of smokes and 'Oh, I don't smoke anymore'. I paused, pondered that and felt a bit lost.

> I realise that it actually is possible to identify a new me.

> When I was smoking, I was not sure if there was a me without it.. What kind of identity will I be..

> I don't want a cigarette but after doing everything with a smoke for 25 years I'm at a loss as to what I'm meant to do with myself sometimes.

> We quitters all feel we have lost a best friend

> I now tend to avoid friends that continue to smoke

Transitioning to a new identity expedites this search for people like them. The need to form meaningful connections quickly on the iCanQuit forum is critical as they tackle what may be one of the biggest challenges of their life. The immediate need lies in finding those who have a true understanding of what is being experienced; something that is not evidently found within their existing network. The iCanQuit forum enables safe connections with those going through that same reinvention of their non-smoker identity. 'Changemakers' reinforced the importance of finding people who really understood their experience:

> People who have never smoked before are really the only ones who think it is easy to stop. It so isn't.

> Only people who have smoked will ever realise how hard it is to give up

162

> This site is great and the support we receive here is something non smokers probably
> don't understand

> everyone on here has been through it or is going through it and you will get alot of
> support
> The people on here are great and will give you loads of support and advice through the
> tough times

> it makes you realise you are not alone in what you are going through or may go
> through in the coming weeks

The fear of disappointment is another driver towards connecting with those on the iCanQuit forum. 'Changemakers' expressed the behaviour of not telling people in their immediate social network that they had stopped smoking due to the unhelpful pressure and fear of a failed quit attempt. This behaviour signifies the importance of connecting with others on the iCanQuit forum who are non-judgmental and should a relapse occur, will provide support based on sharing a similar experience in the past. While the below posts demonstrate that this fear of disappointment exists amongst users of the iCanQuit forum, the finding that most 'changemakers' did not write a post on Day One indicates that this fear of failure still exists despite the supportive culture of the community forum:

> When I have quit in the past and again now, I don't tell people. The pressure they put
> on you, even though they are trying to help, is not helpful at all. I only use this forum
> to express my day and feelings.. Oh and 3 days - good on you!

> Don't worry about disappointing people on here. No one is here to judge you, we are
> here to offer support and advice where we can based on our own experiences. Most
> people on this forum, know exactly what you are going through as they have been
> through it or are like you just starting their quit journey

> This forum has been such a huge support to me and is really what has kept me going.
> Everyone on here understands what each other are going through

The fear of disappointment is realised when an individual experiences a relapse. Users of the iCanQuit forum are not immune to relapse. There were instances where users declared that they had relapsed and returned to smoking cigarettes. These declarations indicate that users felt safe enough to declare a setback. 'Changemakers' are seen to rally behind a lapsed community member to encourage them to start again and to not be disheartened by the

163

incident. In fact, owning up to a relapse was celebrated amongst users as it demonstrated honesty and commitment to learn from the experience as reflected in the below quotes:

> Don't let the failures get you down. I've slid down the mountain side more times than I like to admit but I realized this was preparation training. Took the good out of the negatives..got right back up and tried again...just as you have done.

> I think each time you quit and started again was a learning experience. With each failed attempt you have learned something new. Do not be hard on yourself. As long as you arise and start again

> i fully understand what you are trying to say and i am sure others do too. You are not the first and won't be the last to have a slip up whilst trying to quit smoking. Just look at it as a lesson and be kind to yourself....... at least you stood up, brushed yourself off and continued on your journey.

> I know all to well the disappointment of starting over. Well done to you being honest with yourself and fellow quitters and starting out again so quickly. Don't know how many times you have tried and failed previously but never stop trying to quit because it can for some (like us) take multiple attempts.

> So Rhys you just start again from day 1. Use it as a lesson that having just one is never going to work. Also you thought everyone was having fun and you were missing out, but the next days were not so much fun. So next time you are tempted think about this time and it will make you stronger. Don't be too tough on yourself, start again with more resolve :)

User I and User L (Figures 6.6 and 6.7) provide the evidence that there are users who do return to the behaviour of stopping smoking after a relapse. While User I and User L did not restart their quit attempt immediately after the relapse, their return to the community forum does indicate that they felt supported and understood by others within the iCanQuit forum. However, there were indications that the fear of disappointing the iCanQuit community could also discourage individuals from making a new quit attempt. Connecting with others who have shared the experience of stopping, relapsing and stopping again is critical for users to feel accepted, safe and to counteract the fear of disappointing the iCanQuit community. The following posts are examples of how the fear of disappointment was expressed:

Have to admit I felt ashamed of myself blowing it the last time so stayed away from iCanQuit myself until I felt ready to participate again

It got to the point where I thought I cannot have a smoke imagine letting everyone know I fell off the wagon.

In my book when one quits for a substantial time, the reason they take up smoking again is because a serious reason to quit DOES not exist. We all have our reasons.....but.....there needs to be STRONG foundations to want to quit. For me, to regress now....well i would be so disappointed in myself that i may never return to this site. We are not playing games here. Bye for now.

The users of the iCanQuit forum are unknown to each other prior to joining. The connection points of aligned purpose, shared experience and a safe non-judgmental environment are attractive in a time of significant change and uncertainty. Consistent with Chapter Five, 'changemakers' implemented strategies of forming small quit groups or showing stronger affiliation with certain members. The public gratitude expressed by 'changemakers' to other users provide evidence of this behaviour of connecting with those that keep a user on track and the natural behaviour of forming a close-knit support team. The forum enables the formation of support teams that most likely would not have been possible without this online space. These support teams became a critical part of their non-smoking world. Forming connections with those who have only known them as quitters is an important strategy that leads to online friendships that counteract the feeling of being alone. As indicated by the below quotes, connecting with others on the iCanQuit forum is a critical component of quit smoking success:

Mickey, we have traveled this road together and know that the devil does not give up easily. At day one I was not sure how I would go - could I succeed? Now I feel that I have won and I know that you are confident of that win also. Hopefully by us getting this far will give hope to others just starting on this journey

And I did want to say a special thankyou to Meanie. You really were a big part of my quit journey on here. Your support was great and I loved reading your posts, always so entertaining!!

Gam and Mickey you have both been a big part of my quit journey so a big thanks to you both:)

> This site and forum has been my saviour more times than I care to admit, it has felt like a little safe haven with my friends. And I do think of you all as friends, so THANK YOU!

> Dobbin, Wendy, Miss Lizzie and Lizzie1 thankyou for your replies, Without you knowing it you really helped me today when the cravings came slinking in.. Lia, Johnnie and Crasher you also are a part of my support team Along with all of you on this site. I know without everyone it would be a darn sight harder. I have a huge amount of gratitude

Gratitude for the support provided is a key outcome from the connections made on the iCanQuit forum. The gratitude expressed towards others is a sign that the actions of providing social support are noticed. 'Changemakers' remarked when they were pleased to see a written post from someone again or that they were expecting to hear from someone. The quotes below indicate this strong sense of belonging and the important bonds that have formed with certain people in other's journey of staying smokefree:

> I am expecting Mickey to drop in today as I believe he has something to tell us. Where are you Mickey ?

> Hi Meanie, I missed reading your posts this week. Good to see you back.

> Hey CF, it's been a while, nice to hear you're going strong

> Nice to see Red appear again......been quiet without him...lol

The formation of bonds is strengthened over time. 'Changemakers' showed that the relationships that are formed are likened to those that one would have with family or friends, not just an acquaintance. Sharing such a significant moment in time together that spans months and years establishes a real sense of closeness amongst users. Despite having never met, the quotes below provide evidence that the bonds between users are strong to the point of being considered family:

> On this site we all need to be a somewhat close family, offering each other inspiration and support in time of our needs.

I was expecting to read your major milestone success any day now and here it is. It's been a huge lifestyle change journey and you've stayed rock solid on track all the way.. Well done mate! :-)

Today it is two years since my mate 'Tiger' quit smoking. What a ride. My two years is 11 days from now. Tiger, I could not have done it without you. Who would have thought this site would have been the basis for us becoming friends. I still find it HILARIOUS that you or I will never smoke again, not because of partners or fear of failure but fear of letting one another down. Too funny! I stopped because 'The Legend' was not well and you are a 'Legend' as well. Two years - well done my friend. Watch out I am breathing right down your next to reach the same milestone.

It's funny I have never met any of the people on here but rely on the support and advice of you all more than my own friends and family

The strong connections formed between users is further enhanced through the sharing of personal information. At times, the dialogue on the iCanQuit forum reflected conversations that one would have with those in one's inner circle. These personal snippets into daily lives reveal the care and concern that is developed for others in the online community. It is clear from the quotes below that members of the iCanQuit forum not only provide social support for quitting smoking but also for the other challenges or circumstances experienced by users. This may reveal the consequence of cutting ties with those in their personal network when they stop smoking. While stopping smoking involves cutting ties with some, the online forum provides the environment to support the transition to a new smokefree life by connecting with those who become trusted allies as seen by the posts below:

The banter does help, the bits and pieces of peoples lives and stresses they share when relating to wanting a smoke all help and make us a community

Sorry to hear about your husband. What an awful week you have both had. What a test this was for you, and you have passed with flying colours. Well done Heather. I hope you continue strong on your quit journey and a speedy recovery for your husband back to good health:)

so sorry to hear about your nanna she must have meant so much to you. my mother had a bad stroke march 2012 and never fully recovered and she will spend the rest of her life in a nursing home I go and see her 3-4 days a week and still some days I feel sick with what has happened to her. from smoking . god bless you

The behaviour of referring others is a sign that there are key individuals who have had a positive impact on one's intention to remain smokefree. It is also a behaviour that helps to diffuse information to others in the network and extend the 'life' of a post. For example, a 'newbie' may not have come across a post that was submitted months back by someone unknown to them. The practice of referrals demonstrates the mechanism by which users pass on the support and information they have found most useful and how role models are identified within the community. The following posts are examples of how these referral pathways are expressed:

> read bill44 story if you need an incentive to help you, well all the best

> I like to invite you to read the post placed by Des and maybe then you will not miss the old friend so much

> I found WendyOhNo postings to be particularly helpful as I was (am) approximately 3 months behind her quit. Even to today, I get strength knowing that she experienced a near relapse at 9 or 10 months but was able to NOT give in. Please read her postings as they contain a lot of helpful tips and insight

Writing posts is the only strategy that enables connections with individuals that lead to meaningful relationships. However, the feeling of being alone can be counteracted by the act of reading. While the relationships may not be as strong, users of the iCanQuit forum can still benefit from reading posts. Reading posts appear to establish that sense of connection with the community. This study provides evidence that the value of the iCanQuit forum extends beyond what is visible as seen in the following post:

> On this forum I have watched as others have told us their stories, some successful, and some having to try again but all those stories help in knowing that I am not alone.

6.5.2.1 Disconnecting from the iCanQuit forum

The positive connections shared among the iCanQuit community is evident. However, this research found a few instances of conflict within the forum. With behavioural interactions limited to reading and writing, the forum lends itself to certain misinterpretations or misrepresentations. This may be due to the lack of visual cues that can assist in communicating the tone of the message. This research found that users were forthright in

addressing a post that did not align to the supportive nature of the forum. The following posts illustrate the nature of such responses:

> Wow, that's quite a post there shueardm. First of all well done on the 100 days. I think it's wise to understand that each person is different and from all walks of life. There are people on here who suffer massive anxiety, depression, have some very difficult things going on in their lives and smoking is the 'go to' when they're stressed. If you have turned to smoking as your escape for over 20 years it doesn't turn off in 100 days. If you suffer any mental health issues they can get more severe when quitting an addiction. Telling people to harden up is extremely harsh when these people are probably facing so much more than can be imagined and then they are quitting smoking as well. This site is for people to rant, rave, to brag and to get advice, not to put them down. It's good to be honest but also important to be understanding in that we handle things differently.

> Greg, not being personal but this is a site where people look for inspirations and answers.

Moments of interpersonal conflict were noticed by members of the forum. There was evidence of other users intervening to help resolve the conflict between members as seen in the following posts:

> Come on you two. Just kiss and make up. More important issues to discuss on this site.

> it seems at some time or another you have both misunderstood one another. I really think that apologies have been met from both sides. Do not take things personal as on this site everyone expresses his/her opinion openly. No need for a "cat and dog fight"

There was only one 'changemaker' (User A) who seemed to consistently receive criticism. His comments were not seen as helpful by users and by his responses, he did not believe the feedback was warranted.

> I have not been on this website for very long. Can't you people stand constructive criticism it would appear not, winner walker you do not know anything about me yet you compare me to eric who is he? i am on a journey to stop smoking, i am not winner walker , tiger74 and all the rest why can't i have a say if is not about catching a bus missing a bus stop this is a forum about people wanting to quit not some blog or twitter as some would think grow up and get a life

> I did not insult you fdoyle2011 I just made a comment now lets stop all this

User A demonstrated the ramifications of written text being the only form of communication. The posts submitted by User A were perceived as insensitive. However, it did not appear that User A intended them to be hurtful. Other users did take offence to his approach and questioned User A's alignment to the supportive culture of the group. This incident reveals the community norms of acceptable and unacceptable behaviour on the forum. Whilst User A did reach the Maintenance smokefree quit stage, he ended up leaving the iCanQuit forum and made his disagreement known to the community by this post:

> are you blind what do you mean the first positive post by that person I thought I was leaving good comments but by your standards it would appear I am not, good for you on 111 days I am 561 days smoke-free my first and only attempt well thanks for that I won't be leaving anymore comments on what was said by you.

This study highlights the formation of relationships and ties between community members as well as the establishment of accepted norms that can lead to a member getting collectively 'pushed' out of the group.

6.5.3 Benefit: Social support

> This site is my support and I enjoy reading others stories knowing we are all facing the same enemy.

Social support is a key benefit experienced by users of the iCanQuit forum. As outlined in Chapter Five, social support was the second most frequent theme on the forum. Social support is driven by the phenomenon of uncertainty in one's ability to succeed as outlined in Figure 6.13. This uncertainty in one's ability is caused by previous failed quit attempts and the inability to find those who are quitting at the same time as them in their immediate social network.

Figure 6.13 Relationships that underpin social support
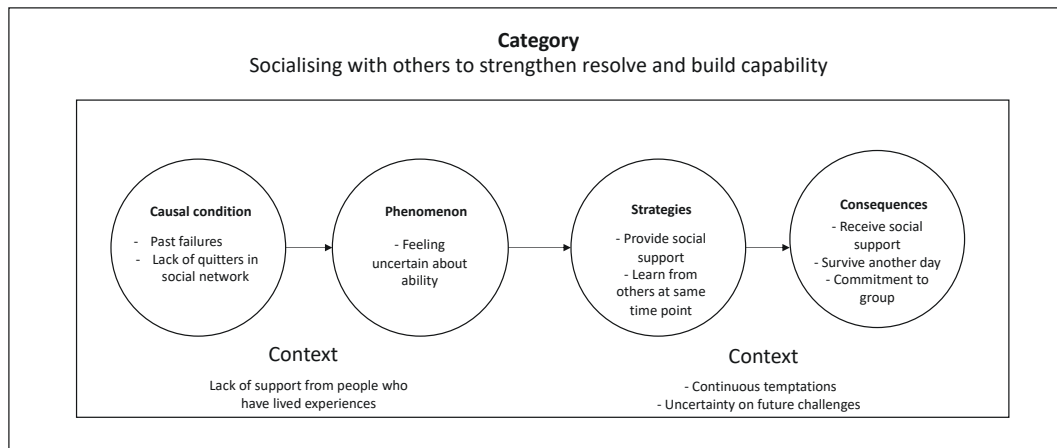
As outlined above in Section 6.4 above, members of the iCanQuit forum are likely to be long-term smokers who have tried multiple times to quit smoking. The experience of previous failures promotes this uncertainty in one's ability to successfully stop smoking. The findings from Section 6.6.2 show that the feeling of being alone drives the search to connect with others going through the same experience. Connecting with others on the iCanQuit forum fills the void of not having people within their immediate social network who are quitting smoking at the same time. The act of connecting with others on the forum enables the exchange of dialogue which results in the exchange of social support. The strategies employed by users on the iCanQuit forum are writing posts to provide social support which in turn leads to the receipt of social support. If a user does not write on the iCanQuit forum, their presence is unknown and the exchange of social support cannot occur.

There are no rules to participation on the iCanQuit forum. Users are not mandated to write posts and there is no rule that posts must be about their own personal quit smoking experience. In Section 6.3.2.2 above, it was reported that most 'changemakers' did not write a post on Day One of their quit attempt and in Section 6.6.2, that users possess the fear of disappointment. This study also found that around half of the 'changemakers' wrote about their personal experience in their first post while the remainder provided some form of social support to another user. These combined findings indicate a level of uncertainty among users in their ability to remain abstinent from smoking long-term. The provision of social support is a mechanism to enter and participate in the forum with no commitment. Writing posts that support others allow users to test the community response and determine if they want to continue to be part of the iCanQuit community.

Engaging in the strategies of providing social support draws the user into reading the written posts of others. The behaviour of reading posts invites the user to familiarise themselves with the volume of posts on the forum and the interactions that occurs between users. The behaviour of reading forms part of the social learning process whereby users learn from others' experiences as well as the interactive behaviour of providing and receiving social support. The forms of social support includes encouragement, empathy, esteem and informational. The various types of social support respond to the varying needs of users who may need different types of support at different times throughout their journey to remain smokefree. The provision and receipt of social support is the strategy that guides users towards quit smoking success and survival.

The impact of social support on quit smoking success is demonstrated by user gratitude. The support received has a motivating effect and appears to influence continued commitment. The following posts demonstrate the critical role of social support and the understanding between users on how much it has helped them to remain smokefree:

> Mostly though, all you good people here fighting the same battle who help smoker tragics like me push onward when you feel a weakening moment coming. Particularly the likes of successful quitters like Lia who has a special way of kindly putting across ones need to just get over it and man up :-) God bless ya Lia your sage words have brought many smiles to my face and new insight... even to my own mental approach on this quit.

> Near the end of your posting you said "...please try hard and keep coming back to the site for advice". This hit home with me. I was just thinking this morning how much of a support this site has been for me especially during the first couple of days/weeks of my quit. I remember one post when I was near 6 months and you ed that what I was experiencing was normal and you had experienced something similar during that time period of your quit. Hearing this back then helped me tremendously in so many ways. Even today, seeing you are over 600 days quit gives me motivation and energy to continue on with my quit (although as you said, it is so much easier now and cravings rarely come). Thanks for the support you gave and continue to give.

> Each second quit is built upon the one before it. We were all at five days. Remember, there's someone at five hours that needs to hear that you re at five days as much as you need to hear that someone else is at 365 days.

While writing posts encouraged the exchange of social support, 'changemakers' advocated reading the posts by other users. The need for social support cannot be planned or scheduled which indicates the advantage of having the forum accessible twenty-four hours a day, seven days a week. This open access alleviates the need for an immediate response on one's post given an existing post may provide the support needed. The volume of posts users can access helps to preoccupy users and refocus thoughts to remain smokefree and survive another day as seen in the posts below:

> Live on these quit smoking pages, pre occupy yourself. Every minute of preoccupation
> is a minute that your brain is rewiring itself for success.

> And if you need distracting come to this site and read peoples posts - it's incredible
> how some people seem to describe exactly what you are going through and it really
> helped me to maintain my focus.

'Changemakers' search the archive of posts on the forum to find stories that help to reduce the uncertainty of what they may expect. As outlined in Chapter Five, quit progress was the third most frequent theme on the iCanQuit forum which acts as a timestamp for written posts. Reading the posts that detail experiences at a point in time provides information about an otherwise unknown area. While experiences may not be exactly the same, posts by others at a similar time point appear to support users who prefer to know what they may be challenged with next. Past posts as well as posts that discussed a future state created certainty for users that stopping smoking was achievable:

> Been reading about the fiftys and as I am at day 48 find it handy to know and prepare
> due to this site. I have noticed just the last 2 days that I have noticed the craving more
> and instead of quickly brushing it off, I have thought about it - not letting it get to me
> though.

> I am looking forward to when I can post 330 days, to me that is an amazing feat. I like
> to read of people who are in the early stages like me but also to read post by someone
> who has traveled so much further.

> I look for your postings as you are around 4 months ahead of me and helped me
> through some tough times reading your own experiences at the timeline I was quit.
> One in particular I remember is when you were standing in the check out line at the gas
> station and was ready to get the pack of smokes (I think you were close to a year quit).
> You found strength and did not give in to the nicodemon. Hearing that you had the

> experience prepared me for what might come and that I could make it through the craving. Congrats on being over 500 days!

The timestamp quit progress provides also helps to identify members who inspire progress. The written posts of 'long-time quitters' was appreciated and their inspirational impact was made known. It appeared that another person's success provided a user who was struggling with a sense of reprieve and the knowledge that success was attainable. Posts including the ones below, confirm that reading is an important component of interaction on the iCanQuit forum as it can inspire and motivate others who are less advanced:

> You are amazing , well done. It inspires me, when i am struggling, to be able to read that people can do this and that it does, eventually ease of a bit. 6 days to go, woohoo!

> Thanks all. Yeah Johnny... I have been following your progress / enjoying reading your posts particularly knowing you are a few days ahead of me. It has helped me keep on track

> Way to go Mickey, you have hit the triple digits, that is so awesome. I feel like I was just reading your posts when you were starting out. Look how far you have come. You should be so proud. And now you are supporting people who are just starting out on their journey's and giving them all the great advice you have learnt from your experiences so far.

The behaviour of writing thus builds the volume of support available. Identifying posts by length of time quit provides support in a preparatory or inspirational sense. The volume of written posts provides users with a repository of relevant support that can be accessed on demand. In essence, the iCanQuit forum provides the service of social support-on-demand. Social support is valued from members no matter how advanced they are in their smokefree journey. The inspirational impact 'long-time quitters' have on other users demonstrates the importance of retaining their engagement on the forum. While most of the 'changemakers' remained active past twelve months, there appears to be a moment of transition where their presence is reduced due to the lower reliance on social support from the community. While this is a positive result as it implies the user is no longer as dependent on the iCanQuit cessation service and is likely to remain smokefree, it is a disservice to the iCanQuit forum given the inspirational role these 'long-time quitters' provide to current users.

6.5.3.1 Timing of social support

Social support is valued throughout the quit stages and is the main theme of the dialogue exchanged between 'newbies', 'resisters', 'successful quitters' and 'long-time quitters'. This study shows that the availability of social support is more critical for 'newbies' and 'resisters' who are in the earlier stages of remaining smokefree. While the action of writing helps to promote the continual exchange of social support, users have verified that reading posts contributes to the feeling of being supported by others. Through 'changemakers', it was noted that in the first six months, as 'newbies' and 'resisters', the need for community social support was at its highest and the individual determination and resistance needs to be at its strongest. While the need for social support will vary among users, the following posts demonstrate that the iCanQuit forum is accessed at multiple times throughout the day and at varied times within a day:

> This is a great forum for support. The people on here are great and offer wonderful advice based on there experiences. I log on 2 or 3 times a day and it has really helped me through

> My journey has just begun, and thankfully I have found this forum with all you amazing people who have given me so much inspiration and support. I truly believe these last 7 days would have been so much harder without you all. So a big thankyou:) I am now counting down until I reach the double digits...only 3 sleeps to go, or in my case 3 sleepless nights to go!! Have a wonderful night everyone:)

> This forum has played such a huge part in my Quit Journey and I wanted to thank all you wonderful people on here. In the early days especially I was signing on every couple of hours to either write a post or just read other peoples stories for inspiration. It's funny I have never met any of the people on here but rely on the support and advice of you all more than my own friends and family. So a Massive thankyou Guys!!!!

'Changemakers' validate that the social support received on the iCanQuit forum is perceived as having an instrumental impact on one's success to remain smokefree. Users are seen to reflect on their journey and identify the earlier stages as being the most difficult as seen in the posts below:

> I first posted here 3.8 years ago on my first quit day and this site has helped me mostly in those first days so thank you, as I am looking forward to my 4th anniversary without a smoke and the savings are over $23,000 and that is at the price of a pack near 4 years ago - would be much more today.

> I remember my first post on this site and the responses and support I got from Tiger
> and Jo and Meanie et al. I remember thinking it will never get easier. I remember the 6
> week mark and almost giving in because everything was going wrong. I remember
> wondering if I could ever sit in a beer garden again and be happy!

The continued provision of social support to others is related to the awareness of one's changing role within the iCanQuit forum. The contributions of social support rely on the transformation process that is experienced by 'newbies' through to 'long-time quitters'.

6.5.4 Benefit: Self-awareness

> I have started really understanding and thinking like a non smoker. I no longer WANT
> a cigarette and therefor do not crave a cigarette.

'Changemakers' experienced a process of transformation on the iCanQuit forum. This study found that 'changemakers' were acutely aware of the behaviour, mindset and actions that worked well for them to remain abstinent. Possessing the determination to remain smokefree was a strong trait of 'changemakers'. This mindset for change in combination with the daily success of remaining smokefree, encouraged greater self-confidence in their ability to handle the situations ahead of them.

> I'm feeling far more confidence and determination this time and I know this because
> I've had more life's dramas throwing itself at me this time around than ever before and
> living with a chain smoker doesn't help either

> The joy i had from saying "sorry i don't smoke" was unreal

> I'm still going strong, when I have a craving I just think NOPE, Not One Puff Ever,
> and have a blast of quickmist. It's been working so far

> I keep telling myself that as long as I get through another day without smoking it
> doesn't matter if I "accomplish" ANYTHING. The most important thing I can do for
> myself right now is to ensure I stay smoke free

The self-awareness among 'changemakers' was reflected in the detailed accounts of experiences or personal circumstances. These posts that can be seen as akin to journaling provided an understanding of how they felt or what they thought or did at the time. There

was acknowledgement that they hoped their written posts would help someone in the future. The act of writing enabled 'changemakers' to reflect and appreciate the determination they had to resist smoking. The following two posts demonstrate the determination these 'changemakers' had to be non-smokers from the start of their quit smoking journey:

> It's been 7 days without a smoke and let me tell you all it has been the longest 7 days of my life!! If I'm honest I have probably coped better than what I thought I would. I haven't clawed my husband's eyes out of his face yet, but I suppose there is still plenty of time:)
> I managed to get through the first 4 days fairly well, and I thought to myself, you have done the hardest part, the rest should be easy from here on in. How wrong was I???
> Day 5 was an absolute day from Hell!! I would have cut my right arm off for just one cigarette. I spent the whole day fighting, what felt like one big fat long craving that just wouldn't go away. I somehow managed, to get through that shitty day without a smoke, thank god!! I'm sure there will be more of these days to come and just hope I'm better prepared for it next time. I will just keep reminding myself that my Desire to be a NON-Smoker is stronger than my Desire to be a smoker!!!

> Anyway thought I'd share what happened on the weekend. I have up until saturday night, been avoiding any place where I would be around smokers. I just felt that I wasn't yet strong enough to be in that situation. Saturday nite was a planned night out with a group of friends who are all NON Smokers. I was having an absolute ball, the food was great, the drinks were flowing and there was lot's of laughs. After dinner we decided to leave the restaurant and head to a bar around the corner. No sooner had we all stumbled out of the restaurant, one of the girls has pulled out a packet of smokes from her bag and said "come on girls, I bought a packet especially for tonite so we can all have a few smokes "Well shit, that through me for a sixer, what the hell??? These are all meant to be non smokers!! So the pack got handed around, and I was sooooooo very very tempted. One smoke, I could blame it on the grog the next day, what the hell hey? I grabbed the pack and then handed it on to the next person and politely refused. I couldn't believe I actually was strong enough to do it. Where the hell did that willpower come from?? Now I had to stand with them all while they puffed away and the funny thing was, I wasn't craving a smoke as such, but more envious of the fact that they could all have a night out, get drunk, have a few smokes and then not worry about smoking again, till probably the next night out. I wish I was able to do that but I know that for me it is All or nothing, so I chose Nothing. Well I'm off to bed now to try and get some sleep.

'Changemakers' were on a continuous path of learning and self-discovery. Reading their own historical posts strengthened their resolve to remain smokefree as well as learning from the experiences of others. The following posts provide examples of the self-reflection they undertook that led to self-improvement and strengthened determination to remain smokefree:

> Reading my own postings made me realize how far I had come and that I had gotten through the tough period I was experiencing. Although I hope this doesn't happen, if I should slip and return to smoking I will always have my postings to reflect on and be a reminder that I can do it again.

> I read through old posts, I pull myself together and I move on

> But we have to look at quitting as a learning curve. Some quit forever first time around while others quit successfully after several attempts. For the latter, we learn from the mistakes / weaknesses from the last or each failed quit gaining new insight into ourselves & ultimately (one would hope) achieving a final successful quit free of it all

> Had I made this list a month ago it would have been weighted differently so I know that the longer I stay smoke free the smaller that 'missing' side of the list will get.

> 1 year ago, I went to this homepage and joined the Ex-smoker community. 1 year ago my journey started with horrible cravings and desperate feelings that it never gets better. 1 year ago I started running away my urges out of desperation that I might smoke...During my journey of not smoking, I got fitter (due to the running) and I got pregnant and now have a healthy boy wiggling around the house.. What an amazing journey this has been- the decision to stop was difficult but it was worth every minute... And yes, never again... never again these bad feelings of being smelly, not coping without smoke, the nervousness of having to smoke in very inappropriate moments, the money just flying out of your pocket, the cough in the morning and when doing sport. Thanks so much to everyone who joined me in this journey and for all the newbies... It is so much more that stop smoking...! Its a life changer..

While the length of time quit is a symbol of achievement and pride for users, there did not appear to be any competitiveness or sense that users were being boastful of their achievements. 'Changemakers' used other people's length of time smokefree as inspiration but never as a direct competition. There appeared to be recognition that each quit smoking journey is individual and that the only relevant marker is oneself. While 'changemakers' were inspired by reading the posts by those ahead of them, 'changemakers' appeared to

focus on making change in the present moment and taking ownership of their success. This approach to tackle the present moment was expressed by 'changemakers' in their advice to others as seen in the following posts:

> you will be able to do it, just focus on 1 day at a time. At the beginning it might be focussing on 1 hour at a time. But break it down and don't look too far ahead or it becomes overwhelming

> One thing to remember is that if you can go one day then you can go another..

> Every second of every day is another second that you are now further away from smoking. Don't give up

> Decide today that you are not turning back

> For me the best is really to take one at the time... Don't think about being a non smoker in 2 month time... Its scary... Just think of today-I am not going to smoke...

> You are not the only one, you can do it, and it is possible, as long as it is step by step

Approaching quitting day-by-day provides context to the encouragement and esteem support provided to users when they report on their quit progress. Each new day represents a new person who was smokefree for just that much longer. Identity transformation was introduced in Chapter 5 where smoker history was identified as an expression of identity at two distinct stages. The first stage was as a 'newbie' where it was used in introductions as a common and unifying characteristic with others on the forum. The second stage was as a 'long-time quitter' where it was used as a point of reflection as users looked back on their achievement. As the posts of 'changemakers' were analysed, it was found that identity transformation was linked to expressions of quit progress and the disbelief and pride in one's achievement. 'Changemakers' expressed this disbelief at various time points that were not limited to their time as a 'newbie' or 'long-time quitter' as revealed in the posts below:

> I can say now after 27 days it is getting a whole lot easier and I'm amazed that I am succeeding.

> I smoked for 50yrs and never thought I would be now on 74 days quit

> Tomorrow is Day 400 for me. I never imagined I'd make it past day 35 when the tears
> started.

The repeated consequence of disbelief highlighted the role of quit progress as a lever to resetting one's identity. Each smokefree day contributed to this process of users moving away from their smoker history identity to the new identity of a non-smoker. It was observed that the experience of identity transformation was experienced as frequently as each day as opposed to longer periods of time such as the time between a 'newbie' and a 'long-time quitter'. The posts below demonstrate the motivating impact a renewed identity has on one's determination to stay smokefree:

> I'm amazed every day that I could get this far...

> I have changed my life and habits and I cannot believe the change myself. That is what
> it's all about people.

The pattern of associating this change to the number of days or months or years that users have stopped smoking helps to illustrate the transformative process. User D and User H provide an example of the observed transformation in an individual over time (see Table 6.7). The posts of User D and User H demonstrate that the pride and disbelief in one's achievement is not unique to an earlier or later time point but, a reoccurring experience as the length of time extends from Day One.

A significant finding of this study is that the transformation from a smoker to a non-smoker is celebrated at each point a member of the forum reports on the length of time that they have remained smokefree. 'Changemakers' have revealed that the creation of a new identity is a continuous process. Writing posts that include their quit progress enables users to continuously reset their identity to reflect the longer period of time that they are smokefree.

Table 6.7 Identity transformation process for User D and H

Subgroup/stage	User D	User H
Newbie	I am 35 days without a smoke and never did I think I could do it.	Well, I would have never thought I would be at day 10. But it is here. Feels like it has taken months not 10 days for some reason but here it is.
Resister	107 days that is sooooo fantastic. I'm not far behind hitting the triple digits as well. I can't believe we have gotten this far, and it's so awesome that we have.	I am not sure what day I am on - just went and checked 136, woo hoo! I do know that on February 29 it will be 5 months. Which makes me almost at half a year, I like you would have never bloody believed it.
Successful quitter	But wanted to let you all know I have reached the 6 month mark since my last smoke and am so bloody happy:) I never thought I would have lasted 6 hours in the beginning, let alone 6 months, but I have done it and am damn proud!!	Just had to come back and share it. Who would have thought. Woo hoo!
Long-time quitter	First time I have signed in for months and months and how funny I see your post. 530 days smoke free for me. Not that I'm counting anymore, just saw it as I signed in. Like you, I barely think of smoking anymore. So glad to see you are still doing so well:)	One year, one whole year since I have touched a cigarette. I never ever would have thought I could do it.

Alongside the identity transformation was the cyclical nature of roles and responsibilities as users transitioned from 'newbies' to 'long-time quitters'. The changing roles was introduced in Chapter Five and confirmed by 'changemakers'. As 'changemakers' wrote posts as 'long-time quitters', they articulated the role of supporting 'newbies' within the iCanQuit community. The posts below provide examples of 'changemakers' recognising and assuming their role as an inspirational and supportive leader:

> It is our duty to stay quit by spending as much time as we must educating ourselves and keeping ourselves occupied and it also our duty to tell others how we did it. We are always passing the torch on to someone behind us - even if someone is only behind us by a matter of minutes, hours, or days.

> HeyWendyOhNo, long-time since we caught up on here. I'm so glad to see the gang is still around and I see what you mean on there no being many newbies, there were so

many of us at one stage. I'll keep checking in to see if I can assist any of them, this place was so huge in helping me quit and stay quit.

'Changemakers' also assumed the responsibility of advising 'newbies' on the challenges ahead and the role they will soon play in helping those who join the forum thereafter. The posts below demonstrate the advice provided to others and the significance of remaining smokefree not only to the individual but to other members of the forum.

> For those of you who are new, please keep coming here and to other quit smoking sites. The first couple of weeks are super hard and you'll have bumps along the way after that. I used this site and others online (Reddit has some great quit smoking forums) to keep my brain occupied. Coming back also encourages the new people who come behind you. I'd say there were about ten people who were 'good and quit' who kept coming back to check on and help the newbies when I was new. The good and quit people encouraged me. I wanted to be in the 100 day plus group. I wanted to be in the 200 day plus group. Coming back also held me accountable. I held myself to a higher standard - I expected myself to get to the next benchmark. At some point, people stop counting every day of their quit and they forget that they need to come back frequently to help others (myself included), so try to come back for as long as you can and as often as you can. Remember when you are on day 200 that there is someone on day 2 that needs to hear from you

> Visiting these sites is like passing on a torch to the next group. The next group is already hours and days ahead of the people who will come behind them.

The following posts by 'changemakers' are examples of how longer-term quitters are reminded of their role within the forum to lead and be model examples to newcomers.

> Well done and great to see new contributors helping others and succeeding themselves.. It helps not only those beginning the quit journey but also some of us earlier quitters as a reminder to stay on track

> Anyway, I will still read Jo's stories and Blu Suzi and Fire God and Tiger 74 all the rest just to make sure you all succeed and keep inspiring me, so that I can join you as a non smoker. Who would have thought it would be so difficult? Guess if it was easy everyone would do it!

The fear of returning to the habit of smoking appears to be universal among all members of the iCanQuit forum. 'Changemakers' made a point to inform users of this unending

urge to smoke that can emerge at any time, even years after stopping smoking. The repeated dialogue among users confirmed the common experience of previous failed attempts and the shared fear of succumbing to that one cigarette. The fear of smoking again is expressed in the following posts:

> But I'm still well aware that I am not out of the woods yet and of how easily I could slip back into the chains and shackles of smoking drudgery and misery as I have done that before and it's really depressing particularly when you get left behind as others who quit with you continued on successfully.. some of whom sadly no longer post on this site anymore

> Yes, my brother came back to smoking after a year then after 2 years...it's a battle but a worthwhile one

> Decide today that you are not turning back - that no matter what, you are going to remain a non-smoker. I don't want to discourage you, but even after a year, you are still going to want a smoke every now and then. The key is already having made up your mind that you not only do NOT want to smoke but that you are also not willing to go back to the first day of not smoking. If you establish those hard and fast rules, you will succeed

In the provision of informational social support, 'changemakers' appeared to recognise the limits of their own experience. The provision of support is based on personal lived experience. In areas where 'changemakers' could not provide a personal experience, the posts below demonstrate their referral to other users who may have the experience or professional advice:

> I have to be honest, I do not know anything about Champix, but I am sure someone else can answer this question

> If I were you, I'd make an appointment with your doctor to just to check on the breathlessness

> Champix can definitely cause stomach issues. I'd talk to your doctor right away.

> The first 2 weeks will be very difficult...try nrt.. speak with your doctor or pharmacist
> I agree with Red-67 ... I'd be seeing the doc about other likely causes

'Changemakers' demonstrate the transformation process that is supported by the iCanQuit forum regarding their new identity as a non-smoker and role model within the community. The ability to reflect and learn from their experience and the experience of others is driven by self-awareness and determination to remain smokefree, all of which appear to flourish in the context of a supportive environment.

6.6 Quit outcomes – then and now

All fifteen 'changemakers' succeeded in reaching the quit stage of Maintenance smokefree on the iCanQuit forum. The last posts where quit progress was mentioned by all the 'changemakers' are captured in Appendix F to celebrate their individual success. The last posts that included a quit progress declaration demonstrated that all 'changemakers' had been smokefree for at least one year. Only User F's last declaration was eleven months and User I and O were just on twelve months. There were already six users who had been smokefree for more than two years.

While outside the time periods included in this research, a quick search by username was conducted on the forum on 27 February 2021 to identify if any 'changemakers' had posted beyond the sample period. Six out of the fifteen 'changemakers' had additional story posts on the forum. Appendix F outlines the date and contents of the last recorded story post. While one 'changemaker' had a short relapse and another discussed the continued temptations, it suggests that all six 'changemakers' are plausibly still smokefree. For those where a story post was not visible from 2018, it is noted that four users had already achieved a smokefree status of over two years, with three of them reaching over four years. It is highly probably that they have remained smokefree. Therefore, 'changemakers' are found to be examples of not only achieving a Maintenance quit stage but also the long-term effects of behaviour change. Six 'changemakers' are examples of users who stayed quit for over four years using the forum, four stayed quit for between two and four years, and five are examples of staying quit for under two years.

The design of the iCanQuit forum only shows the story posts for each username search. It may be possible that all fifteen 'changemakers' are still contributing comment posts, particularly as this study found that users contribute significantly more comment posts than story posts. It is not possible to quantify the time spent reading and writing posts on the iCanQuit forum but the commitment to return is of significant interest. Not only does this

emphasise the commitment 'changemakers' have shown to return to the forum, but it also signifies the enormity of the achievement that quitting smoking represents to them. The ongoing pride in their personal achievement is apparent from their posts. The public acknowledgement of how much it meant to them to have connected and be supported by individuals on the forum provides evidence of the value the iCanQuit community offers to help people remain smokefree. Interestingly, the posts also provide an indication of the additional reward of self-confidence. The major achievement of quitting signifies to them that they can achieve anything.

6.7 **Summary**

This chapter presented the findings of the posting activity and thematic analysis of the posts written by 'changemakers'. In keeping with the approach taken in Chapter Four and Five, posts were analysed in their totality, with 'changemakers' validating the higher proportion of comment posts to story posts. By representing the first 365 days of activity on the iCanQuit forum, 'changemakers' illustrated the variability in interaction. A pattern that emerged is the front-loading of activity indicating that social support is most needed as a 'newbie'. Spikes in posting activity also illustrated the behaviour of writing multiple posts at a specific point in time, suggesting that users spend extended periods of time on the forum at particular points in their journey.

The ten themes identified on the iCanQuit forum in Chapter Five were validated by 'changemakers', with the top five being similar across the two samples. Social support was the most dominant theme amongst 'changemakers' and the 2012/2017 sample which verifies that social support is the most important interaction between users as they strive towards long-term quit success. This exchange between users on the iCanQuit forum illustrates the power of social and behaviour change communication. This dialogue between users has exposed the following ten strategies 'changemakers' employ that contribute to their ongoing participation on the iCanQuit forum and ultimately, their long-term quit smoking success:

1. Connect and start a relationship with fellow quitters. The simple exchange of usernames and shared experience can enable a connection with people who could become support crew over the course.

2. Front-load participation on the iCanQuit forum through the behaviour of writing posts in the earlier stages of staying smokefree, as evidenced by 'newbies', and sustain that activity over time.

3. Read and write posts on the iCanQuit forum to manage cravings and regulate emotion. This leverages the role the forum can play in habit reversal and social support-on-demand.

4. Social support thrives on reciprocity, particularly from quitters who really understand. Providing support may be just as beneficial as receiving it. Posts of gratitude are the cue that this helps.

5. Self-monitor achievement using the inbuilt tracking tools provided by the iCanQuit website. Not only does this act as a reminder of achievement, it aids in the identity transformation process and role modelling behaviour that could result in a commitment to return and given back to the community. It is not a social comparison tool.

6. Reading is the non-visible action on the iCanQuit forum that has various benefits such as feelings of belonging, removing uncertainty on the unknown and feeling supported.

7. Search for posts by quit progress to gain an understanding on what may lie ahead.

8. Look back on past posts to remind oneself of the significant achievement and to not repeat Day One.

9. Self-determination and commitment to be smokefree is part of the success. Always remember not one puff.

10. Be mindful of the culture of support to avoid being nudged out of the community.

This chapter has focused on the important role of the 'changemakers.' Combined with the findings from Chapter Five, this study has demonstrated that participation on the iCanQuit forum through the simple behaviours of reading and writing enable the interactions that lead to successful quitting. Social support is the dominant theme on the iCanQuit forum and is the quality interaction that is exchanged to promote the normalisation of quitting. An ongoing challenge is maintaining levels of participation that not only help the individual in maintaining behaviour change but also help to sustain the continual growth of the community. As seen through 'changemakers', posting activity declines over time as a quitter transitions from a 'newbie' to a 'long-time quitter'. Keeping users engaged will be critical to ensure the iCanQuit forum can support groups of quitters as they step through

the cycle of responsibility and ultimately, to retain those who keep giving back as long-time quitters. Finally, 'changemakers' provide the evidence that the iCanQuit forum supports quitters who achieve long-term abstinence thus, presenting the iCanQuit forum as a digital intervention that promotes long-term change. The findings that have been presented in Chapter Four, Five and Six are now discussed in Chapter Seven and have led to the design of the Framework of Insights.

Chapter 7 Discussion

The iCanQuit website has hosted an online community forum via the 'Stories and Experiences' section for over a decade, formally launching at the end of 2010. The NSW Tobacco Strategy 2011-2021 outlines the key initiatives of the state's comprehensive tobacco control approach. The iCanQuit website is captured under the provision of evidence-based smoking cessation support services in NSW. The NSW Ministry of Health has reported on the effectiveness of the website by the number of website visits, which provides limited evidence of the utility and value of the iCanQuit forum. The focus of this study was to listen to the stories shared by quitters on the iCanQuit forum. By examining the public discussion between quitters who want to remain smokefree, this study identified the benefit that is acquired from participation on the iCanQuit forum. This has brought forth a deeper understanding of the iCanQuit website's effectiveness beyond website visits.

7.1 Stage 1a and 1b discussion

Stage 1a and 1b quantitative and qualitative content analysis spanned 1,739 textual posts submitted by 372 individual users. This provided the scale needed to identify key characteristics of the iCanQuit community, subgroups of users, changes in behaviour by quit stage, and the dominant themes that encapsulate the interactions on the iCanQuit forum. The comparison of timepoints across the two years 2012 and 2017 highlighted the similarities and differences over time.

7.1.1 Posting behaviours on the iCanQuit forum

At an early stage in the analysis, it was discovered that posts should be considered as a totality rather than separating story posts and comment posts. As individuals use their personal experience as a key element of what and how they write, reviewing total posts enabled more meaning to be elicited from the posts.

This research found the highest volume of posts on the iCanQuit forum was from 'newbies' followed by the subgroup 'long-time quitters'. This supports findings from the American QuitNet forum (Zhang et al., 2012) as well as other research which highlights that there are certain groups within these online communities who have higher posting

frequency which in turn leads to having higher network value due to their contributions to the community (van Mierlo, 2014; van Mierlo et al., 2012).

Similarities were found between 'newbies' and 'resisters' in relation to post per user on the iCanQuit forum for both years. However, as outlined in Table 7.1, the posts per user for 'successful quitters' and 'long-time quitters' were greater in 2017 compared with 2012. One explanation is the age of the digital intervention. Launched in December 2010, the iCanQuit website hosted a relatively young online community in 2012. The number of accumulated 'successful quitters' and 'long-time quitters' would have been lower in 2012 compared to 2017. Furthermore, the social norms and culture of forum participation may not have been embedded in the community yet.

Table 7.1 Posts per user in the 2012 and 2017 samples

Subgroup	2012	2017
	Post/user	Post/user
Newbies	4.7	4.5
Resisters	4.1	4.8
Successful quitters	2.3	8.0
Long-time quitters	2.9	9.3

The finding of a higher ratio of posts per user for 'long-time quitters' was in contrast to the Australian Facebook page which reported a higher post per user (3.2) for those who had quit in the last month (Ploderer et al., 2013) while for the iCanQuit forum, this was highest for 'long-time quitters' (9.3 in 2017). Generally, the forum had a higher post per user than the Facebook page. A notable difference between these two community groups is that the iCanQuit forum relies on the natural interaction between quitters while the Facebook page relies on the owner of the page to provide supportive responses which was noted as having the potential to inhibit other users to respond (Ploderer et al., 2013). While not conclusive, the sizeable difference in posting activity per user may support this finding that having a health professional participate in the online social support group can impact the social dynamics and frequency of interaction.

7.1.2 Behaviour change amongst users of the iCanQuit forum and identification of subgroups

The majority of users on the iCanQuit forum have already made the decision to stop smoking and contributing to the online discussion can be seen as a public symbol of their commitment to remain smokefree. The key behaviour of interest is maintenance of the behaviour change beyond a short-term commitment. The modified version of the transtheoretical (stages of change) model (Prochaska & Velicer, 1997) is a useful framework to apply to this research as it segments the action and maintenance stages by time, delineating between temporary or short-term change to prolonged behaviour change. Similar to a study by Ploderer et al. (2013), quit stage was determined by analysing the content of the posts. Quit progress (declaring duration of time smokefree) was the third most frequent theme found on the iCanQuit forum. This made the allocation of posts to quit stage straightforward as the length of time that a user had been smokefree was known. While the stages of change model depicts the staged behaviour change process, it does not delve into the complexities of staying quit during the action and maintenance stages (Borland & Balmford, 2005). As this large-scale analysis included posts at certain time points, rather than the continuous activity of the 372 individual users, it was not possible to determine any transitioning cues or predictive elements of behaviour that would lead a person from one stage to the next. The modified version of stages of change was therefore used as a framework to classify users into change states and note positive or negative behavioural quit outcomes.

This study classified users into four distinct subgroups and named these: 1) 'newbies'; 2) 'resisters'; 3) 'successful quitters', and 4) 'long-time quitters' as outlined in Table 7.2.

Table 7.2 Subgroups defined in the iCanQuit forum using a modified version of stages of change theory

Quit stage	Length of time smokefree	Name of user subgroup
Action (short-term)	0-3 months	Newbies
Action (long-term)	3-6 months	Resisters
Maintenance (staying quit)	6-12 months	Successful quitters
Maintenance (smokefree)	More than 12 months	Long-time quitters

Classifying users by subgroup provided evidence of positive quitting behaviour on the iCanQuit forum. In both years, this research found that 87% of those who identified as

changing quit stage made a positive behaviour change, with the remainder experiencing a negative behaviour change, commonly known as relapse. In the 2012 and 2017 sample, a similar number of users were found in each year who achieved the desired outcome of remaining smokefree for at least six months. In total, these fifteen users were named 'changemakers'. In the context of this sample of users (n=372), 'changemakers' represented 4% of the sample population who achieved at least six months prolonged abstinence. The first stage of analysis confirmed the presence of subgroups and identified a subgroup of users within the iCanQuit forum who successfully achieved prolonged abstinence.

Ten major themes were identified on the iCanQuit forum. The three most frequent themes were site interaction, social support and quit progress as outlined in Table 7.3. These top three themes helped reveal the individual and relationship benefits experienced on the forum, particularly through the perspectives of the subgroups of 'newbies' and 'long-time quitters'.

Table 7.3 Top three themes in iCanQuit community discussion

Theme	Definition
Social support	Posts where users express elements of encouragement, praise, empathy, care, advice and guidance and/or gratefulness to receive support.
Site interaction	Posts that capture users' interaction with other users and/or references to how users use or recommend using iCanQuit (e.g. address user by username, provision of real identification, quitting groups, instructions on using the site).
Quit progress	Posts where users communicate their quit progress based on time (day, weeks, months, year) and/or other indicators such as amount of money saved or unsmoked cigarettes.

The social support and site interaction themes highlighted the relationship building patterns and existence of social capital. There is shared understanding that users join the iCanQuit forum with the sole intention of giving up smoking permanently. Connection with people going through the same experience was a clear benefit of the iCanQuit forum. This supports studies that have investigated online support groups in the context of various health issues such as cancer, eating disorders, palliative care and disabilities (Eichhorn, 2008; Klemm et al., 1998; Robinson & Turner, 2003; Sillence, 2010; Weinberg

et al., 1996), where people search for and take comfort in connecting with those like them, knowing they are not alone as they navigate the unknown.

The provision and receipt of social support demonstrated the exchange and benefit process occurring between individuals as they interact on the iCanQuit forum. There was evidence of the forum nurturing the formation of strong spontaneous ties (Doerfel & Moore, 2016), illustrated by users addressing each other by their usernames, sharing details of their personal circumstances, and referring to the iCanQuit community as a family. These cues of acceptance and familiarity were further reinforced by the formation of small support groups. The organically formed support groups demonstrated the immediacy of connection and formation of social bonds between users who have never met. The perceived points of commonality appear to generate enough similarities among users, which in turn, encourage this formation of strong ties (Berger, 2014). Closeness is reflected by regular check-ins, words of gratitude in relation to the support received, following users and providing feedback on the difference these support teams have made to their final success with recognition that those within the iCanQuit forum 'truly' understand their experience. The ease with which the iCanQuit forum facilitated the forming of relationships between strangers highlighted the behaviour of quitters seeking other quitters and the potential difficulty of finding such people in immediate social networks. By linking quitters, the forum provided and facilitated the opportunity to be accountable which was a clear motivator and a beneficial outcome of these relationship.

The exchange and presence of social support within the iCanQuit forum in the form of encouragement, esteem, empathy and information adds to the existing literature of its presence in smoking cessation online forums (Burri et al., 2006; Myneni et al., 2016; Ploderer et al., 2013; Zhang et al., 2013). This social support was present for 'newbies' through to 'long-time quitters', irrespective of the quit period being three days or 300 days. This demonstrated the enormity of the challenge that staying smokefree represents to quitters. Each day was considered a big achievement, acknowledging the shared understanding between quitters of what it is like to make it through another day without smoking. The classification of social support was useful to break down the type of social support exchanged. However, as this study has found, users do not provide only one type of social support within a post. It is the combination of social support types within one post that strengthens the support provided.

This research discovered the existence of role modelling and the cycle of changing roles on the iCanQuit forum. 'Successful quitters' illustrated this occurrence of changing roles from following others for inspiration to being followed. This finding aligns to the Reader-to-Leader framework (Preece & Shneiderman, 2009) in that some users emerge to take on a leadership role within the community. These leaders mentor newcomers and can be motivated to improve the community (Preece & Shneiderman, 2009). The role modelling behaviour on the iCanQuit forum helps to sustain the growth and relevance of the community. While 'newbies' are needed for community growth in the form of new membership, it is the role modeling that provides continuous inspiration and motivation. As users move from following to being followed, they become part of the new cohort of users that guide and rally other quitters to stay quit through their shared experiences. 'Long time quitters' were also seen to return to the community to support others, driven by a sense of commitment and gratitude. This supports existing literature on reciprocity (Kim et al., 2012) that promotes continued exchanges of social support and feelings of acceptance, as well as the 'helper' therapy principle (Riessman, 1965) as a driver of greater commitment to a task due to improved self-image and self-worth.

The individual behaviour of monitoring and reporting on the length of time smokefree acted as an identifier within posts. The reporting of the number of days quit and the amount of money saved indicated that the in-built trackers are an important feature of the iCanQuit website. The use of these trackers identified whether goal setting was a behavioural technique employed by users. These trackers update automatically based on the initial input of data (e.g. quit date). While users declared the behavioural outcome of days quit, there was limited evidence of quitters setting long-term goals. The pride - and at times disbelief - in the achievement on the day of the post indicated the inherent personal challenge staying quit represented to them and the behaviour of taking it one day at a time. In smoking cessation, goal setting has been used to encourage smokers to set a quit date which has been associated with higher likelihood of initiating quit attempts (Lorencatto et al., 2016). However, evidence of goal setting to maintain the behaviour change is not present on the iCanQuit forum. Instead, for the individual writing the post, quit progress was observed to be a self-regulation tool and confirmation of the reward of staying smokefree.

A key observation was the behaviour of users identifying others via declared quit progress that was communicated within posts. While users acknowledged that experiences were likely to be different, it was seen to be used as a mechanism to predict potential challenges that they needed to prepare for. This strategy of seeking information (information acquisition) to limit the threat of uncertainty and connecting with others (social bonding) is in line with functions that drive word-of-mouth communication as observed by Berger (2014) and appears to be a factor in the ongoing engagement of users. The journey to remain smokefree poses much uncertainty for users particularly with the sudden onset of cravings. By having specific days, months, years smokefree as reference points, users could create a sense of structure around their experience which may have been enough to increase a sense of certainty.

7.2 Stage 2 discussion

The analysis of Stage 1 provided the scale needed to confirm the individual and relationship benefit experienced on the iCanQuit forum. It also provided the key finding that positive behaviour change maintenance was present and that 'long time quitters' returned out of commitment and gratitude to support others in their quest to stay smokefree. The theoretical constructs of social support, social capital and stages of change provided the foundational understanding of user interaction, user benefits and evidence of behaviour change maintenance. 'Changemakers' were the group of fifteen users who were identified as reaching a maintenance stage while active on the iCanQuit forum. This small cohort of users provided further understanding on the quality of the relationships and strategies used to sustain behaviour change. Thirteen out of the fifteen 'changemakers' were level 6 users which is the highest level with more than 50 posts. This supports findings from other quit smoking online support groups where more active users were more likely to have successfully quit smoking (Ploderer et al., 2013; Zhang et al., 2012).

Four benefits of participating on the iCanQuit forum were identified in this thesis that draw from the successful experience of 'changemakers' who have stayed quit for over twelve months. The following benefits exposed the evolving process that users experience as they interact with others and participate within the community environment: 1) tangible support; 2) connection; 3) social support; and 4) self-awareness. Through these defined benefits, 'changemakers' confirmed that the value of the iCanQuit forum as a digital intervention is found in its ability to support sustained behaviour change. Once a quitter

has made the individual decision to quit, it is the interpersonal communication between quitters within the realms of the iCanQuit forum that generate the conditions for sustained change. Hence, it was important to test the theory of behaviour change maintenance as it relates to the forum. As outlined in Chapter One, these are: 1) maintenance motives; 2) self-regulation; 3) resources; 4) habit; and 5) environmental and social influences (Kwasnicka et al., 2016).

7.2.1 Maintenance motives

Behaviour change maintenance needs to evoke satisfaction with the new behaviour. According to Kwasnicka et al. (2016), "people tend to maintain their behaviour if they have at least one sustained maintenance motive, ie. they are satisfied with behavioural outcomes, they enjoy engaging in the behaviour; if behaviour is congruent with their identity, beliefs and values" (p. 283). The behaviour needs to align to the new values or belief system that have become a part of their new identity.

Self determination

As 'changemakers' progressed through the stages towards Maintenance smokefree, the benefit of self-awareness emerged. Having self-determination was an element that was continuously raised by 'changemakers' in their advice to others and the one thing they knew they had to uphold for their own success. Intrinsic motivation such as self-determination is seen to have a strong influence on behaviour maintenance (Kwasnicka et al., 2016). The ability to review old posts as they accumulate over time enhances self-efficacy as users are reminded of where they have come from and what they have achieved. This record of achievement enhances quitters' self-determination.

Identity

The beliefs individuals have of themselves are seen to guide behaviour change maintenance (Kwasnicka et al., 2016). For example, a person who stops smoking can develop the new identity of a non-smoker. This changed belief in oneself guides behaviour change maintenance as individuals lead and organise processes and set different standards that create ongoing positive experiences associated with this new behaviour (Epiphaniou & Ogden, 2010; Kwasnicka et al., 2016). The self-monitoring behavioural technique facilitated by the inbuilt 'days quit' tracker was seen to deliver multiple benefits for the quitter. 'Changemakers' repeated the practice of reporting on quit progress as they moved from

'newbies' to 'long time quitters'. This behaviour reinforced the use of quit progress as a marker of success for themselves that enabled the behavioural outcome of renewed self-identity. Quit progress acted as a continuous reminder of positive changes to their identity and the lifting of standards they set for themselves as another day passed smokefree. The iCanQuit forum provides the environment that enables the 'fresh start effect' as defined by Milkman (2021). When becoming a part of the iCanQuit forum, users face a fresh start where previous attempts to quit and being labeled a smoker can have no place and belong to the past. As there are no previous connections with other members of the community, no pre-judgements from past attempts exist. Thus, the iCanQuit forum provides the conditions for a new beginning and the ability to transform users from their past identity to a new smokefree one.

In addition to changes in self-identity, quit progress drove the cyclical nature of roles and responsibilities within the community. The passing of the torch was an analogy expressed by users that heightened this sense of changed identity and duty to the community. The occurrence of role modelling and changing roles demonstrates that users naturally assume greater responsibility to the community and a new identity as they transform to being a quitter one day at a time. Due to the ongoing addition of new users to the forum, the frequency to which users can redefine themselves within the community is fairly rapid – each day represents another day's experience as a quitter and each additional day ahead is an inspiration for the next individual who joins thereafter. Using quit progress as a social identity cue is in line with findings from the Reddit Stop Smoking forum where quit trajectory (number of days smokefree) frequently prefaced each post and was hence termed a community signature (Wadley et al., 2014). The changing roles is also a sign of the added meaning and motivation to stay quit and to be part of the community, which are all elements that help to build new habits (Hollingworth & Barker, 2020; Kwasnicka et al., 2016). As Berger (2014) observed, "the more consumers are involved with a product or experience, or the more closely tied it is to their identity, the longer they will talk" (p. 602), which may explain the incidence of 'long time quitters' returning years later.

Enjoyment of behaviour and satisfaction with outcomes
Quit progress is a simple mechanism for quitters to make visible their achievements and it is through the frequent behaviour of declaring time quit within posts that the positive associations with remaining smokefree are strengthened.

7.2.2 Self-regulation

The maintenance of behaviour is encouraged when people can monitor and regulate the new behaviour. According to Kwasnicka et al. (2016), it is important to have effective strategies to overcome any barriers that may impact a person's ability to perform the new behaviour.

Self-regulation skills and processes

Self-regulation refers to the effort to actively control the behaviour (Kwasnicka et al., 2016). As quitters enter the iCanQuit forum they may possess varying skills to regulate behaviour. An advantage of the forum is that participation is reliant on an individual being able to read, write and having a device connected to the internet. 'Changemakers' reinforced the learned behaviour of reading and writing posts to manage a craving. Therefore, the iCanQuit forum is the enabler to translate those felt emotions into tangible posts. The observed strategy of writing in the moment of experiencing a craving supports evidence of the practical and emotional benefits of writing to regulate emotion as well as the generation of support from social sharing (Berger, 2014; Chung & Kim, 2008; Pennebaker, 1997). Hence, the act of turning to the iCanQuit forum in the moment of a craving supports evidence of the role self-regulation plays to maintain behaviour change (Kwasnicka et al., 2016). In addition to the individual benefit of emotional regulation, the benefit to the wider community was evident. Other users appreciated the authenticity and honesty of these shared experiences as it helped them cope with their own. These findings align to other research where emotional regulation is seen to drive social sharing and influence what other people share (Berger, 2014).

While studies have shown the benefit of self-reflection at the time of writing (Minian et al., 2016), 'changemakers' provided the revelation that reading older posts on the iCanQuit forum act as a reminder of how much they had achieved and to reaffirm that they did not want to repeat Day One. Not only does the iCanQuit forum become an individual's personal archive of experiences, the forum becomes a community archive rich in experiences and personal accounts of quitting. The declared behaviour of reviewing past posts to reinforce commitment to stay smokefree demonstrates the significance and meaning these posts have to individuals and that these posts become part of an individual's strategy to remain smokefree. The reflection on the archive of posts highlights the ethical

197

considerations for organisations who may decide to terminate access or availability of an online support community. The closure of America's QuitNet site on 6 January 2020 highlights the impact site closures can have on individuals and their personal strategies to maintain changed behaviours. Written posts document the users' real-time journeys to remain quit that can span days, weeks, months and years. When sites are terminated, there is a whole archive of shared learnings that is lost, as well as the identity of users. Interestingly, Figure 7.1 shows the website called NOPE365 (Not one puff ever) that was developed to replace QuitNet. It describes itself as "a home for those quitters left orphaned by QuitNet when it closed" (Not one puff ever 365, 2020).

Figure 7.1 Purpose of NOPE365
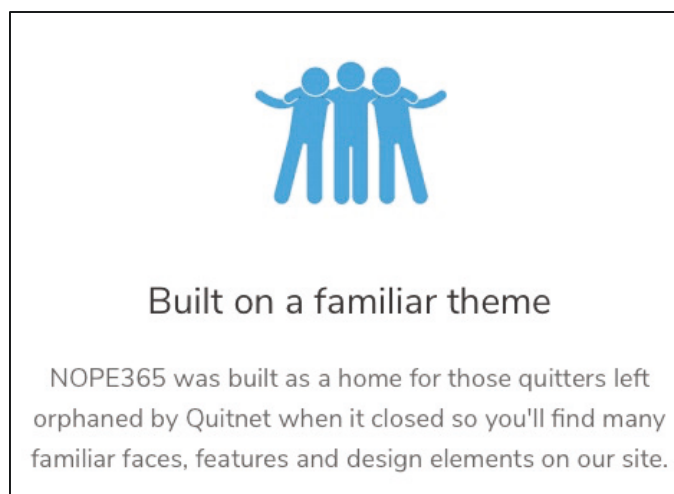
Note. From *NOPE365*, by Not one puff ever 365, 2021 (https://nope365.com).

This study has identified the need for organisations to consider their long-term strategy when designing these digital solutions, particularly if individual and community post data is involved.

7.2.3 Habit

Behaviour change maintenance requires replacing an old habit with a new one. The success of adopting the new behaviour is realised when the new behaviour becomes habitual and automatic in response to triggers or cues (Kwasnicka et al., 2016). This is where the successful process of self-regulation is realised in that the repeated new behaviour has overtaken the old habit.

This study discovered the self-regulation and habit reversal role of the iCanQuit forum. In this study, it appeared that 'changemakers' repeated the act of reading and writing as an unconscious and automatic way to respond to the onset of a craving. The value of this is evidenced by 'changemakers' recommending this strategy to 'newbies'. The role of digital interventions to provide tracking or distraction tools has been explored in other studies (Bricker et al., 2020; Ploderer et al., 2014b). This study has found new evidence of the forum having a role in habit substitution through the repetitive actions of reading and writing posts. The habit loop adopted by users of the iCanQuit forum is illustrated in Figure 7.2 using the habit model by Duhigg (2012):

- Trigger – user feels the sudden onset of a craving.
- Routine – user goes to the iCanQuit forum to read or write a post.
- Reward – emotion regulation, positive emotion when craving passes and the receipt of social support having beat the craving.

The iCanQuit forum provides the stable and accessible environment that helps to build the routine over time, as well as the ease by which users can engage in the behaviour of reading and writing on the forum.

Figure 7.2 Adopting a new habit in response to cravings repeated over time
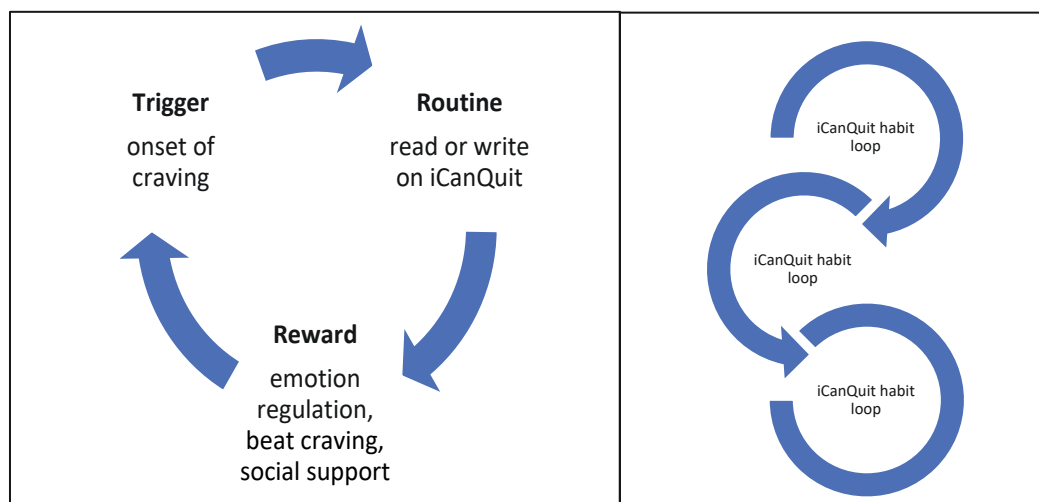
Note. Adapted from *How Habits Work*, by C. Duhigg, 2021 (https://charlesduhigg.com/how-habits-work/). Copyright 2021 by Charles Duhigg.

'Changemakers' confirmed this automatic behaviour when they were observed to return to the forum as 'long-time quitters' at the unexpected onset of a craving. This automatic response years later is an indication that the interactive behaviours on the forum have

unexpectedly become the key strategy quitters return to. This learned behaviour of reading and writing posts when temptations arise is repeated to become an automatic unconscious habit. The volume of users enables the iCanQuit forum to provide a stream of new content that could be critical in ensuring that there is always something new to read on the community and a post to respond to.

7.2.4 Resources

Behaviour change maintenance relies on a plentiful supply of resources that can be drawn on during the process of adopting a new behaviour (Kwasnicka et al., 2016). These resources can be psychological or physical assets.

Social support is the core component of the iCanQuit forum and this aligns with evidence that such support is a resource that individuals seek and provide to cope with various illnesses or improve psychological wellbeing (Rains et al., 2015). As 'changemakers' faced challenging moments, they were most grateful for the written posts of social support. Berger (2014) stated that it was synchronous communication that enabled social support. This study found the opposite, whereby the gratitude for social support did not appear to be impacted by the asynchronous nature of receiving social support. 'Changemakers' were seen to write a cumulative post of appreciation to a number of users which indicated that there was a time lapse between posts rather than an immediate response. This provides evidence that immediate support is experienced from asynchronous content. Furthermore, the retrospective gratitude of the impact of the iCanQuit community on their success provides evidence of the perceived reliance and influence the connections and social support have on quit success. Hence, the receipt of social support acts like a reward for users who post about their progress or experience.

The tangible nature of the forum and the archive of posts that have accumulated over time provides the conditions for the emergence of 'social support-on-demand'. This is likened to streaming services where users can watch programs when they want from the comfort of their home. Similarly, as the iCanQuit forum is accessible on any device with an internet connection, 'changemakers' confirmed the act of accessing the community at odd times of the day (e.g. 2am), while traveling (e.g. on a bus) and in response to when cravings were experienced. Social support-on-demand represents the resources needed to sustain behaviour change (Kwasnicka et al., 2016). This is an important finding whereby health

professional advice is not always accessible on demand. The iCanQuit forum therefore serves as a complementary function to professional help as cravings cannot be planned or scheduled. The forum has become the reliable and consistent place to return to at any point of need. The graphical representation of 'changemakers' activity seen in the previous chapter (Figure 6.5) also demonstrated that while activity appears to be more frontloaded, each user has a different pattern of use. While there was continuous activity within the 365 days, it can not necessarily be predicted if an individual needs a more intense or light-touch approach to interaction within the iCanQuit forum for maximum benefit. Indeed, the individuality of experience further emphasises the value of social support-on-demand and that the cycle of users from 'newbies' to 'long-time quitters', is a critical component of keeping the repository of social support fresh and consistent over time.

7.2.5 Environmental and social influences

People tend to maintain behaviours when they have access to a supportive environment and social support. These elements tie in closely with the resources theme. The iCanQuit forum is observed to provide the right environmental conditions to support and sustain behaviour change as well as enable social and behaviour change communication. Tangible support refers to the provision of resources which is akin to the design and structure of the forum which aligns to environmental influences. A known benefit of online services is its access: twenty-four hours a day, seven days a week. The iCanQuit forum is accessible online at any time and from anywhere and is the contained sphere in which all the individual interactions between users takes place. 'Changemakers' emphasised that this 'home' was important no matter what point they were at in their quit journey. From 'newbies' to 'long-time quitters', they returned to the iCanQuit forum. Through the sharing of personal circumstances, a diverse mix of individuals were revealed with the added complexities of daily life such as living with smokers, dealing with death or a health incident of a family member. Whilst this exposed the additional realities they were coping with, it also highlighted the importance of having a place like the forum that was common to all and was one that fostered trust amongst users to share personal experiences. The experience of the community was the same for anyone who joined and it seemed to balance out the inequalities of their other realities and create the norm they were seeking – the normalisation of quitting. The iCanQuit forum is a co-existing reality for users. It is the contained sphere that can be entered and exited as needed, providing the social proof that quitting is the norm. The forum enables rich community dialogue and visible collective

action of people wanting to stay quit which is necessary to influence long-term social change (United Nations Development Programme, 2011). The stable quitting environment that it represents also aligns to the precondition elements to build habits and to sustain behaviour change (Hollingworth & Barker, 2020; Kwasnicka et al., 2016; Neal et al., 2015).

Social influences relate to the benefit of connection. The importance of connection was reinforced by the smoking history of 'changemakers' and the significant change quitting smoking represents in their lives. 'Changemakers' expressed feeling lost or feeling like they had lost a friend. It revealed the deep connection they had with cigarettes and the people and places they were cutting ties with to support this change. The formation of ties is thought to be useful to reduce loneliness and social exclusion (Berger, 2014). In the broader context of declining smoking rates in NSW, the ability to seek individuals who are quitting at the exact same time may be limited. The iCanQuit forum enables these 'lost' individuals to connect with others going through that same identity transformation experience. 'Changemakers' provided evidence of quitters' unified understanding that this connection on the forum was with people who understood how hard it was and who were non-judgmental. This unified understanding may be the factor that helps users through the tougher times – while not a point of enjoyment in practicing the new behaviour, the support of not being alone could help to strengthen that resolve. There was a feeling of security and certainty with those like them and feeling like they were not alone. The two 'changemakers' who returned to the community after relapse provided evidence of the psychological safety experienced within the iCanQuit forum that enabled their return. The two users also verified that there is benefit in engaging via written posts as both users increased their written activity on their second attempt. 'Changemakers' also revealed the value of reading to feel supported and part of a community. Access to new individuals who are part of the same journey as well as the updated volume of posts responds to the need for plentiful psychological and physical resources over time to maintain behaviour change (Kwasnicka et al., 2016).

'Changemakers' also reinforced this natural formation of small support groups within the forum. Strong bonds were being made with people who they had never met. The depth of these relationships was reinforced by 'changemakers' who reflected back on their experience as 'long-time quitters' with reference to a reunion between individuals who found themselves back on the forum after many years. This discovery reinforces the

evidence of the development and maintenance of social capital at an individual and relationship level with the formation of spontaneous strong ties (Doerfel & Moore, 2016; Granovetter, 1983) as well as on a community level with evidence of collective action to stay smokefree. The evidence of collective action occurring on the iCanQuit forum enhances the role of connection in changing smoking behaviour. It supports the role of network phenomena to spread health behaviours and where more than one contact may be needed for someone to quit (Christakis & Fowler 2008). Christakis & Fowler (2008) concluded that collective interventions may be more effective than individual interventions, particularly with the increased marginalisation of smokers and the opportunity for collective interventions to connect people to stop smoking in concert. This thesis provides evidence of the positive influence connecting with others can have on quitting smoking.

7.3 Framework of Insights for the iCanQuit forum

This thesis has revealed a multitude of findings that have been revealed through the process of listening to the users of the iCanQuit forum. The written posts of users over time have articulated the value of the iCanQuit forum. The findings have illustrated the progress of users as they experience transformative individual change from 'newbies' to 'long-time quitters'. Importantly, the iCanQuit forum has provided evidence of the long-term effects of positive behaviour change through the newly defined subgroup titled 'changemakers'. This study also identified the habit reversal role of the forum through the reading and writing of posts. The key findings as has been revealed in Chapters Four, Five and Six have fed into the design of a new Framework. The author has titled this a Framework of Insights. The Framework of Insights encapsulates the findings from this research which can be used to serve future research on the iCanQuit forum or other peer-led online social support communities. The Framework of Insights as outlined in Figure 7.3 articulates the value of the forum that has been ascertained from the perspective of quitters.

Figure 7.3 Framework of insights from the posts of quitters on the iCanQuit forum

			Reading and writing posts (ongoing)			
BEHAVIOUR			Community commitment	Community health	Quit outcomes	
			newbie – resister – successful quitter – long-time quitter			
			→ → → → Active participation over time → → →→			
Behaviour change theory	**Behaviour change maintenance theory**	**Behaviour change technique**	**Short-term benefit**	**Medium- term benefit**	**Long-term benefit**	**iCanQuit community benefit**
CAPABILITY	**Self-regulation**	Self-monitoring	Emotion regulation	Retrospective review – self reflection	Archive of posts – record of achievement	TANGIBLE SUPPORT
	Habit	Habit reversal		Craving response (ongoing)		
OPPORTUNITY	**Resources**	Social support	———————— Ongoing social support-on-demand ————————			SOCIAL SUPPORT
	Environmental & social influences		Strong spontaneous ties	Small support groups	Lasting social bonds	CONNECTION
			Belonging - social proof of quitting	Social learning and influence	Social change, collective mobilisation	
MOTIVATION	**Maintenance motives**	Identity change	Identity reset	Identity transformation	New identity	
		Self-monitoring		Role modeling	Social influence	SELF-AWARENESS

The COM-B model was identified in Chapter One as a model that synthesises the 19 frameworks of behaviour change into the three common features of capability, opportunity and motivation (Michie et al., 2014). This system is used to identify the links to the behaviour change techniques employed by users of the iCanQuit forum as well as to frame the themes relevant to the behaviour change maintenance theory. Both models recognise the influence of a broader contextual environment which supports the social ecological approach of this study. The strength of the Framework of Insights is the incorporation of the COM-B system and behaviour change maintenance theory to illustrate the alignment between theory and insights as they relate to the iCanQuit forum and its role in long-term change.

7.3.1 Interpreting the Framework: connecting theory to insights

Behaviour is the leading component of this Framework of Insights and is the B in the COM-B system (Michie et al., 2014). The behaviour component makes reference to key actions users can undertake on the iCanQuit forum which are reading and writing. Not only does sustained participation lead a user to progress from 'newbie' to 'long-time quitter' over time, but the benefits of community commitment, community health and quit outcomes are introduced. Quit outcomes is the key behavioural target of this digital intervention. The measurement of these benefits are outlined in Section 7.3.1.1 to extend quantitative measures beyond the number of website visits.

7.3.1.1 Quantitative measures

The outcomes of community commitment, community health and quit outcomes are introduced as part of the Behaviour component of the Framework. A detailed view of the measures is outlined in Table 7.4. These measures have been segmented into short-term, medium-term and long-term and focus on three key outcomes. These outcomes draw from the individual, relationship and community levels of influence which recognises the socioecological approach adopted for this study. These measures help to articulate the value of the iCanQuit forum beyond website visits.

Table 7.4 Quantitative measures for the iCanQuit forum

Outcome	1 Short-term (monthly)	2 Medium-term (quarterly)	3 Long-term (annually)
Community commitment	• Number of new registered users	• Number of active users • Number of total posts (visible quitting activity) • Number of views of total posts ('non-visible' quitting activity)	• Post to user ratio by subgroup (newbies, resisters, successful quitters, long-time quitters)
Community health	User acquisition • +/- growth in new user acquisition (compared to last month)	User retention • +/- % growth in total posts (compared to last quarter) • +/- growth in active users (compared to last quarter)	User behaviour change maintenance • +/- % growth in changemakers (between each quit change)
Quit outcomes			• Number of successful quitters (% of total users) • Number of long-time quitters (% of total users)

Community commitment

Users of the iCanQuit forum are more likely to participate after making the decision and action to stop smoking. Registration is a sign of first level commitment, but registration does not necessarily mean that the user will end up participating through the action of writing a post. It can be used as an indicator of the potential pool of 'newbies' who may continue on to the other subgroups of 'resisters', 'successful quitters' and 'long-time quitters'. The number of new registered users can also be linked to other promotional activities if correct tracking is implemented. For example, registration could be linked to a user clicking on a digital advertisement or search engine result link. This provides an indication of effectiveness of advertising activities.

Second level commitment extends to the number of active users and number of total posts. This medium-term measure clarifies the number of users who are active on the

iCanQuit forum. An active user is one that has written at least one post within the reporting period. Capturing the number of users who have written a post provides an indication of those who are actively quitting given those who participate by writing posts, have been shown to be more likely to continue their commitment to stay smokefree. The number of posts provides an indication of the quitting activity or interaction that is happening within the forum. This study recommends capturing the number of views of posts. This will provide an indicator of the unseen quitting activity that is taking place on the forum. This study has identified the behaviour of reading as an important strategy to remain a non-smoker. If views by registered users versus views by unregistered users can be determined, then the research gap of capturing a holistic view of users, specifically the capturing of lurkers can begin to be addressed (see Section 2.7 Research limitations). This can also provide the data needed to ascertain the movement of users between stages, with the volume of lurkers expected to be higher (Preece & Shneiderman, 2009) than those who continue along the continuum through increased and active participation.

Third level commitment is used to provide a greater understanding of the number of users who have been active within that year. The identification of subgroups will require the quit progress data for all users. This thesis proposes to link the data collected from the inbuilt days quit tracker. One of the practical recommendations of this research is related to design elements of the website and is outlined in Chapter Nine. This long-term measure is dependent on the technological ability to match users with number of days quit. The post to user ratio can then be calculated to determine if the pattern of higher post to user ratio exists amongst 'newbies' or if this changes over time.

Community health

Community health refers to the health of the iCanQuit forum in terms of positive or negative growth. Community health is dependent on community commitment. Positive or negative growth in user acquisition provides the short-term indicator on how healthy the iCanQuit community is. Plentiful resources is a component of behaviour change maintenance (Kwasnicka et al., 2016). Therefore, positive or negative growth in the number of new users provides an initial indication of the iCanQuit forum's ability to attract those who can provide those resources (posts).

The next level of community health concerns user retention. Plentiful resources relies on users to remain active on the iCanQuit forum. As outlined under community commitment, a user who is active is one that writes posts. Therefore, positive or negative growth in total posts and active users provides an indicator of how the iCanQuit forum can service the community.

The third level of community health provides the indication of whether users are experiencing positive or negative behaviour change maintenance. This relies on the cross-checking of users by subgroup and their quit progress. The progression of users from 'newbies' to 'resisters' to 'successful quitters' to 'long-time quitters' enables a general view of progressive behaviour change maintenance.

Quit outcomes

Quit outcomes is the key measure of effectiveness of smoking cessation interventions. This research identified the two subgroups of 'successful quitters' and 'long-time quitters' who represent those who have remained smokefree for six months and more than twelve months respectively. Reporting on the number of 'successful quitters' and 'long-time quitters' validates the role of the iCanQuit forum in supporting behaviour change maintenance. Of particular interest is the number of active 'long-time quitters' as these users provide evidence of the forum's effectiveness in promoting long-term behaviour change. This research identified users who returned to the iCanQuit forum after six years. There are limited studies that can report on these long-term effects of smoking cessation interventions, and this study provides an opportunity to extend understanding on the effectiveness of digital interventions in promoting long-term change across various health behaviours (Grimmett et al., 2019).

7.3.1.2 Qualitative insights

The subsequent components of the Framework of Insights introduce the features of capability, opportunity and motivation on the left-hand side which are aligned to the corresponding themes of behaviour change maintenance theory and the behavioural techniques currently used by quitters. The Framework of Insights then captures the process of behaviour change maintenance that the iCanQuit forum supports and as this research has exposed, experienced by users of the forum. This has been broken down into

short-term, medium-term and long-term benefits as a way to represent the continuum of participation and engagement as users progress from 'newbies' to 'long-time quitters'.

Capability – psychological and physical capacity to stay smokefree

The behaviour change maintenance theoretical themes of self-regulation and habit fall within capability. Self-regulation is realised by users as they regulate their emotions through the act of reading and/or writing on the iCanQuit forum. What at first may serve as a distraction technique evolves into a repeated response. The ability to overcome cravings results in improved self-efficacy and positive outcomes. In turn, positive outcomes are reinforced by self-monitoring techniques using the inbuilt tracker tools available on the iCanQuit website such as days quit and feedback from the community. This enables continuous feedback on a user's progress and achievement.

A significant finding from this study was the success of this self-regulation technique of reading and/or writing in response to a craving which has led to the iCanQuit forum taking on a new role for habit reversal. The habit loop takes effect and reverting to the forum in times of need becomes the new automatic response that supports positive behaviour change maintenance.

The ability to review old posts as they accumulate over time enhances self-efficacy as users are reminded of where they have come from and what they have achieved. The cumulative posts of every member of the iCanQuit forum results in the archive of posts that have individual (record of achievement) and community benefit.

Opportunity – environmental or social influences that promote smokefree behaviour

Site interaction is strongly intertwined with network social support as it leads to the key benefit of connection. Users have validated the search for individuals outside of their immediate social network who become embedded in their support structure. The value of connection found on the iCanQuit forum is high as fellow quitters may not be easy to find. As smoking rates decline, quitters can find themselves in situations where those who surround them do not represent the behavioural outcome, new identity, values or beliefs of who or what they want to be or achieve. The ability to connect with quitters in one place provides the conditions for strong spontaneous ties. These relationships are

nurtured to form small support groups and lasting social bonds with people they have never met.

In the early stages of joining the iCanQuit forum, it is the visible written posts that provide the social proof of quitting and the social learning opportunities that are acquired from the reading of posts and the writing to others. The iCanQuit forum supports the notion of collective mobilisation that can occur through the establishment of strong social networks of quitters. The snowballing effect of groups of quitters influencing other quitters demonstrates the amplifying effect collective quitting can have in online environments.

Social support is the foundation holding the iCanQuit forum together. Social support posts represent the plentiful resources available to users as they transition to 'long-time quitters'. The forum has revealed the value of social support-on-demand as users tap in and out of the contained community sphere as needed. Access to social support-on-demand illuminates the path of staying quit so that it becomes less uncertain and unpredictable. It is through the exchange of encouragement, esteem, empathy and information social support that encourages users into building up their participation levels which is linked to quit smoking success.

Motivation – reflective and automatic motivations to remain smokefree
Quit progress through the use of self-monitoring tools like the inbuilt days quit tracker support personal growth amongst individuals through self-awareness. Users of the iCanQuit forum have demonstrated that, on an individual level, the use of days quit acts as a marker of their own achievement as well as a conduit towards self-learning. This learning process cements thoughts of self-determination and the evaluation of various elements that work for users to maintain success. As a user enters into the contained sphere of the iCanQuit forum, the short-term benefit is the fresh start the forum offers. The forum provides the opportunity to put all past quit attempts and their identity as a smoker behind them. It is the immediate experience of starting afresh within a new reality as an individual who has stopped smoking. As users move from 'newbies' to 'long-time quitters' they experience an identity transformation towards a new identity of someone who has remained smokefree for an extended period of time. This identity transformation affirms the need for maintenance motives to maintain behaviour change.

Quit progress also has motivating effects for both individuals and the collective. This is realised through the experience of role modelling, from being inspired (following users) to becoming the inspiration (being followed by users), which has broader social influence. Users naturally move through this cycle of responsibility that ultimately drives commitment to return to the iCanQuit forum. The visible nature of quit achievements forges community success and encourages this environment of social influence.

7.3.2 Value of the Framework of Insights

The strength of the Framework of Insights is that it contains and documents the insights that have stemmed from the written posts of the quitters themselves. Through public posts, these quitters have articulated the value and benefit that the iCanQuit forum provides during a transformative period of change that seeks to overturn a more than decade long addictive habit. This Framework of Insights is intended to be flexible so that it can be used to guide future research of the forum and be added to as new insights are revealed. Combining the quantitative and qualitative measures also prompt the continuous return to the Framework on a short, medium and long-term basis. This enables the value of the community to be expressed in forms other than website visits, and hopefully nurture the continuous discovery of further insights as the iCanQuit forum illustrates its potential to be a model example of a digital intervention that has evidence of promoting long-term change.

7.4 **Summary**

The iCanQuit forum is community-focused and provides a platform for online social support rather than the delivery of tailored or personalised programs. Hence, this research advances the evidence base for behavioural support that is delivered by 'people like them'. This study demonstrates the value of digital interventions to support behaviour change maintenance at a population-level. The findings have illustrated the positive and supportive quit smoking environment that the iCanQuit forum has built over time. By comparing the two time points, 2012 and 2017, it has demonstrated similar patterns of behaviour that have been discussed within the three key themes of social support, site interaction, and quit progress, demonstrating the stability and sustainability of this online community. The change in 2017 with higher post per user ratios for 'successful quitters'

and 'long time quitters' marks the value of site longevity as users experience the benefits of a supportive environment that fosters identity transformation, role modelling, social influence, social bonds, social proof, and collective action. The contained sphere of the iCanQuit forum generates a volume of community dialogue that has helped users to stay smokefree. The social capital that has been built up over time attracts communications of gratitude and commitment to give back to the community which helps boost the dialogue from 'successful quitters' and 'long-time quitters' to 'newbies' and 'resisters' offering inspiration and hope.

The Framework of Insights has been designed for this study to provide a foundation of observed benefits (outcomes) that users experience that is linked to their participation as they transition from 'newbies' to 'long-time quitters'. These benefits are experienced through two simple behaviours, reading and writing posts on the iCanQuit forum. This study has uncovered the evidence of a new habit forming. The repeated behaviours to combat cravings through reading and writing posts on the forum have illuminated the habit reversal role of the iCanQuit forum. This has not been observed in other research and strengthens the importance of new habit formation and social support resources in instigating behaviour change maintenance for smoking cessation. The approach to listen to the users of the iCanQuit forum by analysing written posts has identified the quitting strategies and benefits users are naturally practising and forming. This study acts as a catalyst to the future design of digital interventions or design considerations that can help to empower users into action and behaviour change maintenance.

The finding that quitters do not necessarily use digital interventions to seek the advice and support from a health processional is significant. This research has illustrated that quitters are searching to connect with people like them, who are undergoing similar challenges or experiences that can help to inspire and motivate them to keep going. It highlights the different role of these online social support communities. Indeed, this research did not identify any significant repercussions from the lack of involvement from a trained cessation advisor or health professional. Users were seen to call out any instances which may need further professional advice such as side effects to prescribed medication. This study may appease concerns of enabling online social support environments without health professional intervention.

This research positions the iCanQuit forum as an online community that is an important complementary component of a person's armory to remain smokefree. Peer-led online communities have a role in encouraging the long-term maintenance of behaviour change. In public health, there is often reference to a multidisciplinary team approach to care. This team is made up of health professionals that work together to deliver comprehensive patient care (NSW Health, 2014). The team can be made up of doctors, nurses and allied health professionals. This model recognises the need for a diverse team of experts to manage treatment and care for the patient that is personalised to the patient's condition. There is evidence that supportive environments increase the likelihood of smokers quitting but these are based on support from a healthcare professional (Fiore et al., 2008; World Health Organization, 2003). In a similar way to having a multidisciplinary team to care for patients, there is value in considering a multidisciplinary support team. While an individual may have established networks consisting of healthcare practitioners, family and friends, this study has identified the positive effect of the social support offered by an online community. This research provides evidence of the value online social support can provide to those undergoing transformative change. It is the shared experience amongst a sea of anonymity that binds this group together.

This research argues that fellow quitters have a key role in providing a holistic approach to support. There will always be a critical role for health practitioners and other smoking cessation experts to guide and support individuals through a quit smoking journey. However, this study has provided a foundation of evidence that the iCanQuit forum is a supportive environment conducive to quit maintenance behaviour and one that provides a support network that may not be found within immediate social networks. It has demonstrated how the iCanQuit forum supports individual, relationship, and community change by providing a safe place for community dialogue that reinforces the decision to remain smokefree. Furthermore, this study has identified iCanQuit as a service that can work alongside other evidence-based models of care.

Chapter 8 Conclusions

Tobacco is the leading cause of preventable death and disease in Australia and the world. While NSW adult smoking prevalence rates have shown positive declines over time there are still 11% of adults who smoke (NSW Ministry of Health, 2020a). There are immediate health gains when a person stops smoking and significant quality of life improvements the longer a person stays smokefree (Østbye & Taylor, 2004). The NSW Tobacco Strategy 2012-2021 sets the agenda for the NSW Government on what it will do to reduce tobacco use in NSW. iCanQuit is a website under cessation services that provides information on quitting as well as a social support community component referred to in this study as the iCanQuit forum where users can interact with others by posting stories and comments.

The aim of this research was to provide a foundational framework of evidence that identified the benefits for users as they participated on the iCanQuit forum. As this was the first study on the iCanQuit forum, the impact of the forum on an individual's journey to stay a non-smoker was not known. The only reported data on the iCanQuit website was the number of unique visits which provided no indication of the interactions and value of the forum according to its users. Furthermore, the literature review revealed that there is strong evidence for behavioural support interventions, with evidence strongest for interventions delivered by a health professional or ones that offered financial incentives (Hartmann-Boyce et al., 2021). Web-delivered or internet-delivered smoking cessation interventions are still considered to have a low or uncertain level of effectiveness. The evidence of effectiveness for peer-led online communities is also limited (Hartmann-Boyce et al., 2021; Taylor et al., 2017). As people continue to search for health information online which includes patient experiences (McDaid & Park, 2011), there remains a disconnect between what is being offered (health professional-led) and what is being sought (peer-led). This highlights the need and relevancy of this research to examine the natural behaviours of users as they engage in a peer-led online support service for smoking cessation, and to discover if these types of online communities support long-term change.

Four key research questions were designed for this study in order to more deeply understand how the iCanQuit forum contributed to quit smoking success. The questions were developed within a social ecological framework using the three levels of influence: individual, relationship (social), and community. This approach recognised that the

broader social context and interplay between each of the levels can significantly influence individual behaviour. The four research questions were:

- **RQ1:** What are the individual characteristics of those using the iCanQuit forum?
- **RQ2:** How does the quality of interaction relate to successful quitting?
- **RQ3:** Which, if any, subgroups correlate to successful quitting?
- **RQ4:** Which quitting strategies enhance or inhibit the occurrence of supportive exchanges and has this changed over time?

Publicly available post data was used for this research. This facilitated the examination of the natural dialogic exchanges between users within a contained online community at various time points. The advantage of this approach was being able to extract meaning from these messages that were posted in real-time. The retrospective nature of this analysis enabled the overlay of the modified version of the transtheoretical model which assisted the segmentation of users into change states and subsequently subgroups. The mixed methods approach to content analysis was valuable as it was through the integration of both quantitative and qualitative findings that connections and meaning could be made. While the outcome of behaviour change maintenance was a key element of investigation (long-term abstinence), it was the revelation of the process that the iCanQuit forum supported which was most insightful.

The process of transformation can be seen as equally important as the outcome itself. Once the decision to quit smoking has been made, the value of the iCanQuit forum is enhanced. For 'changemakers' who were stopping a long-term habit of smoking, becoming smokefree involves a radical transformation of cutting ties and mixing up routines. This is why the rapid formation of new ties is so important to fill that void and make sense of the new beginning as a non-smoker. The identity transformation and emotion regulation are substantial individual changes that are supported within the broader context of social support provided by the iCanQuit forum.

Health behaviour is sensitive to the social environment. It was evident that the social and environmental conditions the iCanQuit forum creates are critical elements of success. Individual users represent people of diverse experiences who bring with them personal circumstances that may hinder or facilitate their success. The iCanQuit forum provides that contained sphere of support that can be transported wherever the individual is and

whenever it is needed. The transportability of social support is essential when individuals need to tackle the challenges of staying smokefree as it creates a co-reality that can be separated from daily life. As smoker populations decline, finding fellow quitters who can share the experience of stopping smoking may not be easy. Quitters may have a limited social support network available to them. It is in this period of transformation and uncertainty that the lived experiences of others hold the most meaning and connection.

This study brought forth the Framework of Insights which has been designed to encapsulate the transformative change that quitters experience as they participate on the forum and are supported by the iCanQuit community. The Framework of Insights is built on the COM-B and behaviour change maintenance theory. The Framework can be used to guide future research of the iCanQuit forum and be expanded as new knowledge and learnings are revealed. Additional quantitative metrics of evaluation have also been included to strengthen the understanding of the utility of the iCanQuit forum beyond the number of website visits. This study has demonstrated that a mixed methods quantitative and qualitative approach to content analysis is essential to bring to life the value of the iCanQuit forum from the perspective of the quitters themselves.

This study further advances understanding of the role of peer-led online communities and user empowerment. User empowerment forms the basis of health promotion that encourages people to take control of their health. The current context of the global coronavirus pandemic has led to forced periods of disconnection and isolation on a scale which reinforces the importance of online social support communities. This study on the contained sphere of the iCanQuit forum provides important learnings from a group isolated not by a pandemic, but the social stigma of smoking that has been built up over decades. Through the identified subgroup of users titled 'changemakers', this study has illuminated that during these periods of transformative change, the support 'changemakers' need is to read and to write posts that not only provide a mechanism to translate experiences into tangible written posts but to be inspired and supported by others lived experiences – people like them.

8.1 Key conclusions

The following section presents seven key conclusions that respond to the four research questions explored in this study.

A main overall conclusion is that the iCanQuit forum is an exemplar of smoking cessation digital interventions as it is shown to influence long-term behaviour change. 'Changemakers' provided the evidence that the iCanQuit forum effectively supports users who have stayed smokefree for more than twelve months. The long-term effects of digital interventions are often under-reported or are challenged by the inability to follow-up participants. This study has revealed the occurrence of individual and social behaviour change maintenance within a real-world setting. There was evidence of users returning after more than four years. The forum nurtures the dialogue between users that influence positive outcomes. It not only supports long-term abstinence, but also supports the process of transformation among its users that sets them up for long-term success. 'Changemakers' epitomise the subgroup that correlate to successful quitting which responds to RQ3.

The second conclusion is the role the iCanQuit forum plays in supporting the adoption of a new habit. In relation to RQ2 successful quitting includes the interactions on the forum that influence behaviour change maintenance. This study found that 'successful quitters' and 'long-time quitters' recommended the actions of reading and writing posts in response to a craving to 'newbies'. 'Newbies' start their experience on the forum by reading and writing posts as a form of distraction given the forum's availability twenty-four hours a day, seven days a week. The consistent reward of emotion regulation and social support represent the response-reward exchange that becomes automatic and unconscious over time. 'Changemakers' confirmed the habitual practice of returning to the forum in response to an unexpected urge to smoke as a 'long-time quitter'. This study has reinforced the distraction role of digital interventions for 'newbies' and illuminated the habit reversal role digital interventions such as the iCanQuit forum can establish. This significant finding demonstrates how the design of digital interventions can support the adoption of new habits and positive behaviour change.

The third conclusion is that participation and length of time on the iCanQuit forum foster transformative change. This conclusion relates to RQ4 as it is participation over time that enhances supportive exchanges between users. Lived experiences are shared through the action of writing posts on the iCanQuit forum, and the passage of time tests the self-determination and commitment of sustained change. The barriers to participation are low

217

with reading and writing of posts providing the most benefit to users at the times they need it most. The identified subgroup titled 'newbies' who have stopped smoking for less than three months are the most vulnerable of subgroups as they are more susceptible to relapse. The onset of cravings is more pronounced for 'newbies' during this early stage and the new habit of not smoking is still being learned as a deliberate and conscious action. The front-loading of written activity appears to be a pattern amongst those who have achieved sustained abstinence as well as continued activity for at least one year. The written posts of individuals are part of a substantial volume of dialogue that encourages collective change. Each time an individual contributes a written post to the iCanQuit forum it acts as an enabler of change by helping individuals progress through a process of reinvention. The pride of succeeding another day starts the cycle of new roles and responsibilities as individuals accumulate the experience of days, weeks, months and years smokefree. At one point in time, a user may be looking up to others for inspiration and at another point in time, be the inspiration for another user. The exchange of social support between people of varying success in the length of time smokefree galvanises collective action to commit to being a non-smoker. The collection of posts creates the social norm of quitting which provides the contrast one needs to redefine themselves as a non-smoker and let go of a past that no longer defines them.

The fourth conclusion is the recognition that peer-led online social support is beneficial to users and can complement traditional models of care. While supportive environments are recognised as important for smoking cessation, this recognition has been reviewed in the context of behavioural support provided by a healthcare professional. Evidence of effectiveness for peer-led support is limited. This study has demonstrated that the iCanQuit forum is a model example of being people and community centred. The value of connection and social support from those who are living the same experience is evident, enabling self-awareness, self-transformation, and community mobilisation. The iCanQuit quitters have demonstrated that the social support they need may not be available in their immediate social network as friends and/or family may be smokers or may have never smoked so they do not understand the challenge faced. Users of the iCanQuit forum have activated their choice to connect with others like them. This study acknowledges this individual choice and recognises that a peer-led online social support network could be a significant and needed addition to traditional models of multidisciplinary care. By listening to the words of users of the iCanQuit forum, the

connection with people who experience the same is critical and others, including health professionals who have never smoked, do not completely understand. This demonstrates an additional role for the iCanQuit forum to be a resource for health professionals to build empathy and understanding of the substantial change experienced by someone who has stopped smoking.

The fifth conclusion is that the iCanQuit forum provides the conditions for connection and social support which corresponds to what other studies have found within online social support communities. The iCanQuit forum nurtures the exchange of esteem, encouragement, empathy and information support. Connection is experienced within the community by writing posts or the non-visible action of reading posts which can still aid feelings of belonging. Writing posts is the technique that forges connection and the formation of strong spontaneous ties. Individuals who have never met are united by their motivation to stop smoking. The iCanQuit forum facilitates the formation of smaller support groups who move together through the uncertainty of change. These are the peers that rally each other on and notice when individuals stop showing up. The expressions of gratitude for the social support received demonstrates that social support is the magnet that draws users back to the iCanQuit forum and is the driving force behind success.

The sixth conclusion relates to who the forum appeals to which responds to RQ1. The iCanQuit forum has presented similarities with other online social support communities. While this study relied on direct or inferred information within public posts to build the individual characteristics of users, the iCanQuit forum does appear to appeal to those over 35 years old with a female skew. These demographic characteristics are similar to other international smoking cessation websites such as QuitNet (Cobb et al., 2010), BecomeAnEx (Kahler et al., 2020), Smokers' Helpline Online (van Mierlo et al., 2012) and Stop-Tabac (Burri et al., 2006) which all had higher proportions of female users with a median age that ranged between 38-49 years old. Younger quitters under 35 years old seem to be underrepresented on the iCanQuit forum. Further research is needed to understand the reasoning behind the underrepresentation of those under 35 years old. The iCanQuit forum appears to appeal to those in the later stages of life where the confidence in one's ability to quit without social support may be lower.

These six conclusions relate to the experiences of successful quitting. 'Changemakers' were the users that validated the role of the iCanQuit forum to support abstinence from smoking and the process of long-term change. 'Changemakers' demonstrated the progress from 'newbies' to 'long-time quitters' who actively dipped in and out of the forum whenever they needed. Reading and writing posts were the actions that enabled connection with others as well as the provision and receipt of social support. The final conclusion relates to those users who have stopped using the iCanQuit forum.

The seventh conclusion relates to who the iCanQuit forum has not been able to retain as long-term active participants. For example, these users may have stopped using the forum due to relapse. While this study uncovered two examples of users who relapsed and returned, there would be incidences of users who did not return to the forum. The shared experience of quitting that binds users together can also exacerbate the disappointment of relapse and the disappointment of letting the community down, which can dissuade some from returning to the iCanQuit forum and renewing their quit attempt. This dropout behaviour was observed when users called out to specific users by their username in relation to their absence and while the incidence appeared small in the context of a broad sample, there is the risk of users exiting unnoticed. This conclusion relates to RQ4 as it identified the behaviours that inhibit supportive exchanges. There appears to be an opportunity to capture those who have stopped participating on the iCanQuit forum and who have displayed the opposite behaviour to what has been observed through the 'changemakers'.

8.2 **Implications for practice**

This section outlines the implications for practice that relate to the seven conclusions of this study. These implications are outlined for policy makers, government and non-government organisations, digital designers, communicators and researchers.

8.2.1 For policy makers within government and non-government organisations

The NSW Tobacco Strategy 2012-2021 and other policies outline the actions and response of government and non-government organisations to an issue such as tobacco

use. These documents can influence funding commitments and future policy priorities. The declines in smoking prevalence are a celebrated achievement for nations such as Australia but further decline is needed. Behavioural support is a key component of comprehensive tobacco control strategies but these are largely focused on the support being delivered by a health professional.

This is the first study on the peer-led iCanQuit forum and has demonstrated positive effects on forum users. This provides a contrast to the uncertainty for website-delivered interventions for smoking cessation and the inadvertent undervaluing of effectiveness of the iCanQuit website through the reported number of website visits. There is concern that the limited evidence for digital interventions as well as current reporting techniques may jeopardise future investment in these forms of online support. The Framework of Insights that has been designed from the findings of this study brings to light the transformative change experienced by users of the forum and the forum's impact on long-term change. These insights have been hidden or unnoticed for over ten years demonstrating the value of incorporating the perspectives of users in organisational decision making. As policy makers review evidence to inform policy decisions, it will be critical to include the perspectives of those with a lived experience and apply the principles of organisational listening (Macnamara, 2018a) that have guided this study to afford voice to the users of the iCanQuit forum.

8.2.2 For digital designers and custodians of online support communities

There has been recent interest in and an openness to design solutions that empower individuals to become their own health champions (CDC Foundation, 2021). The need to design solutions that meet the diverse needs of populations across the globe has encouraged organisations such as the CDC Foundation in America to run an open call for innovative ideas as part of their Empowered Health cancer-free challenge. The selected ideas focused on putting the patient at the centre, with elements aimed at connecting those who have lived similar experiences to aid navigation of the system, treatment, and effects. This study identifies the iCanQuit forum as a model for online social support that can co-exist within a standalone website dedicated to quitting smoking. The benefits identified within the Framework of Insights can advance development of these patient centered digital solutions. The benefits of tangible support, connection, social support and self-awareness can be used to test the suitability of other existing or emerging digital

platforms. A key consideration stemming from this research is that there is advantage in enabling people to separate their identities as a way to aid transition towards a new identity and remove the fear of failure among their immediate social networks. For example, while Reddit and Facebook would both have the capability to attract like-minded people to a group/discussion, Facebook would link an individual's present life to the community they join, eliminating that ability to separate realities and begin a transformation anonymously. This would be an important consideration should another organisation wish to establish another quit smoking online community. These findings are not limited to quit smoking online support groups. The Cancer Institute NSW is now in the unique position to use the insights from the iCanQuit forum to inform how these models of care could be used alongside care for cancer treatment and survivorship.

However, this research identified the use and benefit of community archives to not only the individual who posted them but also the multitude of users who turn to the rich repository of experiences for support. The long-term considerations were discussed using the example of the closure of the American QuitNet website. The closure of QuitNet exposed individuals who felt abandoned and lost and who could no longer access their personal posts that they had written over time. This study has demonstrated the positive role of these written posts in contributing to the transformative change experienced by these individuals. There is a responsibility for organisations to safeguard the personal information that has been collected over time. Organisations like the Cancer Institute NSW who are the custodians of these online communities, have the ethical responsibility of ensuring that post data is responsibly managed for the future. A data governance framework needs to be established so that there are clear guidelines and principles on how the data is managed, stored and used. This is an important consideration as new digital solutions are being developed.

The design of solutions also needs to take into account the continuous engagement of users to promote sustained growth of the community. This research identified social support-on-demand and the habit reversal role of the iCanQuit forum as key elements that bring users back. However, this research also identified the natural occurrence of users searching for other users or searching for posts that revealed others' experiences at specific time points. This was typically when a user was experiencing a particularly challenging moment. Thread recommendation systems have been suggested in previous

studies to improve user engagement (Stearns et al., 2014). These automatic solutions should be considered for future digital support systems to make it easier for users to find relevant posts. It also introduces new automatic mechanisms for users to connect with others who may be experiencing the same.

8.2.3 For researchers and public communications specialists

This research has identified the hidden value of the post data contained on the iCanQuit forum. Healthtalk.org originated in the United Kingdom but now has a global presence, including Australia (Healthtalkaustralia.org) and was developed by researchers as a way to contribute to the limited qualitative research knowledge base about people's health and illness experiences (Healthtalk Australia, 2021). The United Kingdom site includes videos of quitters as they reflect on their quitting behaviour and/or choices. The video and audio stories cover a wide variety of health topics such as asthma and early menopause (Eassey et al., 2021; Johnston-Ataata et al., 2021). The publicly available video and audio content was designed to provide support to patients or carers, as well as a resource for health professionals. The videos and audio collections on Healthtalk are presented in a one-way dimension which is unlike the iCanQuit forum which captures the dialogue between quitters.

The iCanQuit forum is likened to a naturally evolving and real-time qualitative focus group that provides insights into quitting attitudes and behaviours. There are opportunities to extend the learnings and insights from quitters that have been documented within the Framework of Insights to inform the strategic direction of future health promotion activities. Unlike Healthtalk.org, users are naturally contributing content. If conducted ethically, the iCanQuit forum can continue to be used as a rich data source for future research. Organisations can also establish automatic processes to monitor and mine posts that can help to uncover new patterns or themes, user sentiment, as well as alert and subsequently manage arising issues and/or misinformation.

8.2.4 For mental health and wellbeing organisations

The positive role of websites like iCanQuit that enable community connection and social support is even more pronounced considering the recent coronavirus pandemic. As the global response continues, the impact of coronavirus on the healthcare industry has been

significant. Apart from the pressure on the healthcare system to respond to increased demand for care, restrictions such as staying at home, limiting the number for social gatherings, and minimising face-to-face contact seems to have accelerated the uptake of digital interventions such as mobile apps, telehealth, artificial intelligence and online treatments (Adobe., 2021; Australian Institute of Health and Welfare, 2021; Black Dog Institute., 2020; CDC Foundation, 2021). Individual access to social support networks has been impacted beyond individual control (Australian Institute of Health and Welfare, 2020b).

The coronavirus pandemic has renewed interest in digital interventions with particular interest in addressing connectedness and wellbeing (Black Dog Institute, 2020; Pfefferbaum & North, 2020). This research demonstrated that the iCanQuit forum provided a place to connect individuals who want to quit and who want to support one another in the best way they can – through lived experience. The value placed on individuals who understood because they were experiencing or had experienced the same cannot be underestimated. It is questionable whether the level of social support received on the iCanQuit forum is something that could be accessed as part of normal daily lives. While this research has focused on online social support to maintain smokefree behaviour, there is opportunity to apply findings to other domains as they relate to connection, social support and positive behavioural outcomes.

Chapter 9 Recommendations specific to the iCanQuit forum

This research has reported on the activity of 'long-time quitters' through an analytical discussion of 'changemakers'; a key subgroup identified as experiencing positive behaviour change to long-term abstinence on the forum. Users need to be continually engaged so that they increase their participation on the forum that takes them through stages from being 'newbies', to 'resisters', to 'successful quitters' and finally to be 'long-time quitters'. The following recommendations are intended to facilitate implementation in practice. In designing digital support interventions, it is important to conduct user research to ensure the intervention improves the overall user experience and helps to achieve user goals. Considering the user experience builds on the foundations of the user-centered design approach that was used in the initial development of the iCanQuit website. The following recommendations are for consideration and would benefit from interviews or trial studies with current users to assess their merit in terms of desirability, feasibility, and viability.

9.1 Design considerations to encourage the behaviours of reading and writing

This research has found the importance of user participation on the forum through the actions of reading and writing. Design can influence user participation such as visible elements that build awareness, influence behavioural norms and motivate action. Design elements should be implemented in a way that support behaviour rather than promote competitiveness that may undermine the desire to change (Ploderer et al. 2014a). On the iCanQuit forum, story posts are displayed in sequential order by recency. Figure 9.1 and Figure 9.2 show example posts on the iCanQuit forum that were taken on 28 June 2021. Figure 9.1 shows the post of a 'changemaker'. Figure 8.2 shows how new posts are currently displayed. There appears to be two visual designs for posts as at 28 June 2021. It is unclear why two visual designs currently exist. The numbers in green circles that have been added to these images correspond to the recommendations below.

Figure 9.1 Example of post by a 'changemaker' on the iCanQuit forum (Cancer Institute NSW, 2021b)

4 YEARS OF FREEDOM

Posted in **Staying quit** ④

25 Jul 2020

③ 💙2 Favourites
💬3 Comments

18 Stories ①

6/01/2014 Joined ②

Hi all

This week I passed the 4 year mark and I'm so incredibly grateful everyday for the freedom I now enjoy from cigarettes, that once ruled nearly every aspect of my life.

This forum and Champix were my aids to succeed after many many failed attempts.

It was my calender anniversary of quitting reminder on my phone that popped up and prompted me to celebrate.... that's how nothing smoking is in my thoughts these days.

For all of you still in the difficult quitting phase, there truly is light at the end of the tunnel for your determination...just keep going and if you stumble and fall, pick yourself up, dust yourself off and try again. Believe me ...I was a 30 sometimes 40 a day tragic and never thought I'd ever be free of the shackles!

Good luck to you all and thanks to all those of you still frequenting iCanQuit who helped me along my several attempts back in the day.

Cheers

❗ Report abuse

Figure 9.2 Example of story post on the iCanQuit forum - new design (Cancer Institute NSW, 2021b)

quitting cold Turkey

Posted in **Getting started** ④

27 Jun 2021

③ 💬5 Comments

1 Story ①

hello everyone on Icanquit ive decided to quit as of a week ago but just cannot shake the habit I have cut down to 5 a day but would love to completely shake the habit I have been smoking for 17 years and have had enough of it so I have decided to join this wonderful page to help me completely shake the habit and possibly get some advice from all the wonderful people who have already quit, thanks...

Read the full story   ❗ **Report abuse**

9.1.1Publish users' community contribution (number of posts)

1

Displaying total number of posts recognises the contribution and commitment a user makes to the iCanQuit forum. Users participate on the forum by writing story posts or comment posts. This research has found that users write significantly more comment posts than story posts. Therefore, displaying the number of story posts is not a precise indication of a user's contribution to the forum. Number of total posts should be included to act as a visible cue that encourages the act of writing posts as a norm of the community. This would be recommended for both the older design (Figure 9.1) and newer design (Figure 9.2) of posts.

As an example, User L posted 344 posts within the study period with 94% of posts being comment posts. As can be seen in Figure 9.1, User L's current profile presents him as posting 18 stories which significantly undervalues the contribution User L has made to the iCanQuit forum. This research identified the behaviour of role modeling and 'long-time quitters' taking pride in their achievement as well as their role to support others in the community. Based on these findings, it is recommended to publish the number of posts rather than the number of stories is a way the design of the iCanQuit forum can recognise long-standing members.

9.1.2 Publish users' quit progress (days smokefree)

2

Self-identity is part of the maintenance motives theme in behaviour change maintenance theory (Kwasnicka et al., 2016). The inclusion of days smokefree is recommended as a visual cue to remind users of their renewed identity and transformation. This visual cue is a constant reminder to the user of how far they have come. It also helps other users establish a point of connection, particularly as small support group formation emerged amongst those who were at the same stage of their journey to stay quit. It provides a visual cue that can help 'newbies' understand the actions they should take on the iCanQuit forum which is to write posts. It is a recommendation of this study to include this in both the older and newer design of posts. Furthermore, as per Figure 9.1, the older

design includes the date the user joined the forum. This research has found that users openly share the number of days smokefree and therefore, revealing this as part of a user's profile is a more meaningful piece of information than the date joined.

This recommendation may also improve the search functionality. Users search for others by time quit to find out what they might expect at a certain stage. By displaying days smokefree on every post (part of a user's profile), it can help the search function generate more accurate results.

9.1.3 Make visible the non-visible action of reading (number of views)

3

Reading posts is an important and helpful behaviour on the iCanQuit forum. Users reported the benefits of reading such as being inspired, distraction technique, and understanding what they might expect at a certain stage. As per Appendix B, other smoking cessation websites have displayed number of views via the eye symbol (see below). This is an important measure as not every user writes posts. It also can provide an indication of the level of 'lurkers' – those who read but may not visibly participate. It is recommended to add the number of views as a visual cue that can help 'newbies' understand the actions they should take on the iCanQuit forum which is to read posts.

◎ Eye symbol that can be used to indicate that a person has read the post.

9.1.4 Classification of posts (stages of change)

4

Quit progress was observed as one of the top three themes on the iCanQuit forum. As noted above, users search for posts that have been written at the stage that corresponds to their own present experience. Users can select a theme for their post such as hints and tips, quit experiences, reasons to quit, getting started, staying quit and success stories. The modified version of the transtheoretical model was used to classify quitters in this study. Time quit was used for this classification that led to the creation of the various subgroups. Given users are naturally looking for others at specific stages, it is recommended to allow users to tag posts by stage. This might also facilitate the tracking of users as they change

228

states. Days quit is the recommended metric as it was the most frequently used metric and corresponds to the inbuilt days quit tracker. For example, first 90 days smokefree (0-3 months), 91-180 days smokefree (3-6 months), 181-365 days smokefree (6-12 month), greater than one year smokefree (over 12 months). Alternatively, if posts could be automatically categorised based on the user profile of days smokefree, this would make it easier for users rather than having to select an option. Users could be asked to confirm (tick box) days smokefree to take into account the potential for relapse.

9.2 **Communications considerations to promote continued use of the iCanQuit forum**

The iCanQuit forum relies on continuous participation and new users to sustain its growth. The following section addresses ideas to promote usage of the forum.

9.2.1 Guide users on how to participate on the iCanQuit forum

Chapter Five outlined the ten strategies 'changemakers' have been seen to employ on the iCanQuit forum. These can be used to guide 'newbies' on how they can optimise their experience on the forum. Terms of use are available on the website but these address unacceptable content. It is recommended to consider including guidelines on how users might like to participate so that they can be best supported by the iCanQuit forum. The list below (see Table 9.1) may help nudge users towards the strategies that have helped 'long-time quitters'. This recommendation is based on users advising others on how to use the iCanQuit forum. However, there was no evidence of users specifically asking for a consolidated list on how to benefit most from the forum. It could be beneficial to conduct further research such as interviews with users to test the relevancy of these strategies for prospective and current users.

Table 9.1 Top tips from successful quitters

	Ten strategies identified in Chapter Five	Top tips from successful quitters
1	Connect and start a relationship with fellow quitters. The simple exchange of usernames and shared experience can enable a connection with people who could become support crew over the course.	Connect with fellow quitters. Everyone is here to stay quit and support each other. You may find a group of quitters starting at the same time as you.

2	Front-load participation on the iCanQuit forum through the behaviour of writing posts in the earlier stages of staying quit, as evidenced by 'newbies', and sustain that activity over time.	Interact with your fellow quitters by reading and writing as much as you can, especially in the first few months. By sharing your experience you'll be surprised by how much it can help you and others.
3	Read and write posts on the iCanQuit forum to manage cravings and regulate emotion. This leverages the role the iCanQuit forum can play in habit reversal and social support-on-demand	Read and write posts when you feel a craving coming on. This helps to keep you busy while the craving passes. Remember, the iCanQuit community is here anytime you need it.
4	Social support thrives on reciprocity, particularly from quitters who really understand. Providing support may be just as beneficial as receiving it. Posts of gratitude are the cue that this helps.	Help others by showing your support. Some days all you need is encouragement and knowing others have your back.
5	Self-monitor achievement using the inbuilt tracking tools provided by the iCanQuit website. Not only does this act as a reminder of achievement, it aids in the identity transformation process and role modelling behaviour that could result in a commitment to return and give back to the community. It is not a social comparison tool.	Track your days smokefree. Every day is an achievement so celebrate each day smokefree.
6	Reading is the non-visible action on the iCanQuit forum that has various benefits such as feelings of belonging (not alone), removing uncertainty (exposing the unknown) and feeling supported.	Integrated into Tip 2
7	Search for posts by quit progress to gain insight on what may lie ahead.	Search for posts by number of days smokefree. Everyone has a different experience but sometimes it helps to prepare for what may be ahead or know that someone else's experience is just like yours.
8	Look back on past posts to remind oneself of the significant achievement and to not repeat Day One.	Look back at your past posts. You will be amazed at what you have achieved and how determined you are not to repeat Day One.
9	Self-determination and commitment to be smokefree is part of the success. Always remember not one puff.	You have to want to quit to stay quit. Always remember not one puff.

10	Be mindful of the culture of support to avoid being nudged out of the community.	Everyone is here for support. When supporting others, think about how you would feel to receive your post before you submit it.

9.2.2 Continue to promote the iCanQuit forum

An individual may make multiple attempts before quit success and as this research has found, some of the users of the iCanQuit forum have been long-term smokers who are seeking to change a more than decade long addictive habit. This research has shown that January is still a popular time of year to quit. While there is a chance of failed New Year's resolutions, 'changemakers' provided examples of those who started their journey to stay quit in January and sustained that behaviour for years. Therefore, there is still value to promote New Year as a time to quit. Continuous social marketing activity that promotes quitting can help to capture the various fresh start moments (Milkman, 2021) in people's calendars (birthdays, anniversaries, new season, start of the month) where individuals may decide to start a new beginning smokefree. This research did not identify any cues on how people found out about the iCanQuit website. This recommendation is put forward as a consideration given awareness is an early step towards the act of changing behaviour.

9.2.3 Utilise multiple channels to prompt repeat participation

Existing users have commented on the email received from iCanQuit at certain milestones (e.g. one year) which has prompted them to return. Emails that advise on different aspects of involvement including quit progress, when users comment on their post, number of views and number of posts missed, are beneficial to remind people of the activity on the iCanQuit forum and nudge them to return. Other channels such as text messaging can be effective. This consideration stems from the multitude of direct communications tools currently available. The use of different channels to prompt repeat participation seems like an opportunity that could be underutilised. In composing communications, the Framework of Insights can be used to guide the content so that it is based on the theoretical underpinnings of COM-B and behaviour change maintenance theory.

9.3 **Continuous evaluation of the iCanQuit website**

Evaluation is the key mechanism to demonstrate the performance and progress of the iCanQuit website. The continuous evaluation of the website is essential to not only advance the evidence on smoking cessation digital interventions with an online community component, but also to contribute to future digital solutions on patient empowerment and wellbeing. While this research has analysed data retrospectively, the managers of the iCanQuit website at the Cancer Institute NSW, have an opportunity to continue to gain insights via real-time analysis. Real-time or retrospective analysis of the posts from quitters is a valuable asset and resource to inform the ongoing improvements of the iCanQuit website and other health promotion activities.

This study has used listening to investigate the written posts of users on the iCanQuit forum which has led to the development of a Framework of Insights. This Framework illustrates what can be gained from users of an important public health digital intervention designed to support people to remain smokefree. This study demonstrates the value of listening to users, the great supportive power quitters gain from writing and reading fellow quitters posts, and the ways analysis of this valuable online service can be used to inform future public health digital interventions that drive long-term change. Questions still to be answered include: how to re-engage disconnected users and how can digital interventions of this kind better meet the needs of younger quitters and men trying to give up smoking.

Appendices

Appendix A: iCanQuit website design

iCanQuit is the online support service provided by Cancer Institute NSW to help smokers to quit smoking and to stay quit. The visual design of the website has changed since the website's launch in late 2010. Screenshots of the website as it appeared in 2010 can be found in the publication entitled Lessons learned globally: tobacco control digital media campaigns (Gutirrez & Newcombe, 2012) on page 26.

The following images were taken on June 28, 2021.

1. iCanQuit Homepage - www.icanquit.com.au

2. **Selection of the 'Stories and Experiences' section of the iCanQuit website that has been termed the 'iCanQuit forum' for this study**

3. **Example of the iCanQuit 'My Quit Plan' which includes the inbuilt tracker of number of days smokefree**

4. **Example of an incomplete inbuilt tracker that calculates the amount of money saved**

5. **Completed example of inbuilt tracker that calculates the amount of money saved**

Appendix B – Smoking cessation digital interventions included in review

All images were taken on June 28, 2021.
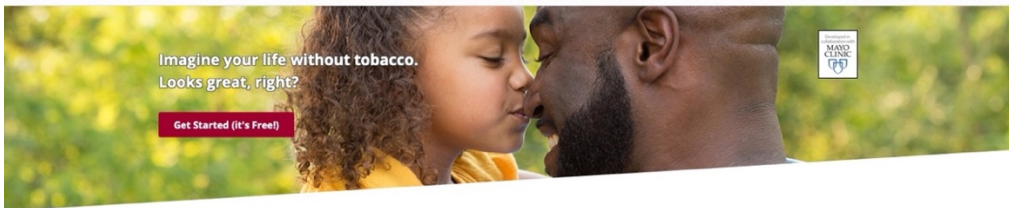
BecomeAnEx (United States of America) - https://www.becomeanex.org

1. **Homepage**

2. Groups that users can join on the ExCommunity

3. Example of how discussions are displayed on the ExCommunity

The ExCommunity use the eye symbol to illustrate how many peole have read a post.

QuitNet (United States of America) - Quitnet.net

1. **Current landing page for QuitNet. The website closed in January 2020 so no content is accessible beyond this landing page.**

Reddit Stop Smoking Forum - reddit.com/r/stopsmoking/

1. **Example of a forum on Reddit. Reddit support multiple quit smoking forums.**
    It was unclear which forum Wadley et al. (2014) used in his research.
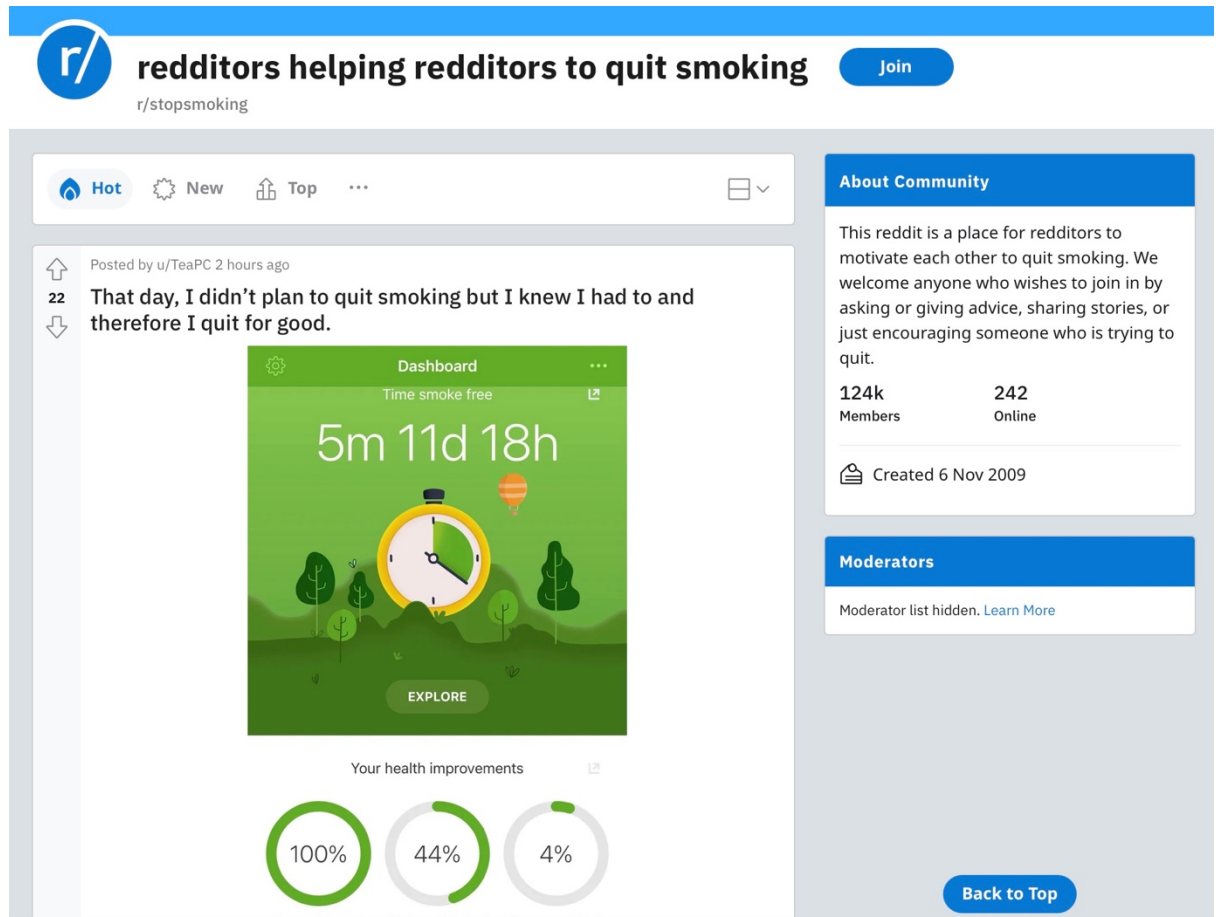
Smokers' Helpline (Canada) - smokershelpline.ca/forums

1. **Homepage**

2. Example of a discussion on a forum

Stop-Tabac (Switzerland) - stop-tabac.ch/fr/

1. **Homepage**

2. Example of a discussion on the forum

Mises à jour récentes

⊘ Trevor a commenté ce post il y a 4 jours

Choucou ▸ Trevor
il y a 3 semaines ⊘

Coucou 🙂
Ça fait longtemps TTrevorComment tu vas ?
Je t'embrasse et ne t'oublie pas
😘🍀🍀🍀⬇

😍 1   Trevor a réagi à ça

⊘ tiptopfit a aimé ce post il y a 5 jours

pierrote ▸ A vos compteurs
il y a 6 jours

Hello,

Voilà 400 j 😁 😁 😁
Un délice,
que devient la vie

Merci à Vous tous

👍 3 😄 1 😍 1   🌺Titine😺, Annaaa, Sisben et 2 ont réagi à ça

⊘ Tata a commenté ce post il y a 5 jours

L Lenaig1 ▸ Coin des abstinents
il y a 11 mois

Hello!

M'a petite victoire de ce quatrième jour : j'ai du rentrer aujourd'hui dans un débit de tabac pour acheter des tickets de bus... Et bah pas à une seule seconde l'idée d'acheter un paquet de clopes ne m'a effleurée, j'ai même mis deux heures…
Plus — 🥳 Se sent magnifique

👍 2   PauldelAlma et Mbolosoleil ont réagi à ça

Appendix C – Codebook

Codebook

Code	Description	Example
Identity	**User provides identifying characteristics of themselves**	
Name	User provides their real name e.g. first name in the post	"xx mark" "Linda xx" "Wendy"
Age	User refers to their current age	"i just turned 49 in october." "I'm 39 years old now" "I too am 68" "I'm 55 years old"
Location	Users refer to where they are based, where they live, where they are from	"Near Proserpine, Qld" "I am in Sydney too." "I'm actually not from Australia or the UK. I'm from the United States. I was born in the shadow of the capitol and now live over an hour from Washington DC in a rural county." "I'm in Oz"
Personal circumstances	User reveals details of their personal living circumstances outside of a specific quit experience e.g. makes reference to the health condition of a partner, personal challenge in their life	"just before easter my mother had a mini stroke and was admitted in hospital 2 days later she had another stroke but a massive stroke , we have been on pins and needles since then but she looks like she is improving thank god for that i love her so much."

		"I live with a chain smoker but try to be fair knowing she needs time to make her own decision about it in her own time."
		"I have a 19 month old son who is up at the crack of dawn"
		"Sadly at the hospital this morning we found out that dad's 're-start' of the heart is not happening today, they need to do some exploratory surgery as worried about clots, that is planned for tomorrow and if all good - then electric shock to restart his heart into hopefully a correct rythmn"
Relationships	User refers to personal relationship (e.g partner, living arrangements, children)	"No point in waiting for my wife to travel the journey" "living with another smoker certainly contributed to a few past back slides but it's made me much more confident about where I am today." "So sorry about your daughter." "I have a 19 month old son"
Smoker history	User reveals information on smoker history including number of cigarettes/packets smoked, years smoked, past quit attempts, age that they started	"i have smoked for 29 years" "after 40+ years." "I smoked for 50yrs" "after 37 years at 25 to 30 on average per day"
Quit method	**User makes reference to the method they have used to quit smoking. User may reflect on their experience with different quit methods and/or provide advice specific to a method or quit approach (e.g. cutting down, use of pharmacotherapy).**	
Acupuncture	User makes reference to using acupuncture as	"i used acupuncture"

	their method to quit or as a recommendation/advice	
Book	User makes reference to using book (e.g. Allen Carr) as their method to quit or as a recommendation/advice	"champix and allen carr's book"
Champix	User makes reference to using varenicline (champix or chantix) as their method to quit or as a recommendation/advice Note: in America varenicline is referred to as 'chantix' and in Australia it is referred to as 'champix'.	"So today is day 1 on champix"
Cold turkey	User makes reference to quitting cold turkey (stop smoking abruptly, without any other quit smoking aid) as their method to quit or as a recommendation/advice	"i also went cold turkey and i am smoke free 48 days"
Cut down	User makes reference to cutting down (gradually reducing the number of cigarettes until zero) as their method to quit or as a recommendation/advice	"and started by cutting down"
e-cigarettes	User makes reference to using e-cigarettes as their method to quit or as a recommendation/advice. Note: vaping is the term used to 'smoke' an e-cigarette. Short form is 'e cigs'.	"I tried vaping myself a couple times over the past few years. Let me tell you, that is one nasty habit. You may be getting less chemicals but the chemicals you are getting can cause popcorn lung. Your lungs are supposed to be smooth muscles, so popcorn lung doesn't sound very good to me! My sister and I both got very sick from vaping and a lot of people who vape end up with pneumonia. I would not recommend it to anyone." "No point in waiting for my wife to travel the journey with me but she is now trying E cigs which is a great start"
Hypnotherapy	User makes reference to using hypnotherapy as their method to quit or as a recommendation/advice	"well i hope hypnotherapy works"
NRT	User makes reference to using NRT (nicotine	"nrt lozenges have helped me tremendously"

	replacement therapy) as their method to quit or as a recommendation/advice. This can be any form of NRT e.g. patches, gum, spray, lozenge	
Professional help	User makes reference to using professional help as their method to quit or as a recommendation/advice e.g. GP, Quitline, doctor	"I couldn't have made the attempt at all without the care of my GP, Champix, Alan Carrs book and the support of family and friends as well as posts and encouragement from all of you"
Zyban	User makes reference to using buproprian (zyban) as their method to quit or as a recommendation/advice	"I have never used Zyban either, I quit cold turkey."
Quit motivation	**User makes reference to their reason to quit and/or what motivated them to stop and/or what motivates them to remain abstinent.**	
Achievement to date	User refers to their personal achievement and how far they have come	"Feeling proud of the achievement makes up for it all though." "wow its been 3 years this november since i quit smoking and will never go back to it." "Well today is six months since I gave up smoking and I'm very proud of myself" "I am SO proud of myself it is unbelievable and I am SO going to make it in life as a non smoker."
Family	User refers to family as a motivator e.g. kids, parents, spouse, future kids/grandkids	"Every time i visit my mother in the nursing home also is a reminder not to go back to smoking" "my main motivation for quitting was my dad's health and seeing him post open heart surgery in Coronary ICQ (was not pretty) and I have a picture I snuck to prove it." "Even motivation from your son is a great thing to hang on.to" "ONE of your reasons for giving up can be for someone else as

		one of my main motivators to stop smoking was for my 19 month old son but first and foremost you have to want to quit for yourself before anyone else."
Financial	User refers to financial reasons as a motivator	"i quit smoking because of the cost to buy them. I have now saved about $500.00 so it is about the money" "Think of the money you are saving and the benefit to your lungs." "I know we'll have our days but just think how awesome it is to say your a non-smoker......with money!" "244 days smoke free and over $4000 saved. This is enough motivation to keep strong and resist the cravings."
Future state	User refers to their future state of being smoke free as a motivator	"very good going and i hope that i can celebrate my 1 yr quit one day" "I'm a week behind you and look forward to being where you are now" "I am just as eager to reach the 3 and 6 month milestones as I was to reach the 3 day and 3 week milestones" "I remember at this time last year, I was looking forward to getting to 3 months / 100 days. Now I am looking forward to getting to 2!" "Now day 89 for me so hope to be celebrating 93 days like you very soon"
Health benefit	User refers to the health benefits as being a motivator eg. improved health, avoiding a health consequence	"is now 12 days since I quit (& saved about $200), feel much fitter" "Looking forward to even more money saved, better health and

		more time to enjoy life"
		"It does feels good to be able to breath better"
		"My mood has improved. I'm no longer crying every time the wind blows in a different direction."
Health incident	User reveals experiencing a specific health incident which now acts as a motivator	"Reasons - recently had pneumonia and was short of breath and now have to sit down and get my breath after doing small chores."
		"i gave up 2weeks ago after having a heart attack"
		"After 50 yrs i had to call it quits. On the border of copd"
Posts on iCanQuit community	User makes reference to iCanQuit community as being a motivator e.g. posts from other users	"Sara it is stories like yours that I hope will give me the incentive to do it."
		"Just seems like yesterday that I signed up to this website and was reading your posts (which I must say always helped me stay motivated to keep on going, and also where very entertaining to read, you have been a huge part of my quit journey and I can't thankyou enough). You should be so very proud of what you have done. Make sure you do something to celebrate this huge achievement"
		"However,when i remember the people from my early days on this site i do like to check it out. In one way I feel it gives me more motivation to continue."
Quit determination	User refers to their mindset and determination to remain quit and/or the mantra or thought that keeps them focused on staying quit. Note: Might be discussed as willpower.	"if you really want to quit you will no ifs no buts" "The reason I have been successful this time in giving up is that I was ready & I finally admitted to myself that it was up to me. Very true words which I feel the same way about.

253

		You have to say to yourself "I am ready" & you have to be willing.
		"One thing you said is spot on "you have to want to stop" That is the big thing. I wish I could put that in bold text."
		"well its been 2years last monday since i have given up smoking and i haven,t looked back"
		"I will just keep reminding myself that my Desire to be a NON-Smoker is stronger than my Desire to be a smoker!!!"
		"You havn't smoked because you have had the willpower to not put one into your mouth. And this is what will keep you smoke free for good!!"
Quit ease	User refers to the behaviour of quitting and expresses opinion on it being difficult or easy to stay quit.	"You have made the right decision, It does get easier."
		"To those who are just starting off on the journey, stick with it. Get through the hard times knowing it gets easier. Never say just one won't hurt - that causes the undoing of most and it takes a lot to start over the quitting again."
		"yes it was hard for me but i can say now after 27 days it is getting a whole lot easier"
		"the first 3 weeks is the hardest"
		"As each day goes on it get's a little easier and soon your days turn into weeks and weeks into months. But for now just get through each hour of the day."
Quit effects	User makes reference to the various challenges or side effects that have occurred as a result of being abstinent. These can be expressed as	"I put on about 8kg since giving up the smokes over 11 months ago but have shed 3 of those kilos lately."

	positive (e.g. improve smell) or negative effects (e.g. sleepless nights, weight gain, temper, indigestion).	"i am at day 53 and i am feeling dreadfull today deeply depressed my doctor said that its not only quiting but you had a heart attack 7 weeks ago and that can be a delayed reaction as well as a big live style change thanks for the hugs" "So far I'm tolerating the champix with just some nausea, feeling very tired and am constantly bloated in the stomach." "Coughing alot, not been able to sleep properly at night and then been tired all day." "I'm on Champix & have been for over 6 weeks, at the beginning I did feel a little sleepy during the day but it does seem to pass.The silly dreams of a night sometimes make you feel sleepy the next day. Also the morning tablet I found if I ate a banana with it, the feel of nauseousness didn't happen. You will start to feel better & brighter soon."
Quit progress	**This theme captures the action of users monitoring their progress in terms of how long they have remained smokefree.**	
Acknowledge others progress	User acknowledges another user's progress. Note: Use this code with how the progress is measured (e.g. days, months, years).	"good for you, 7 days that is great news" "Well done on the 106 days" "The 100 days is an achievement to be proud of." "Congrats on 70 days. That is bloody Awesome."
Cigarettes not smoked	User refers to number of cigarettes not smoked	"As of today, I have not smoked 1,421 cigarettes. That is 71 packs of cigarettes!" "4,705 cigarettes not smoked and $1,587.96 USD saved"
Financial	User refers to how money has been saved or how much money has not been spent on	"But I just checked and at 56 days I have saved $924 so that put a smile on my face."

		cigarettes.
		"Today I am 336 days smoke free or exactly 11 months. I have saved over $6000 which has been a great incentive."
Health	User refers to health improvements and changes as a marker of positive progress	"Well I have got past the one month (at 44 days) and feeling much healthier and happier" "I'm now starting to feel like I can exercise some self control with eating habits now. Its a whole new way of living for me - so much to learn and so much discipline required"
Time - day	User refers to number of days quit	"Now at day 9" "Like Mickey I am on 143 days also. Great feeling isn't it ?" "442 days without a smoke"
Time - month	User refers to number of months quit	"I am closing in on the 6 month mark" "I know the feeling as it is 18 months today since I quit" "Today is 3 months since my last cigarette"
Time - weeks	User refers to number of weeks quit	"i am 6 weeks" "But today I'm in a different mind set, a cigarette is not going to calm me, it won't do me any good at all and in the last 7 weeks I've learn't to chill and take it as it comes."
Time - year	User refers to number of years quit	"2 years ago today I quit." "one year for me" "Four Years and ten months since I gave up the horrible habit and still striving along without one"
Seek advice	User directs a question to anyone or someone specific within the iCanQuit community for information or advice.	"does anyone know how long it will take before i start to forget about them ??"

		"Any tips for dealing with insomnia?"
		"So you even think about cigarettes at Day 500?"
		"So, why? So close to a year am I having these terrible cravings? Anyone else experience similar?"
Site interaction	**This theme captures users' interaction with other users and/or references to how users use or recommend using iCanQuit (e.g. address user by username, provision of real identification, quitting groups, instructions on using the site).**	
Acknowledge multiple users	User refers to multiple users at one time	"Congrats EmKa82 and also leighdo13, and continue to feel that pride"
		"Thankyou Ican & Gam"
		"And to the newer quitters on here, Meanie, Rhys, Rosiek and everyone how well are you all doing and how fantastic to hear about you winnong over weekends where temptation is in your way. Great stuff."
		"Hi Sobuj - and Scottie!"
Acknowledge user	User refers to one user	"all the best rocky-rush"
		"Jodie, I felt the same"
		"Well done Chrisco"
Buddy request	User makes direct request for a buddy or suggests following each other. User refers to the similar time point with another user.	"Keep going strong, I'm sure you can do it, hopefully we can do it together, and in no time we will be counting weeks and months of not smoking☺"
		"Let's check in on one another here often!"

Social support	This theme captures posts that express a form of social support towards another user	
Empathy	User expresses empathy as a way to show support (e.g. similar experience, know how you feel)	"I have had those dreams also where I had a smoke and was cranky at myself for doing so till I woke up and realized it was just a dream - what a relief" "So true. When I started I was ready but not real confident. As time passed my confidence grew, especially by the time I had reached 100 days" "hi blue57 i can relate to you exactly i still miss having a ciggy but its almost one year for me" "I do hope you are feeling a little better. I think we are all going to go through periods of feeling good sometimes and not so good at other times. You have stayed strong and not given in which is fantastic. Be really proud of that. Stay strong and hope tomorrow is a better day for you:)"
Encouragement	User provides words of encouragement to another user to keep going, to keep their spirits ups	"Well done Meanie , now you can aim for the big 365" "well done on getting so far. keep up the good work" "Hang in there - It gets easier." "all the best. you can feel proud of your success. keep going" "you have done well to get this far converse."
Esteem - achievement	User expresses pride in the achievement of another user	"That day 100 sounds like it might require a celebration but a bigger one will be due on day 365" "Welcome to the 150 club. Good feeling innit :)" "its the best thing we ever did and the worst was to take it up in

| | | the first place but good rittens to those filthy things. AND CONGRADULATIONS TO YOU.Z"

"Firegod, you are amazing!!! 66 days is great." |
|---|---|---|
| Esteem - role model | User refers to another user as inspiration or a role model for others | "We are here to be encouraged and to encourage others. We all play a role in one another's quit ;)"

"And Gerry is so right, now you are such a great support to so many people on this site. Look forward to your post in 30 days when you hit the 1/2 year mark...Woohoo!!!"

"I hope others are inspired by your success."

"Way to go Mickey, you have hit the triple digits, that is so awesome. I feel like I was just reading your posts when you were starting out. Look how far you have come. You should be so proud. And now you are supporting people who are just starting out on their journey's and giving them all the great advice you have learnt from your experiences so far."

"Hey Mickey. You are indeed inspirational! Congratulations on your 150." |
| Information - advice | User provides information or advice to another user as a way to show support | "When I was in the early stages I found it difficult to stop while there were cigarettes in the house. I ended up giving the few packets that I had away so they were not there for me. That was over 3 years ago and I have not had a smoke in that time."

"to all you thinking of quiting dont hesitate listen to your body dont think like i did and think it wont happen to you."

"It does get easier with time, and believe me with Champix you won't be able to wait to get to your quit date and have that last cigarette." |

		"It doesn't matter how a person stops smoking whether it's meds, patches, books, willpower or whatever, what's important is they have used a method that has worked for them and they have stopped smoking"
Symbols or signs of care	User includes signs or symbols of care within the post e.g. x (kiss), o (hug), ☺ smiley	"hugs back karen i hope i got your name right" "Hang in there. They'll be gone soon. xo" "Stay strong xo" "You can do this. *hugs*"
Temptations	User expresses the various moments, thoughts or circumstances that prompt them to think about smoking again.	"The cravings are still coming although I have been able to control them / myself" "I am almost 100 days and still now and then I get those thoughts in my head that I could have just 1 smoke, but like you, I am never going back either. And the thought of having to start at day 1 again is enough to make sure I never take another puff." "Those days do suck, but everytime we beat a temptation our resolve to never smoke again just gets stronger." "Well here I am at day 5 - and so much going on and routine broken and just constantly thinking about having a stupid smoke." "Good on you, one for resisting and another for sharing. It's weird how cravings just jump out of nowhere and bite us on the butt, is it to remind us not to be lax? Is it just simply evil? Who knows but well done to you.."
Confessional slip up	Self: User admits to having a cigarette after stopping smoking. User can use words like slip	"Problem was I let my guard down night..had 2 smokes, next day 5 then 12 then back in the pit at 30 a day"

		up or relapse to convey this.	"Don't be down on yourself about slip UPS so long as you learn why and plan future defenses to overcome the cause next time that situation occurs"
		Other: User makes reference to another user's slip up.	"Ah Mishmash, we learn so much when we fall- like a cigarette doesn't actually take a crappy day away or fix it.. you know that and like you said you'll find different ways next time."
			"at least you are honest. You are not the first and will not be the last to relapse."
Conflict		Self: User refers to a disagreement or conflict of understanding with another user through a post they have written. User may express an apology or may stand ground and not believe any wrong doing was made. Other: User refers to the post of another user where a conflict of understanding has occurred. User may be seen to call out the behaviour of another and direct a comment to the user who is seen to be acting outside of the group norms of support. User makes a direct statement of dissatisfaction to the other user or attempt to get others to make amends.	"i have not been on this website for very long. Can't you people stand constructive criticism it would appear not, winner walker you do not know any thing about me yet you compare me to eric who is he? i am on a journey to stop smoking, i am not winner walker , tiger74 and all the rest why can't i have a say if is not about catching a bus missing a bus stop this is a forum about people wanting to quit not some blog or twitter as some would think grow up and get a life." "I did not mean to get off on the wrong foot with you." "The reason people make a big deal about what you say is that 9 out of 10 times your s are NEGATIVE. Feel free to post your negative s as that is your right to do so, but expect people will also make s as they see fit back at you. Oh well...all the best to you." "Come on you two. Just kiss and make up. More important issues to discuss on this site." "We are all here to help each other although sometimes advice we receive is not what we wish for."

Distraction techniques	Self: User refers to a technique/s used to take their mind off smoking, respond to a craving or replace the habit of smoking (e.g. go to gym, breathing exercises). Other: User provides examples to another user based on what they have done. For direct reference to iCanQuit community as a distraction technique, code as iCanQuit value > Distraction	"Instead I walked the 3 km's home and just let it pass." "Today it's day 23 for me and on Friday 3 week mark I was stuck in traffic for hours and still wanted one. Trusty bottle of water helped :)" "Have lot's of water and fruit or sugarless lollies handy they will help when your having a craving." "When I had cravings I used to put a big smile on my face and say to myself "yippee, I'm a non smoker". It really helps because you're turning a negative feeling into appositive affirmation."
iCanQuit utility	**User refers to the use or benefit/s of being part of iCanQuit community**	
Commitment - give back	Self: Users refers to giving back to the community in terms of supporting others in return for being supported in the past. User makes a direct statement about returning after a period of absence and/or posts with a reflection on looking back on their journey. Other: User refers to another user demonstrates commitment to keep returning and supporting others.	"Called in to see how everyone was going and see that I am up to 701 days cig free. I remember getting to 50. that was a hard time. Now I rarely think of having a smoke." "HeyWendyOhNo, long time since we caught up on here. I'm so glad to see the gang is still around and I see what you mean on there no being many newbies, there were so many of us at one stage. I'll keep checking in to see if I can assist any of them, this place was so huge in helping me quit and stay quit." "Oh wow. Signed in - first time in ages and there you are - still giving wise advice. 486 days for me and going strong. Good to see you're doing we'll too. Good to see Rosey and Gerry are still doing well too." "Hey Linda, 200 days is awesome. Well done:) Was great to read a post from you again. I'm like you, don't post much anymore,

		but still get on the site a few times a week. Glad to hear things are going so well for you. Enjoy your family holiday away:)"
		"I'm a non-smoker, 578 days without one and I feel FANTASTIC. I thought i'd just pop in and see what people are up too and offer maybe some encouragement."
Communicate care	User indicates elements of care towards another user such as showing concern in response to an experience, or noticing the absence of another user. Expressions of care extends beyond quitting smoking (e.g. in relation to a personal experience)	"You are human and there is no shame in that Ican. You have done so well and despite this little set back you will get yourself back on track. I give you credit for getting on here and posting about your setback, alot of people wouldn't do that. To me that shows just how commited you are to giving the smokes away for good! I hope you start to feel a little better. It's awful when your feeling down, but like you said tomorrow is another day and I hope it's a bettter day for you. Start up again with your quit plan and use whatever replacment therapies you need to get you through this, and you will get through it. We are all here for you:)"

"Your post today, bought a little tear to my eye - I am so proud of you and if you a half as proud of yourself you are doing well."

"So sorry to hear about your situation. A smoke won't fix anything. It'll just make it all worse sooner or later. You're in my prayers."

"Tiger, I am worried about Blusuzie she went away for the weekend with smoking friends and has not ed. I am sure she nailed it though!!!" |
| Community | User refers to being part of the iCanQuit community, uses inclusive terminology such as "we" or indicates feelings of not being alone | "This site is my support and I enjoy reading others stories knowing we are all facing the same enemy."

"Paula , people like yourself and Mickey (who has been here |

		since my day 1) are important. It shows that we not only can do it but we can show others that it is not so scary"
		"On this forum I have watched as others have told us their stories, some successful, and some having to try again but all those stories help in knowing that I am not alone."
		"This site has been my support knowing that others were facing the same battle. Some win and a few don't make it, but hopefully will never give up trying"
		"I will definitely be drawing on all your experiences and stories to help me quit and stay that way."
		"Meanie makes a valid point as to the fact we are a 'community' supporting one another here, and all are welcome. The banter does help, the bits and pieces of peoples lives and stresses they share when relating to wanting a smoke all help and make us a community."
Design	User makes direct statement or provides feedback to any design elements of the site	"I don't know if I missed it but you used to have a thing where I was notified on how many days smoke free and how much saving I had - when I logged in here. I didn't notice that today. I thought it was a good idea so a pity if you have dropped it. Amen :)"
		"I think the spammers get all of us at once point or another. I had one just last week. Don't give up using this site becasue of some spam."
		"Tried to reply a few days ago via the app but it failed for whatever reason."
		"Sorry about the multiple posts. I didn't realize when I hit my

		refresh button it was reposting my message."
Distraction	Text refers to visiting iCanQuit community as a distraction technique in response to a craving	"It's always good to vent on here and then receive your positive s. Helps to just keep on going!!" "I have been logging onto this site every couple of hours and it has been helping me. I know this will be one of my biggest support systems in helping me stay smoke free. I'm glad I found this site. I will be sure to keep everyone posted on how things are going." "I also found this forum to be a massive help and support. If at anytime I really wanted to go and have a smoke I would jump straight on here and either post or go back and read stories of other people's experiences." "Well I guess this is part of the way that i'll de-stress.....why not put it into words instead of it going round in my head." "That's the hard thing- finding new ways to relax. I have similar issues but found reading this site helpful and also participating in it."
Facts and information	User provides knowledge and information that may be of interest to the group	"How amazing is our brain! We can convince ourselves of so much but it also works either way. What we can justify about smoking stuns me." "So, why these behaviors? When you smoked, your brain expected a cigarette every 20-30 minutes. This happened whether you were awake or asleep. If you ever noticed as a smoker, you didn't get a good night's sleep. That's because, during the night, your body craved no less than 16 times in an 8 hour sleep and that subconsciously interrupted your rest. It's hard to get into deep sleep when your brain just won't chill.

		But, back to what I was saying about the 20-30 minutes, understanding that time between doses of nicotine matters."
		"That's why most smokers wake up in the middle of the night to smoke. As long as you are feeding the cravings, they never end."
		"Body cannot clean tar in a way that it lets you continue smoking.....so eventually cannot keep up with cleaning and that is when complications set in."
Following	Users refers to following another user or recommends following another user e.g based on another person's progress, inspiration.	"Hi Winner, You are such an inspiration to me. I'm so glad I found this forum with people like you on it because it is going to make my quit journey so much easier. Thankyou so much:)" "Following hot on Gams heels, today I've also reached 100 smoke free days." "Anyway, I will still read Jo's stories and Blu Suzi and Fire God and Tiger 74 all the rest just to make sure you all succeed and keep inspiring me, so that I can join you as a non smoker." "Keep coming back to be encouraged and to encourage others! I'll be doing my one year announcement in just a few weeks. I look forward to seeing your one year announcement too!.." "What an inspiration you are. I want to be able to tell my one year on and give others that knowledge like you have. So good to read"
Future state	User makes reference to a future state – planning ahead. This may include using other users' experiences to know what to expect, what to look out for, what might be normal	"How inspiring you are, I hope to be posting on here in one years time still smoke free." "At 77 days, I still want to scream. Win or lose, I'm holding out for 100 days."

		"I can't wait to be at 541 days like you!"
		"It will happen- once you get this pendulum moving, once you cross the big hurdles, 30 days 60 days, 90 days,and 100 days, you stop counting. One day, you are going to wake up and realize that you haven't thought about a cigarette in a week or more"
		"We can live without smoking.....come on people keep fighting... in time we will win and feel proud of our achievement."
Golden lessons	Users refers to the key lessons they have learned and offers as advice. This is specific to the significant lessons learned	"To quit 2 things have to be in place. 1) You have to really want to stop smoking. 2) You have to be ready Once you have those in your head , then you will succeed. Also as has been said many times on here , You cannot just have one cig."
		"Don't let anyone say it's easy, hey it's not.....but take each day as it comes and work through that, don't get ahead of yourself and have that little voice in your head say things like.....what are you going to do when you go out without a cigarette, you'll be bored...... just keep thinking *I CAN DO THIS*....and you will, will power gets stronger the longer you use it."
		"You aren't giving up anything guys! You have everything to gain... Health, money, taste, time, freedom, dignity, self respect. You'll no longer be a slave to nicotine! Say youve quit smoking so you're a non smoker. The more you say it, the closer you are to being. Go for it. We are with you all the way!"
		"Remember 1 day at a time"
		"All of you good folk on here, best wishes. You will succeed if

		you want too. It does get easier. In fact I am starting to forget how manic I was at the start of my quit journey - but a look at old posts makes me remember (and laugh a bit)."
Gratitude – aid	User expresses gratitude to having iCanQuit as a quit aid, being a part of their quit success and staying quit journey. It may include gratitude to a group of users.	"Near the end of your posting you said "...please try hard and keep coming back to the site for advice". This hit home with me. I was just thinking this morning how much of a support this site has been for me especially during the first couple of days/weeks of my quit. I remember one post when I was near 6 months and you ed that what I was experiencing was normal and you had experienced something similar during that time period of your quit. Hearing this back then helped me tremendously in so many ways. Even today, seeing you are over 600 days quit gives me motivation and energy to continue on with my quit (although as you said, it is so much easier now and cravings rarely come). Thanks for the support you gave and continue to give." "This site has been my main support. Thanks to all who have posted their stories here along the way." "I first came to this site 1413 days (3.8yrs) ago and then unsure if I could do it. Now I look back and wonder why it took me so many years to give the cigs away. To anyone just starting out - hang in there as it is so rewarding down the track, both financially and health wise." "Just wanted to say to all my quit smoking friends thank you so much for your recent support it does help thank you again" "I'm so glad I found this forum with people like you on it because it is going to make my quit journey so much easier."
Private	User refer to not disclosing their quit attempt to others, expresses fear of failure or keeping the	"When I decided to quit I felt the same. I did not tell anyone as I was afraid I might fail"

	quit attempt to this community only	"I as well am heading down to Melbourne to spend Christmas with some of my family. I plan on telling them Christmas Day that I have stopped smoking and I'm really excited to do it. Today is 21 days since my last smoke, so it's still early days for me, but by christmas I will be hitting the 6 week mark" "I did the same thing! I told NO ONE that I had quit smoking until I was almost a week out. I didn't make it known publicly until I was over two weeks out. I didn't want the pressure and I didn't want to jinx myself either. If I decided to go back to smoking within the first few days, nobody would shame me if nobody had known that I was trying to quit. Glad I'm not the only one who dealt with the quit this way." "This site is great and the support we receive here is something non smokers probably don't understand"
Prompt return	User encourages another user to return to the site, to come back and provide an update on their progress. This may be expressed as suggesting that they are looking out for them, waiting to read their next post, waiting to hear from them again, looking forward to seeing them reach a new target	"Keep posting to let us know how you are going" "Look forward to reading your updates:)" "Good luck and let us know how you go:)" "How did you go last week???" "Best of luck and look forward to reading your post when you hit the triple digits:)"
Reading	User makes reference to reading other posts for self or as a recommendation to others	"read some of the stories on this website for motivation" "Been reading about the fiftys and as I am at day 48 find it handy to know and prepare due to this site."

		"You will find great advice and support from the people on here."
		"you crack me up with your posts, love reading them. Hope your interviews go well:)"
		"every time the cravings got to much, I signed on here and read stories for inspiration to keep on going."
		"You know reading everyones stories makes me feel so determined"
		"You may find it helpful to go back and read people's posts on here, it makes you realise you are not alone in what you are going through or may go through in the coming weeks."
Tips to use	User makes recommendations on how to use iCanQuit based on personal experience eg. tips	"If you go and read some other peoples posts, alot have written about The days 50-60 mark been very hard. So long as you know about it you can better prepare yourself this time around. No matter what happens we are here for you:) Keep posting cause you know it helps escpecially when days are tough."
		"I log on 2 or 3 times a day and it has really helped me through"
		"This forum will also be a huge support to you. I was signing in every couple of hours in my first week, especially when I was craving a smoke as it gave me a distraction untill the craving passed. Best of luck and keep us posted on how you go:)"
		"Try and get on this site as much as you can as it was what helped me get through the first few months. Keep posting as I will be checking in to see how your going and give support if you need it:)"

		"This site is such a good platform for being honest, being inspired and having a damn good whinge."
Understand experience	Users refers to understanding the situation of another user	"Everyone on here understands what each other are going through." "Wow, that is what I want to say to you fellow non smokers and your experiences and the fact that some of you are double days smoke free than me, some are a few days less some are way more etc. Just knowing that other people are experiencing the same frustration, annoyances, struggles, and weirdy joy for hanging in there is so helpful to me." "Keep going all and thank you to each and everyone of you who have kept me on the road to non smoker and kept me laughing and kept me in the knowledge that I was not going mad that others too were going through the same thing." "Don't worry about disappointing people on here. No one is here to judge you, we are here to offer support and advice where we can based on our own experiences. Most people on this forum, know exactly what you are going through as they have been through it or are like you just starting their quit journey." "Only people who have smoked will ever realise how hard it is to give up." "This site will be a major weapon in your fight against staying off the smokes. Loads of wonderful people on here who have been where you are now or are going through it with you. Everyone on here will support and give you advice if you want

		it."
Writing	User makes reference to writing posts for self or a recommendation to others	"It's always good to vent on here and then receive your positive s. Helps to just keep on going!!" "Every time I felt like having a smoke, I just signed on here instead and posted or read other peoples stories and it really helped me." "Post whatever you like, whenever you like. We're here to support each other thru thick n thin." "You've lots of support here. The more you write the more we'll be able to support you." "This is a very quick post because Tiger told me I had to write something everyday" "How inspiring you are, I hope to be posting on here in one years time still smoke free."
Non smoker observations	**User refers to specific events, moments, thoughts that are linked to being a non-smoker, observations that seem more pronounced since they have stopped smoking e.g other smokers**	
Change habit	User refers to the challenge of habit such as the physical response of reaching out for cigarettes	"Problem is the dreaded habit left behind after 52yrs of puffing. Rather funny actually, my hand reaches into my pocket at times unknowingly for a pack. Other times i head outside during tv adds before remembering i am quit. Strange part is i do not have the craving whilst these issues are taking place." "It's just the habit and associations of smoking you must stay guarded for."

		"My hardest times have been during the mornings when I am having my coffee. I used to drink 3 coffee's in the mornings and have cut back to 1/2 cup. Instead of having 3 sugar and 3 cream in it, I went to 0 sugar and 1 cream. This changed the association of coffee and cigarette. I now find it normal to have coffee with only 1 cream and 0 sugar."
Continuous dreams of smoking	User refers to continuous dreams about smoking	"The worst times are when I am asleep and dream of having one."
		"I still dream I am smoking and hate myself when I wake up and then think Oh thank goodness it was a dream. I am sure they stop eventually!"
		"I really needed this message today. Last night, going into my 57th day, I had a dream that I smoked."
		"In the dream i saw myself rolling a fresh cigarette and actually lighting it and experiencing the actual smoking. I then woke up in fright and went to make a cup of tea in the middle of the night. I was so relieved it was a dream."
		"Interestingly, I had my first dream about¬†smoking last night but it wasn't just about the act of smoking but also involved the emotional connection to a brand of cigarettes I loved and smoked in the 80's to mid 90's before they were no longer available and I had to change brands."
Continuous temptations thoughts	User refers to the ongoing effects of continuous temptations. These are related to those who have stopped for some time. They are not frequent but come up unexpected after a long time	"would you believe sometimes I still would like to have a ciggy but I wont"
		"Keep strong and look for diversions every time you feel the craving which even after a year and 4 days happens every day at some time. I tell myself that to give in just once will undo all the work done, This is how I've kept going as I never want to take

		up the habit ever again."
		"Day 125 and the sneaky little cravings have popped up over the past few days."
		"I don't want to discourage you, but even after a year, you are still going to want a smoke every now and then"
		"Yes you are so right in your s.......temptations may arise but one just needs to think back of what needed to be edured to reach the light of the tunnel. I for one do not think i will revert and enjoy the uprising cost of cigarettes which is also a very big deterrent."
Disbelief - I did it	User expresses disbelief on what they have achieved, can't believe that they have stopped for a long time	"4 years - I can't believe I did it (grin)"

"I'm am amazed that i am succeeding"

"It is 4 1/2 months since my last smoke and I never thought I would be able to do it. If I can do it, so can you. Best of luck:)"

"I have just come in here and see great people really trying to quit, I am into my 10th month off the horrible things, I never thought I could do it for one hour let alone 10 months, but it does get easier and it is so nice not having to spend all that money"

"Because truly if I can do it ANYONE can."

"Tomorrow is Day 400 for me. I never imagined I'd make it past day 35 when the tears started." |

Feeling lost	User makes reference to feeling lost or unsure about who they are	"I for one felt i lost my best friend and i am gradually learning to go forward with that loss." "I have been feeling a little "lost". I don't want a cigarette but after doing everything with a smoke for 25 years I'm at a loss as to what I'm meant to do with myself sometimes. I have a lot more time these days and am more inclined to do things - nowhere near as lazy as I used to be - gee they were time wasters. So anyway, bit of a mixed bag of thoughts and feelings at the moment but one thing is certain... I'm a non-smoker and staying that way!! Onward and upward!" "I rolled out of bed, straight to the kitchen bench for my pack of smokes and 'Oh, I don't smoke anymore'. I paused, pondered that and felt a bit lost. So lost I went to work early. Morning break time once again I go to get my smokes from my bag an 'Oh, that's right...' I felt unsettled throughout the day but ok." "but the point i wanted to make is that it is how we feel when giving up smoking. I for one felt i lost my best friend and i am gradually learning to go forward with that loss."
Noticing smokers	User make reference to noticing other smokers or the behaviours of smokers. This can be met with a positive or negative emotion.	"What I find strange is that not many I see are smoking. It stands out when I see someone with a cig wheras before I would never have noticed." "Also I seem to see smokers everywhere, where I may not have seen them before. Oh well maybe it is like when you buy a new car you see that car all over the place." "And to see that out of all the people there, only 2 were smokers. I watched one cousin leave the festivities and go and

		stand on her own and have a smoke. And I thought last year I would have been there with you and we would be saying, well we are still smoking not like those goody give up ones. But this year I was one of the give up ones and glad of it."
		"Isn't it funny (not haha but strange) how much you see about smoking in papers and on ads etc once you stop."
		"yeah it's amazing when we quit how much you notice when someone who has just had a smoke walks past or standing near carrying the lingering scent of that cigarette."

Appendix D – Charts of total post activity of the fifteen 'changemakers'

User A total post activity on the iCanQuit forum

User B total post activity on the iCanQuit forum

279

User C total post activity on the iCanQuit forum

User D total post activity on the iCanQuit forum

User E total post activity on the iCanQuit forum

User F total post activity on the iCanQuit forum

User G total post activity on the iCanQuit forum

User H total post activity on the iCanQuit forum

User I total post activity on the iCanQuit forum

User J total post activity on the iCanQuit forum

User K total post activity on the iCanQuit forum

User L total post activity on the iCanQuit forum

User M total post activity on the iCanQuit forum

User N total post activity on the iCanQuit forum

User O total post activity on the iCanQuit forum

Appendix E – Additional examples of 'social support' posts

Type of social support	Example posts
Encouragement	Keep going strong, I'm sure you can do it, hopefully we can do it together, and in no time we will be counting weeks and months of not smoking:)
	Good luck with it all and keep us posted on how you are going:)
	Adelle hang in there, its one day at a time and at the end of everyday congratulate yourself for having achieved something really great....go girl all the best
	Keep trying - you'll get there. :-D
	Well done dreadrocks. Stick with it. Stay strong. We are here for you
	Keep it up! You must be at a week now? Or close to it?
	Hang in there Kathyrose. You have dome incredibly well to not give in after your phone call
Informational	there are other ways to give up smoking, cold turkey might work for some, but is not for everyone. but you have want to give up the smokes
	You have to make sure you do not have any cigs in the house on your quit date. I found that while I had access to smokes I was not quitting - just kidding myself, so I gave the remainder of packs away
	also watch what you put in your mouth reduce saturated fat in take eat more fresh fruit and vegies , and excersize etc etc
	If you have the determination and will to really want to stop I'm sure it will work for you.
	Stay strong and focused and take one day at a time.
	I think once you pass the initial really strong cravings you think clearer and cope better and it isn't a crutch you don't think about as often.....your doing great
	Fabulous you're having another go Jules41. Remember that you're not giving up anything. You're actually gaining a life. You won't be beholden to those demons anymore. Everytime you feel like a smoke try saying to yourself "Yippee I'm a non-

	smoker" and SMILE!!!! Power of positive thought. We're here for you Jules41. Go for it...
Esteem	Congrats Rae on getting this far as every day is an achievement
	Great work Mickey. Not only on reaching 150 days but also coming to this site regularly to support others
	Congratulations Meanie on your one week since quitting
	Congratulations on 66 days, that is outstanding.
	How inspiring you are, I hope to be posting on here in one years time still smoke free.
	You are amazing , well done. It inspires me, when i am struggling, to be able to read that people can do this and that it does, eventually ease of a bit.
Empathy	I have had those dreams also where I had a smoke and was cranky at myself for doing so till I woke up and realized it was just a dream - what a relief
	I know what you are feeling but you can do it trust me I went cold turkey day by day you will succeed
	Yes, it will get easier, the first week for me was the hardest especially day 5 for some reason. But as the days turn into weeks and then months it does get so much easier. Hang in there, you have done a great thing by giving up
	I too remember nasty cravings rearing they're ugly head again. Stay strong.
	I understand your fear, it changes your entire life but as humans we do often fear the unknown and change. It is not as scary as you imagine and there are some great benefits as well.
	I can fully understand your worry, I had the same issue myself. When I first quit, I stopped doing long drives, I changed any plans I had because I knew I would struggle. I had to make changes to a lot of areas of my life, for the first month or so, till I became stronger with the no smoking.

Appendix F - Changemakers' last post and last publicly available post

User code	Last post where quit progress was mentioned (study period up to 31 December 2017)	Last story post on the iCanQuit forum (as at 27 February 2021)
A	i am 561 days smoke-free	-
B	But stop I did and today I celebrate 4 years without a smoke	-
C	well this November will be 4 years	-
D	530 days smoke free for me	-
E	well that was 2240 days ago just over 6 years and I'm still as strong if not stronger in my determination to stay quit	-
F	Today I am 336 days smoke free or exactly 11 months	-
G	486 days for me and going strong	-
H	My two years is 11 days from now	-
I	I am now over 12 months quit	-
J	Today marks 606 days since I quit smoking cold turkey	20/5/2019 Today is my 1,000th day quit anniversary! It has been a wild ride: In the past 1,000 days, I have faced the following: - Diagnosed with a major autoimmune disease - Had my truck break down three times - Suffered a major loss in my faith community - a loss so detrimental that I was displaced and had to start all over again in a new community. - Was almost homeless - Twice denied disability benefits (I am now waiting for my appeals hearing) - Went through a cluster of emergency room visits for an allergy that I have

		- Repeat anxiety attacks
		And yet HERE I AM! 1,000 DAYS SMOKE FREE - cold turkey - no slip ups!
		I can't tell you how much confidence being willfully smoke free can bring. If I can survive all of that without a cigarette, I can do so much more!
K	I will be 2 yrs on the 18th (tomorrow)	4/2/2020
		Hi everyone i started on this site nearly 4 yrs back and i haven't looked back. I pop in now and again to offer my support to people starting the long road to quitting smoking. I had classmates named Dobbin, Lea, Steve and other great people with whom i shared advice and support. Really as i approach 4yrs quit i do not think of cigarettes . Furthermore due to increase in costs i would not even afford to buy them. I smoked for 50yrs and gave up for health reasons. It is hard people i kid you not but if you seriously want to quit and perserve, then you will reap the future rewards. All the best . Cheers
L	I'm now over 600 days smoke free	25/7/2020
		This week I passed the 4 year mark and I'm so incredibly grateful everyday for the freedom I now enjoy from cigarettes, that once ruled nearly every aspect of my life.
		This forum and Champix were my aids to succeed after many many failed attempts.
		It was my calender anniversary of quitting reminder on my phone that popped up and prompted me to celebrate.... that's how nothing smoking is in my thoughts these days.
		For all of you still in the difficult quitting phase, there truly is light at the end of the tunnel for your determination...just keep going and if you stumble and fall, pick yourself up, dust yourself off and try again. Believe me ...I was a 30 sometimes 40 a day tragic and never thought I'd ever be free of the shackles!
		Good luck to you all and thanks to all those of you still frequenting iCanQuit who helped me along my several attempts back in the day.
		Cheers
		Steve

M	Its now 480 days since I smoked my last cigarette and said good by to Mr. Nic o teen	22/7/2019
		Strange isn't it, I was at 980 days of living without Mr Nico teen not thinking of a smoke anymore and here we go: A great holiday in summer europe with old chain smoking friends, cheap cigarettes and i started again. Got through two 2 packets in 2 weeks and now without smoking again for 4 days.
		So stupid I was- all the addiction connection restarted their activity- every person I passed smelling like smoke makes me feel to want a smoke again..
		So stupid, thinking that it would be nice to have my calm moment outside in the evening and looking at the sun.
		I managed to stop in time, but fairly sure, 2 packages more and I would be back a full smoker, enjoying the morning cigarette and needing all the other once.
		No- not this time, never again.. But well, a good lesson learned
N	I am at now (over 15 months quit)	19/6/2019
		Tomorrow marks my 2 and a half year cold turkey quit. I rarely log on the site anymore, but do log on to see a few individuals that are around the same quit period as me. Unfortunately, although it has been 2 and a half years, the nico-demon has made a reappearance. I have decided I will be reading Alan Carr's Easy Way to Quit again (I find his book invaluable as a tool to take away the negotiating power of the nico-demon!). I am confident I won't give in, but at the same time, find it frustrating that it has been close to a 1000 days and the nico-demon still has a presence. The strongest presence came in a dream the other night. It began with the thought process that I would steal a cigarette from a friend (I have strong values against stealing), and smoke just that one. In the dream, I was debating in my head and finally, decided to light the cigarette. The lighting of the cigarette was very vivid. I saw everything and it was a slow motion process. I immediately felt disappointed in myself BUT knew that wasn't my last one and already started justifying my next cigarette and that I would smoke only 1 a day! The power of the nico-demon is strong and the quit process is different for everyone I believe. I take the dream as a warning sign that I need to read the

		book again AND that having "just one" is not possible. I would return to a full time smoker in no time.
O	I had a mail from I Can Quit reminding me it was a year	14/1/2021
		1500 days. A rather satisfying round number to celebrate! Still going well

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