

***Professional-to-professional exchange relationships
and their impact on oncology referral patterns and
patient outcomes***

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Thesis submitted in fulfilment of the requirements for
the degree of

Doctor of Philosophy

under the supervision of
Dr Maruf Chowdhury and Associate Professor Gregory Fairbrother

University of Technology Sydney
Faculty of Health

2021

Certificate of Original Authorship

I, *Tony Hassan Noun*, declare that this thesis, is submitted in fulfilment of the requirements for the award of *Doctor of Philosophy*, in the *Higher Degree Research* 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.

This research is supported by the Australian Government Research Training Program.

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Acknowledgments

Thank you to my supervisors, especially Doctor Maruf Chowdhury and Associate Professor Gregory Fairbrother, and to Professor Rob Duffield for their guidance and support during my research journey.

Thank you to my Personal Assistants and my administration and management team for their support generally and for helping with downloading articles, printing, copying, collating, and typing and taking on more of the workload to give me research/study time. Without your support, I would not have been able to carry out this research work. Thank you.

A special thank you to my family. Of all in my life, you have endured the most with very little personal time from me while I was undertaking this project. Thank you for your love and encouragement. I dedicate this to you, and especially to Tiffany and James.

Preface

For more than 30 years, Tony Noun has been dedicated to the establishment of world-leading cancer treatment centres in New South Wales, Australia, and abroad, which have helped transform the lives of thousands of cancer patients. In fact, many communities in Sydney, as well as numerous regional country areas, would not currently have convenient access to comprehensive cancer care services had it not been for Tony's vision, commitment, and ethic.

As founder and Chairman of Cancer Care Associates, Tony leads a dedicated team of medical professionals that deliver around 50,000 treatments each year, with more than a million treatments delivered over the past 30 years. This commitment to delivering quality cancer treatment means the same high level of care is provided to all patients, regardless of gender, economic status, ethnicity, or religious belief. With a view to constantly improve service delivery, Tony identified an area to explore, that aims to improve accessibility to treatment for both existing and potential cancer patients in the Australian community, which he tenaciously investigates in this thesis.

Tony is also founder and Chairman of the Cancer Care Foundation Limited, a registered not-for-profit charity, established for the purposes of promoting the prevention, treatment and control of cancer affecting human beings by,

- developing or providing aids or equipment to help cancer patients;
- supporting, funding and, providing education and training on causes, prevention, management and treatment of cancer;
- supporting and conducting medical research, including clinical trials, into the causes, prevention, management, and treatment of cancer; and
- providing relief from financial hardship for patients, whether or not in necessitous circumstances.

It is for reasons such as the above, and more, that Tony was awarded the NSW Government Community Service Award in recognition of efforts that go way beyond what would normally be expected of him in his occupation.

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List of Abbreviations

ABIM	American Board of Internal Medicine
AHPRA	Australian Health Practitioner Regulation Agency
COREQ	Consolidated Criteria for Reporting Qualitative Research
GP	General practitioner
HVC	High-value care
IT	Information technology
MDT	Multidisciplinary team
PBS	Pharmaceuticals benefit scheme
PCC	Patient-centred care
PCP	Primary care physician
RMT	Relational models theory
SDM	Shared decision-making
SMP	Specialist medical practitioner
2WW	2-week wait

Abstract

This thesis sought to understand inter-professional exchange relationships between referrers (General Practitioners [GPs] to Specialist Medical Providers [SMPs], and amongst SMPs) in the oncology context, and the impact of these relationships on referral behaviours, processes, and patient outcomes.

A pragmatic-critical qualitative methodology, informed by social exchange (SET) and relational models (RMT) theories, was employed to explore this phenomenon. A descriptive method was taken to data collection, which relied upon a qualitative interview approach. Twenty GPs and 20 SMP were interviewed. The thesis identified how trust, collaboration, reciprocity, and communication regulated inter-professional referral relationships among medical professionals; and how accessibility, cost, patient experience, competitive advantage, high value care (HVC) and medical error can impact oncology patient outcomes. Findings were contextualised to the 'here and now' via the lens of medical professionalism.

Themes arising from the data were tested against current and seminal research, and areas for change were identified. These relate to improving patient access, promoting HVC, and reducing medical error. Trust was found to be fundamentally important to the quality and longevity of the interprofessional referral relationship. Trust's key role in the exchange relationships presents a concern, as the more trusted a SMP, the longer the waitlist/wait time is likely to be, hence impacting on time-to-treatment, which has a cascading effect on HVC, and medical error.

A trust versus accessibility conundrum was identified, which highlighted the need for improvements in communication and accessibility among medical players, whilst continuing to practice evidenced-based-medicine, as well as the need for referral systems to be more patient-centric. The trust/accessibility 'dilemma' has not until now been identified as the basis of research or discussed in general terms, in relevant health and medical service literature. Solutions proffered include adopting an open-referral process; improving GP education in oncology to promote accurate referrals; designing and implementing a comprehensive referral form; and developing a national specialist database.

Executive Summary

An Executive Summary is included in this thesis presentation, to offer the reader a brief outline of key approaches taken, study results generated and theoretical and practical implications arising from the work.

Introduction

Cancer is a leading cause of death in Australia, accounting for approximately 27% of all deaths (Cancer Institute NSW 2014). The identification, treatment and care of cancer is a fundamental concern of organised private and public healthcare services. Referring between professionals in the oncological context is a dynamic, complex process. High-quality practices in relation to interprofessional referral are vital to achieving best patient outcomes. In Australia, there were about 18,000 deaths from medical error each year (Weingart, Wilson et al. 2000). Medical error often occurs in the form of incorrect and/or delayed referral. This has a negative cascading effect on patient outcomes and leads to inappropriate and replicated examinations and, more worryingly, delayed diagnosis.

In Australia, the general practitioner (GP) initiates referral to other medical services and is the primary contact for many patients. This situation creates interdependence and a unique relationship between GPs and specialist medical practitioners (SMPs). Further, relationships between GPs and SMPs are key to referral decisions (O'Donnell 2000; Piterman & Koritsas 2005; Ringberg 2014). This thesis examines interprofessional relationships between GPs and SMPs, as well as among cross-referring SMPs, and the effects of these relationships on referral, high-value care (HVC) and medical error.

High value care is the practice of medicine that brings about the best possible care in terms of both outcome and experience for the patient, while simultaneously reducing unnecessary costs to the healthcare system (Blinmen 2012). A similar contemporary term representing this construct is 'value-based healthcare'. Regardless, medicine has social contractual implications and resides in the service sector of the economy, where high-quality service is critical. Oncology is a specialty domain of medicine where HVC is sought because it has life and death implications (Stewart 2011).

Aim

This thesis' primary aim is the exploration and identification of common factors related to the professional exchange between GPs and SMPs, as well as to such exchange among SMPs, using social exchange theory (SET) and relational models theory (RMT), viewed through the professional medical lens, to develop a conceptual framework that could inform sector-wide change in specialist oncology health care.

The research objectives were:

1. to explore interpersonal, professional and sociocultural drivers of lasting professional exchange relationships that determine referral practices between medical professionals;
2. to describe medical professional perspectives on factors that underpin lasting professional exchange relationships;
3. to better understand the significance of professional exchange drivers as they relate to clinical judgement and decision-making during referral practices/processes, and address knowledge gaps regarding how this driver-referral practice relationship operationalises in an Australian setting; and
4. to consider the implications of the results for HVC service provision in the private specialist medical sector in Australia.

Methodology and Method

A pragmatic-critical qualitative methodology (Creswell & Miller 1997), informed by social exchange (SET) and relational models (RMT) theories, was employed to explore the phenomenon of inter-professional medical referral in the context of oncology. This methodological approach was taken to position the work strongly with regards its key aim of understanding the dynamics and characteristics of social exchange and the drivers of professional relationships in GP and specialist referral practices in the oncology context. Such exchange occurs in an ethically bound, high-value service environment. SET and RMT were utilised as a theoretical frame to inform the inquiry approach. SET was chosen because of its seminal theoretical positioning as an aid to understanding exchange-based connections between people. RMT was chosen because of its emphasis on relationalities and interpersonal frames which are at play in professional and organisational relationships.

A descriptive method was taken to data collection, which relied upon a qualitative interview approach which emphasised free and open conversation between interviewer and interviewee, but which maintained a theory-driven question-set structure which sat behind the interview encounter.

Data analysis was also influenced by the ‘real world’ lens of medical professionalism. Barriers and enablers to achieving HVC were identified and assessed as potential contributors to medical error, and potential strategies to reduce error incidence were advanced.

Sampling and data collection

After obtaining Human Research Ethics Committee approval for this study (ETH17-1464), the lead author, as an oncology service provider-researcher, had access to a large group of potential GP and SMP interviewees and applied a purposive sample selection process to obtain a wide spectrum of inputs from participants recruited from diverse locations and backgrounds. The semi-structured interview schedule was predesigned, but each interview triggered unplanned questions, which were followed through to their conclusion.

Forty ($n = 40$) professionals were included in the study sample: $n = 20$ GPs and $n = 20$ SMPs. The justification for sample size in qualitative research primarily rests on data saturation (Francis et al. 2010; Townsend 2013). Data saturation was reached as the researchers iteratively explored transcripts as they became available. Saturation became evident as the same thematic categories already iterated in the ongoing analysis began to repeat, with no new concepts arising at $n = 18$ GPs and $n = 14$ SMPs.

Data analysis

The central concern of the study was to gain an understanding of the drivers of interprofessional relationships and how this affected both GP-to-SMP referral and SMP-to-SMP referral. Sense-making was initially sought, not entirely naively, but in light of theory thought to potentially inform or predict interprofessional referral behaviour—in particular, SET (Molm 2010) and RMT (Homans 1983). Further critical analysis was conducted to explore the findings with specific reference to the role of trust, reciprocity and collaboration in interprofessional relationships that exist in the social contractual

context. Themes seeking understanding about the enhancers and detractors of these relationships were used to help structure the qualitative analysis. In addition to manual coding and verification procedures, NVivo software was used for organising and analysing the data to ensure data integrity and validity.

Results and Discussion

This thesis sought the perceptions of GPs and SMPs about referral processes, the patient's role in referral processes, the development and maintenance of interprofessional relationships, medical professionalism and HVC provision. The key themes that emerged from the data as both drivers and maintainers were trust, reciprocity, collaboration, communication, patient experience and accessibility.

In identifying areas of development that might improve patient experience, reduce medical error and help in HVC provision, the participants from both sample groups identified key aspects for change: improving communication to reduce testing duplication; increasing accessibility to limit delays to specialist consultation; improving GP education in oncology to facilitate more accurate referrals; and exploring the potential of developing system-wide protocols to reduce negative instances arising from the effects of competition between public and private systems.

Trust was found to be fundamentally important as the strongest contributor to the durability of an interprofessional referral relationship. This result is predictable by SET and is widely found in the extant literature. However, trust's key role as a maintainer of exchange relationships raises a vital problem—the more trusted an SMP, the longer the waitlist is likely to be, as perceived trust (by referrer) and subsequent decision to refer are likely positively correlated. Hence, paradoxically, a highly trusted SMP may be less likely to generate an optimal treatment outcome for referred patients (since the treatment commencement timing is key to cancer treatment outcome). Communication was shown to be key to ameliorating wait-related dilemmas, as quality of communication between referrer and referee was related to negotiated referral decision making by the referrer. This finding is predictable by RMT. Further, collaboration and multidisciplinary team involvement were also found to be important, as was the prizing of accessibility by referrers as vital to their referral decisions. Therefore, a balance is proposed between trust, as an interpersonal moderating factor maintaining influence, and accessibility, as an

extra-personal and pragmatic influence, which may outweigh the influence of trust on decisions to refer. Here lies the theoretical contribution of this thesis, that a combined SET-RMT view can predict the complexities (and potential solutions) at play in a complex HVC operational environment.

Patient experience was also found to be a crucial element to relationship durability, since regardless of trust or perception of clinical expertise, patient feedback to GPs about their experience with SMPs was highly predictive of ongoing GP referral behaviour. This role for patient-centredness as a driver of relationship maintenance was not as strongly found in the context of SMP–SMP referral relationships, where ‘tit for tat’ referring in the pecuniary interest of practitioners (irrespective of patient-specific factors) remained a commonplace phenomenon. Although such material reciprocity can be predicted by a SET-informed view of this relationship, conversely, the reciprocal exchange for the GP was non-pecuniary in nature and revolved around the prospect of gaining informational access to an expert. These findings are novel to the very small body of literature concerning the SMP–SMP and GP–SMP relationships.

In addition, clinical judgement and decision-making factors associated with referral practice were explored. Significant gaps in the current Australian scene were located. GPs and SMPs both reported that GP referrals would benefit from greater GP knowledge. It has already been proposed by commentators that GP education should be improved. The thesis result supports this strategic aim. The introduction of standardisation in relation to documented communication around referral was strongly emphasised by participants and by published commentators dating to the early 1990s.

Conclusion

Modelling and understanding referral practices will likely facilitate HVC, in a period of global economic challenge and the underutilisation of scarce specialist resources. HVC seeks to provide better care for individuals and better health for populations, while driving a lower cost per capita. Essential to achieving these aims is the referral process from GPs to SMPs and from one SMP to another.

These findings have ongoing research implications. Numerous among the solutions proposed have yet to be tested in Australia. Follow up positivist studies around improvement strategies located in this work are implicated. The results of this study and

any ongoing research agenda that it inspires, will likely inform the development of optimal clinical referral pathways and timely patient-to-specialist access processes and systems, and thus, reduce medical error, which remains worryingly high in Australia (Weingart et al. 2000).