Integration and innovation in aged care organisations: Three studies in New South Wales

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CERTIFICATE OF ORIGINAL AUTHORSHIP

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

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TABLE OF CONTENTS

CHAPTER 1 – Introduction and chapter overview 1
1.1. Background 1
1.2. Why start here? 2
1.3. The context 3
1.4. Conceptual framework 6
1.5. Overview of chapters 8

CHAPTER 2 – Aged care services in Australia 13
2.1. Background 13
2.2 Size and composition of the aged care population 15
2.3 Who provides care for older people? 17
2.3.1. Informal care 18
2.3.2. Formal care 19
2.3.2.1. Understanding the numbers 21
2.4. Public financing of aged care 22
2.5 Private contributions to aged care 24
2.5.1 Community care contributions. 24
2.5.2 Residential care contributions 25
2.6 Access to aged care services 26
2.7 Overview of reforms 28
2.7.1 Consolidating the public financing system 29
2.7.2. Improving the continuum of care 30
2.7.3 Responding to consumer preferences 30

CHAPTER 3 – Literature review 32
3.1. Introduction and search strategy 32
3.2. Literature on integrated care 34
3.2.1. Definition 34
3.2.2. Aims and goals of integrated care 37
3.2.2.1 Care recipient (client) goals 39
3.2.2.2 Provider goals 39
3.2.2.3 Payer Goals 40
3.2.3. The array of services in the complete continuum of care 40
3.2.4. Processes and mechanisms needed to achieve integration 43
3.2.4.1. Inter-entity management and structure 45
3.2.4.2. Integrated care management processes 48
3.2.4.3. Information sharing processes 55
3.2.4.4. Integrated financing 59
3.2.5. Conclusion 64
3.3. Diffusion of innovation literature 65
3.3.1. Overview 65
3.3.2. Characteristics of the innovation 68
3.3.2.1 Definition of innovation 68
3.3.2.2. Key innovation attributes 69

3.3.2.3 Key attributes within the health services organisation context 72
3.3.3. Characteristics of individual adopters 75
3.3.4. Characteristics of organisational adopters 78
3.3.5. The adoption process 80
3.3.6. Broader context 81
3.3.7. Conclusion 82

CHAPTER 4 – Methods 83
4.1. Overview 83
4.2. Research questions 84
4.3. Theoretical frameworks 85
4.4. The three study designs 90
4.4.1. Study 1: Multinomial logistic regression modelling 90
4.4.1.1. Study population 90
4.4.1.2. Data sources 91
4.4.1.3. Research procedures 91
4.4.2. Study 2: Staff survey of the culture of innovation 98
4.4.2.1. Study population 98
4.4.2.1.1. Recruitment strategies 99
4.4.2.2. Data 99
4.4.2.3. Research procedures 100
4.4.3. Study 3: Semi-structured focus groups and interviews with staff from innovative providers and government officials 103
4.4.3.1. Study populations 104
4.4.3.2. Data from semi-structured focus groups and informal interviews. 104
4.4.3.3. Research procedures 105
4.5. Ethical considerations 112
4.6. Summary 113

CHAPTER 5 – Descriptive analysis by service and by provider organisation 115
5.1. Background 115
5.2. The Data 117
5.2.1. Terms and definitions 118
5.2.2. Limitations 119
5.2.3. Refinements for service provider level analysis 121
5.2.3.1. The unit of analysis is different 121
5.2.3.2. A subsample of the original data base is used 121
5.2.3.3. Refinements or additions have been made to the data 121
5.3. Description of services 122
5.3.1. Overview by local planning area 122
5.3.2. Sponsorship type: Government and Non-government 124
5.3.3. Service integration 125
5.4. Descriptive analysis of service providers 128
5.5. Conclusions and next steps 131

CHAPTER 6 – Factors Associated with Integrated Care Structures 142
6.1. Background 142
6.2. Results 146
6.2.1. Main model Main Model (Model 1). 146
6.2.2. HACC model (Model 2) and Community packages model (Model 3) 148
6.2.3. Residential model results (Model 4) 149
6.3 Discussion 150

CHAPTER 7 – Culture of Innovation Survey Results 163
7.1. Overview 163
7.2. Descriptive analysis 165
7.3. Factor analysis 167

CHAPTER 8 – Provider Focus Groups and Stakeholder Interviews 173
8.1. Overview 173
8.2. Provider Focus Groups 174
8.2.1. Perceived differences in non-profit and for-profit providers 174
8.2.2. Size matters – the importance of being part of a larger organization 177
8.2.3. Community care capacity 179
8.2.4. Integrated service structures as an innovation 180
8.2.5. Contracting with the NSW State and Australian Governments 181
8.2.6. Leadership and support for innovation 184
8.3. Discussions with government policy and planning officials 185
8.4. Conclusions 189

CHAPTER 9 –Discussion and policy recommendations 193
9.1 Discussion 193
9.1.1. Rural/urban differences and the role of government provision of Care 194
9.1.2. Market dominance by a few provider organisations 195
9.1.3. Limitation of defining management structure as an innovation 196
9.1.4. Care management and information systems 197
9.1.5. The critical role of integrated financing 198
9.1.6. Current policy environment 200
9.2. Policy recommendations 202
9.3. Points of reflection 204
9.3.1. Descriptive and multivariate regression analysis on secondary data 204
9.3.2. Descriptive and factor analysis on a “Culture of Innovation” survey 205
9.3.3. Provider focus groups and semi-structured interviews 206

APPENDICES
1 - Process and decisions in creating the NSW Community Aged Care Provider Capacity Database 207
2 - Provider recruitment materials 212
3 - Culture of Innovation Survey 216
4 - Provider focus group interview protocols 219
5 – Focus group and other interviewee demographics 223
6 – Ethics approval 224

LIST OF FIGURES
1.1: Daily and Episodic Needs 3
1.2: Integrated Aged Care Service Systems Framework 7
2.1: Care setting of severely/profoundly disabled aged 65+ years 17
2.2: Public aged care spending, $12.9B (2012-13), selected programs 24
3.1: The Diffusion S-Curve 76
7.1: Culture of Innovation Survey Strategy 164
8.1: Provider Focus Groups 173

LIST OF TABLES
1.1: The Major Aged Care Programs in Australia 4
2.1: Summary of major aged care programs in Australia 19
2.2: Aged care packages & residential care places and recipients 22
2.3 Daily government subsidies for residential and community programs 24
5.1: Descriptive Overview of Local Planning Areas 133
5.2: Service Provider Characteristics 134
5.3: Market Dominance in Local Planning Areas 135
5.4: Services and Funding by Government type 137
5.5: Typology of NSW aged care services 126
5.6: Services by integration category 138
5.7: Integration by Government type 139
5.8: Non-government service providers by structural integration group 129
5.9: Descriptive statistics by provider structure 140
5.10: Descriptive statistics by provider structure 141
6.1: Non-government organizations by structural integration group 144
6.2: Definitions and sources of dependent and independent variables 153
6.3: Means of independent variables by category of dependent variable 154
6.4: Model 1 parameter estimates for independent variables 155
6.5: Model 1 marginal effects relative to a base case 156
6.6: Model 2 parameter estimates for independent variables 157
6.7: Model 2 marginal effects relative to a base case 158
6.8: Model 3 parameter estimates for independent variables 159
6.9: Model 3 marginal effects relative to a base case 160
6.10: Model 4 parameter estimates for independent variables 161
6.11: Summary of direction and significance for variables in 4 Models 162
7.1: Culture of Innovation Survey Results 170
7.2: Culture of Innovation Survey Results by Staff type 171
7.3: Factor Analysis Table for Characteristics of Highly Innovative Organisations 172
BIBLIOGRAPHY 225

GLOSSARY

Aged Care Assessment Team (ACAT) – A multidisciplinary team of health professionals responsible for determining the care needs and services an individual may require.

Ageing, Disability and Home Care (ADHC) – is part of the New South Wales Department of Family and Community Services. ADHC is responsible for providing services and support to older people, people with a disability, their families and carers. (See also Department of Ageing, Disability and Home Care.)

Commonwealth—the Australian Federal Government is often referred to as the Commonwealth.

Community Aged Care Package (CACP) – Individually planned and coordinated packages of care tailored to help older Australians with low-level care needs to remain living in their homes. They are funded by the Australian Government and have been replaced with Home Care Packages Level 2 as of August 2013.

Consumer-directed care (CDC) – An approach to care that allows people to have greater choice and control over the care and support services they receive, to the extent that they are capable and wish to do so. The concept of "choice" in CDC varies, and can include allowing people to make choices about the types of care services ad benefits they access, the delivery of those services and benefits, or choice of service provider.

Council of Australian Governments (COAG) – Is an organisation consisting of the federal government, the government of the six states and two mainland territories and the Australian Local Government Association.

Department of Ageing Disability and Home Care (DADHC) – DADHC was created to bring together support and services for older people, people with a disability and their families and carers in New South Wales (NSW). It was the department in the NSW that was responsible for the Home and Community Care (HACC) program before Australian federal government takeover. DADHC is now called ADHC and is one of the agencies within the Department of Family and Community Services (see above).

Department of Health and Ageing (DOHA) – the Federal agency responsible for aged care and ageing policy and programs including residential care and package programs. Responsibility for aged care and ageing recently moved to the Department of Social Services.

Extended Aged Care in the Home (EACH) packages – Individually planned and coordinated packages of care, tailored to help frail older Australians with high levels of care needs to remain at home. They are funded by the Australian government and have been replaced with Home Care Packages Level 3 on August 2013.

Extended Aged Care in the Home Dementia (EACH-D) packages – An EACH package with a higher level of funding to provide additional care at home for people with dementia. They were replaced by Home Care Packages Level 4 on August 2013.

High care – the care that is provided for people who have been assessed by an

ACAT and need almost complete assistance with most daily living activities. It includes accommodation services as well as person care. Medical needs are managed by nursing staff. The high care/low care distinction is eliminated as of July 1, 2014.

Home and Community Care (HACC) – A program which provides a comprehensive, coordinated and integrated range of basic maintenance and support services to help people maintain their independence at home and in the community. HACC was a joint Australian federal and state and territory government initiative until [date]. It is replaced with Home Care Packages Level 1.

Low care – the care that is provided for people who have been assessed by an ACAT and need services such as meals, laundry and cleaning, as well as additional help with personal care. Nursing care may be provided if required.

New South Wales, State of (NSW) – The most populous (approximately 7 ½ million persons) of Australian states whose capital is in Sydney. It is located in the southeast part of the country.

Productivity Commission— is the Australian Government's independent research and advisory body on a range of economic, social and environmental issues affecting the welfare of Australians. Its role is to help governments make better policies in the long-term interest of the Australian community focusing on achieving a more productive economy.

ABSTRACT

"The Ultimate answer to Life, the Universe and Everything is...
(You're not going to like it...)
Is.....42"
---Douglas Adams' The Hitchhikers Guide to the Galaxy (1981)

Like "42" in The Hitchhikers Guide, one might be led to believe that integrated care is the ultimate answer to the failings of many health and supportive care systems: namely, poor coordination of services and benefits, cost shifting, and frustration for users in accessing services they need when they need them. Policymakers, planners, researchers, and providers have long promoted integrated care as a goal, especially for people with complex, long-term problems; yet few providers have moved in this direction. This thesis aims to contribute to the ongoing interest in integrated care by investigating both the factors associated with adoption of integrated aged care delivery structures and, more generally, the other mechanisms that have been adopted by aged care providers to integrate aged care services across community and residential settings. To investigate these topics, three separate but complementary studies were conducted in New South Wales (NSW).

From the data, it was found that in NSW, of the 619 aged care service providers studied, only six percent adopted formal shared management structures of integrated service delivery; although some others created alternative informal structures or brokerage arrangements to offer a continuum of care. In the first study, multinomial logistic regression models were used to explore what internal (tax status, chain, size) and external factors (planning region, urban/rural) were associated with a provider's formation of an integrated aged care structure—that is to say, a structure where the range of services from supportive home care services through to residential care are all offered under the same management structure. Care providers that are part of a common sponsor (or 'chain'), who are non-profit, and have greater capacity in HACC services, package size and, to a lesser extent, residential bed size, are more likely to offer integrated care across the full array of services available in NSW.

Second, by conducting an online survey on the culture of innovation in a subset of eight aged care providers, a factor analysis revealed that senior leadership plays the key role in promoting innovation and that direct supervisor support was necessary for trying new ideas regardless of whether the idea succeeds or fails.

Finally, focus group insights about paths toward integrated structure were sought. Some providers under-appreciated certain integration mechanisms: while an organisation offering the full array of care under a shared management structure has the capacity to offer integrated care, without other integrating mechanisms (consolidated finance, care coordination, and IT), this capacity is perceived to be limited as to its true innovativeness. So, shared management structures (e.g. shared risk and infrastructure) are less obvious to providers than the advantages associated with the other three integrating mechanisms. Another finding was that different kinds of providers attribute successes to different things:

non-profit organisations perceive this to be the ability to cross-subsidise from certain programs (especially packaged care). The opportunities for this distribution of risk grow with the size of the organization. Shared infrastructure and learning also characterise larger organizations. In contrast, smaller organisations attribute their success to being nimble and responsive to their community.

Australia is poised to create new opportunities for integrated care following policy changes and investments in mechanisms necessary to support it (i.e., consolidated financing, care coordination and information systems). The keys to success are to appreciate that local conditions will drive what the integrated care model looks like and to manage expectations about what sorts of improved outcomes may be achieved, keeping them in line with the completeness of the model utilised.

CHAPTER 1: Introduction & Chapter Overview

1.1 Background

With increasing evidence that integrated systems offer both better quality of services and more effective and efficient service delivery; there is widespread interest by providers, policy-makers, researchers and other stakeholders in integration (Leutz, 2005). Furthermore, there is an ongoing need for robust, high-quality evidence to inform decisions about how to develop integrated care to suit different contexts, settings and circumstances (Shaw, Rosen and Rumbold, 2011). The arguments for integrated care are supported by evidence coming from both the provider and consumer points of view. From the provider perspective, arguments center largely on efficiency and cost-effectiveness, but also on operational advantages such as greater bargaining power with payers and distribution of risk (Evashwick, 2005). From the consumer perspective, integration hopes to produce better outcomes and greater satisfaction by putting the user of services at the center of the care picture (Davies et al., 2008). The arguments are especially powerful when the service consumer 1) has ongoing or complex needs both health- and long-term care-related; 2) accesses the system in many ways—i.e., through hospitals, physicians' offices, nursing homes and in the community; and 3) has need for services on a regular basis, and these needs change over time.

Most of the intellectual interest in integration or integrated systems has been where both acute and long-term care services are considered and often for a targeted population (HIV/AIDs, nursing home eligible, etc.). Only a few demonstrations and other efforts have attempted to operationalize this ideal. Some of the most studied experiences come from overseas (the U.S., England, Canada, Sweden) and include the first and second generations of Social/Health

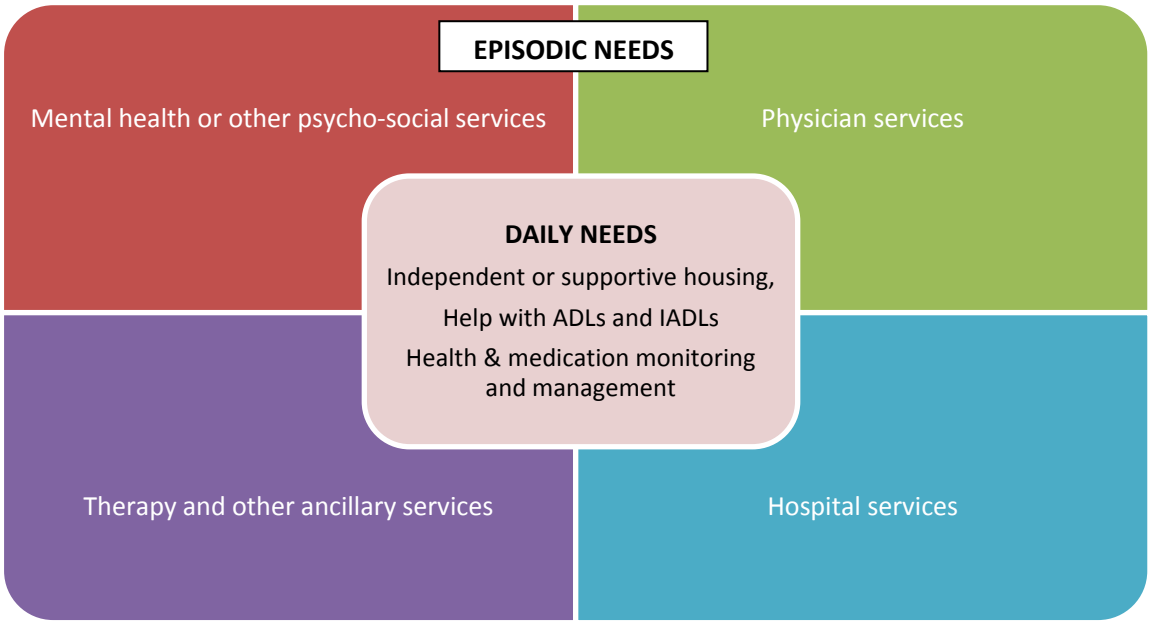
Maintenance Organisations (Leutz et al., 1988; Newcomber, Harrington and Kane, 2000) and the Program of All-Inclusive Care for the Elderly (Eng et al., 1997) both in the U.S. Much has been written about these programs; some of this is summarized in Chapter 4.

1.2. Why start here?

In this thesis, however, integrated systems only include long-term care services for the aged population in New South Wales. (An overview of these aged care services and how they are financed in Australia is provided in Chapter 2.) To capture this narrower conceptualization, the term "integrated aged care systems" will be used throughout the thesis. While this narrower definition of integrated care reflects the policy environment in Australia, there is also some logic to starting here. Taking the consumer's perspective, one could argue that the logical first step in moving towards a fully-integrated system is to connect those components of care that are part of the daily lives of users.

The needs of older persons can be characterized by their regularity or frequency whereby some needs occur on an ongoing daily basis and others are more episodic (see Figure 1.1). So, one could think about the things that an older person might need on a daily basis—help with the activities of daily living (walking, eating, dressing, getting in and out of bed), monitoring health and well-being, medication management and so forth—as being at the core of their personal care system and then those other services that are accessed only periodically or rarely (e.g., physician, hospital, therapy), while important, somewhat more peripheral to the design. If Australia gets the daily needs component of comprehensive integrated care right, then it could be argued that adding the other episodic service should be easier.

Figure 1.1 Daily and Episodic Needs



The specific aim of this thesis is to contribute to this ongoing interest in integrated care by investigating both the factors associated with adoption of integrated aged care delivery structures and, more generally, the mechanisms that have been adopted by aged care providers to integrate aged care services across community and residential settings. A variety of quantitative and qualitative strategies are used to investigate these topics.

1.3. The context

Over a period of almost three decades, the service components of a continuum of aged care have developed and grown in Australia (see Table 1.1). Since 1963, residential care, at both "high" and "low" levels has been publicly supported in Australia, funded by the Australian Federal Government. In addition, there are two major types of community care programs: the Home and Community Care (HACC) program and the community package programs[1]. The HACC program was

[1] Throughout the thesis, Community Aged Care Packages (CACP), Extended Care at Home (EACH) and Extended Care at Home for Dementia (EACH-D) are collectively referred to as "community

implemented in 1985 and is the Country's largest community care program. Its broad range of 20 different in-home supportive services, ranging from home and yard maintenance to allied health and community nursing, are meant to *delay* residential care placement. In 1992, Community Aged Care Packages (CACP) were offered followed by Extended Aged Care at Home (EACH) in 2000 and, in 2005, EACH for clients with dementia (EACH-D). These community package programs are more specifically designed to be *alternatives* for low (CACP) and high (EACH, EACH-D) residential care. Until 2012, the community package programs were also distinct from the HACC program in that the Australian Federal Government wholly funds them; whereas, HACC was a Federal/State funding partnership, administered by the States.

Table 1.1: The Major Aged Care Programs in Australia

Program	Goal	Clients* ('09-10)
Residential aged care Implemented year 1963	Support people in both "high" and "low" level residential care facilities	214,418
Home and Community Care Program (HACC) Implemented 1985	To *delay* residential care placement, maintain independence.	616,000
Community Aged Care Program (CACP) Implemented 1992	*Alternative* for low-level residential care.	57,742
Extended Aged Care at Home Program (EACH) Implemented 2000	*Alternative* for high-level residential care.	7,995
Extended Aged Care at Home for Dementia (EACH-D) Implemented 2005	*Alternative* for high-level residential care.	3,847

* Some clients receive services from more than one program in any one year (though not simultaneously) and some care places (residential or community) are used by more than one person in the year as well. (Source: Productivity Commission, 2011.)

package care" or "community package programs". Also, residential low and high levels of care are combined into one category.

This thesis topic is especially timely. Australia is poised to create additional opportunities for the development of integrated systems for aged care, as it recently started a new approach to financing its major aged care service programs. In 2010, The Council of Australian Governments (COAG) agreed to reforms in both the hospital and health arena and aged care, specifically the HACC program (COAG, 2011). From July 2012, the Australian Federal Government fully took over policy, funding and operational responsibility for the major ageing programs including HACC. In exchange, the state and territory governments are now fully responsible for funding support services for people with disabilities under the age of 65.

There are significant implications of this agreement on the future of integrated aged care services. First, the Australian Federal Government has indicated that it wants to offer more "packaged care" options rather than the care arrangements currently offered under the HACC program where individual services are funded rather than a package of services suited to the individual client's needs (DOHA, 2012a). Consequently, under Australian Federal Government responsibility, there will be greater consistency in how aged care services are arranged and paid—using monthly payments for a set of services aimed at achieving certain outcomes (maintaining independence, delaying or substituting for residential placement). This affects the way costs are documented and reported as well as how savings are treated. These new financial arrangements have the ability to remove the previous barriers between streams of money and offer more flexible arrangements with providers so they can use savings to pay for additional services, care coordination and other kinds of integration infrastructure such as information systems. This integration infrastructure is expensive to purchase and difficult to implement without additional resources. As Leutz (1999) describes in his seminal writing on

the five laws of integration, "integration costs before it pays." Consequently, flexibility in how funds are spent is one way to pay for the additional costs associated with integrated care systems.

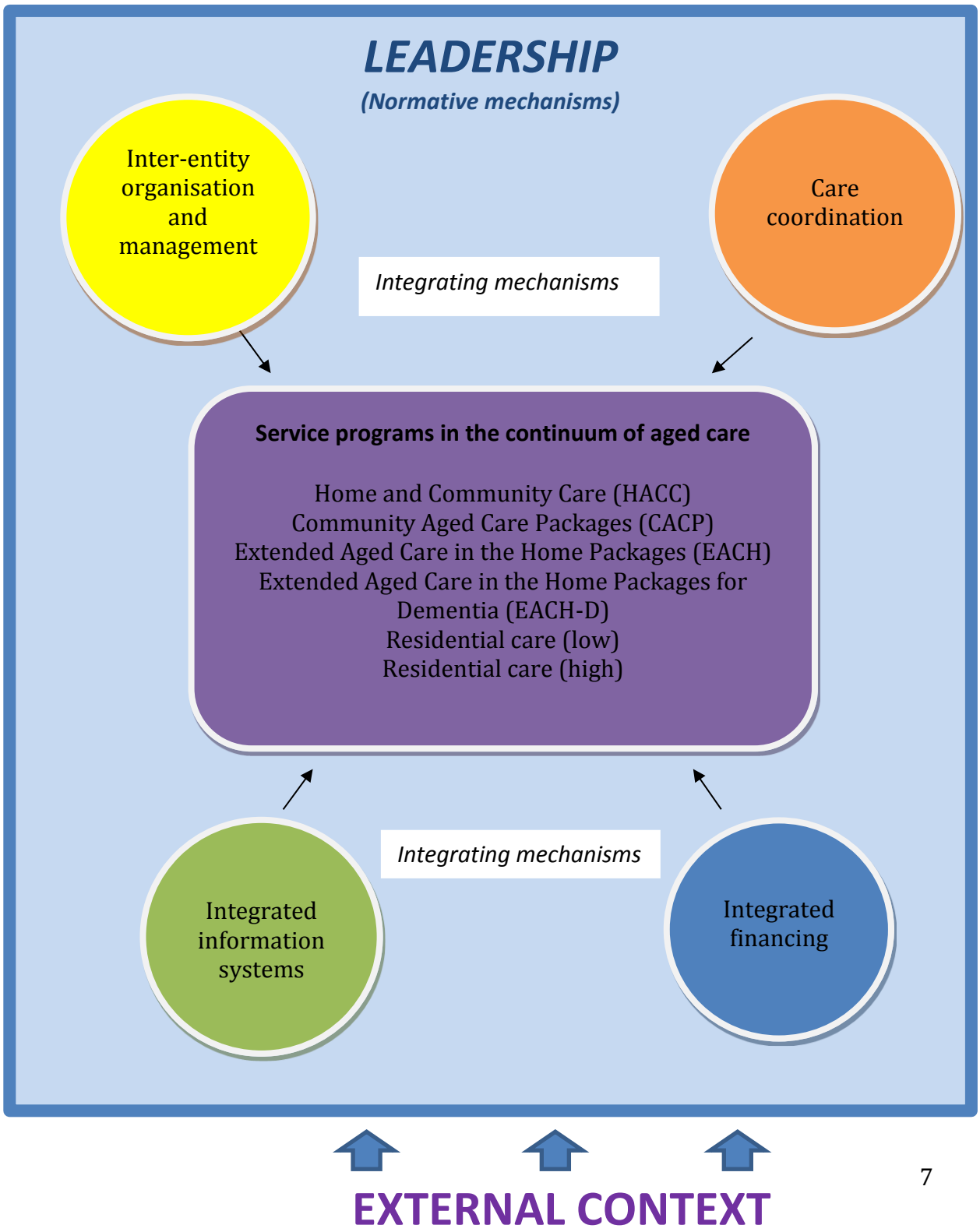
1.4. Conceptual framework

The ideal system of care is often described as a "continuum of care" where not only a complete array of health and health-related support services are offered, but also mechanisms are in place that organize and track these services over time in a way that is client-oriented. It has been argued that the quality of services is better when consumer need and level of care are matched and effectiveness is enhanced when coordination helps avoid both duplication and omission of needed services. When the financing is also integrated, this coordinated approach should produce savings, as there can be strong incentives to provide appropriate services at the lowest possible cost and least restrictive setting.

This kind of integrated aged care system would clearly be better and more effective than the typical systems in place today. While government policy and pilot programs are currently targeting integrated care systems for older people and people with disabilities (O'Keeffe, 2014) most existing systems are characterized by fragmented services and funding, often delivered in an uncoordinated and inefficient way, and that are confusing to the users and their families (Department of Ageing, Disability and Home Care [DADHC], 2007; Allen Consulting Group, 2007). Health consumers often have to move between providers as their care needs change (Department of Health and Ageing [DOHA], 2012a). The motivation for an integrated package of aged care services is particularly strong for the large and growing numbers of people with complex and/or ongoing health and other social needs.

Evashwick (2005, 2006) offers a useful conceptual framework for understanding integrated systems. The framework includes comprehensive list of the wide-range of services that support the continuum of care and articulates the

Figure 1.2: Integrated aged care service systems framework



mechanisms that allow these to be more than just a collection of services; rather services functioning as an integrated system. The four "integrating mechanisms" are: 1) inter-entity management and structure, 2) care coordination, 3) integrated information systems, and 4) integrated financing. Her framework is discussed further in literature review found in Chapter 3. I have adopted this framework with some slight variations to account for the New South Wales environment (see Figure 1.2).

Taken separately, each of the integrating mechanisms Evashwick suggests offers certain advantages. For example, inter-entity management and structure offer many benefits through centralized policy and operational management including economies of scales, greater bargaining power, wider distribution of risk, automatic referrals and improved customer satisfaction. Taken together, with a full array of services, they offer a more efficient, more effective way of providing care. Consequently, I have defined integrated aged care as an innovation and explore it using an innovation adoption framework. Chapter 4 outlines the methodology used to do this.

1.5 Overview of chapters

Chapter 2 offers a fuller overview of aged care in Australia including descriptions of the size of the population needing care, the informal and formal care systems that offer care, how it is paid for and, of particular importance, an overview of recent reforms particularly focusing on topics relevant to this thesis.

A review of two separate bodies of literature is found in Chapter 3 as well as the search strategy used to make sense of these two extensively written about areas. Much of the literature on integrated care is organised using Evashwich's four integrating mechanisms while the literature on innovation moves from a

general review to that specifically relevant to the adoption of innovations among aged care organisations.

As the thesis is constructed as three separate, but related, studies, Chapter 4 outlines the study design used for each (population, analytical procedures, etc.) as well as providing an overview of the research questions that have been posed, the theoretical frameworks used, ethical considerations and so forth.

In Chapter 5, I investigate first from a service level and then from a provider level the organisations offering aged care in New South Wales, with a particular focus on those offering the full range of community and residential aged care services within a shared management structure. Among other things, in this chapter I show that, in 2007, very few (only six per cent) of non-government aged care service providers in New South Wales offered the full array of aged care services, (i.e., HACC, community packages and residential), within an integrated management and structure.

From the policy-making perspective, it is an ongoing responsibility of the government to strengthen capacity in order to supply efficiently delivered, well-coordinated, if not seamless, care to its older residents with the least disruption to their normal living situation. Previous research in Australia has shown that providers seem to make structural responses to government policies that seek greater integration in the aged care sector (Richardson and Bartlett, 2009). Moreover, when an open competitive process is used for contracting with aged care providers, as in Australia, then understanding "who can best meet the identified care needs of the community" is desired (DOHA, 2008).

Presumably, this determination of who can best meet the needs of the community must take into account a number of factors including identifying where

there are gaps and overlaps in the services available, understanding the extent to which service integration is available, and seeing the system in its entirety instead of as separate parts. The planning process for contracting with providers for aged care services is enhanced by a comprehensive knowledge of what proportion of agencies demonstrate the ability to deliver care across the continuum from basic needs to high-level residential care. The need for better quality data and more strategic consultation to facilitate the planning process in New South Wales has been called for in the past (Council of Social Services of New South Wales, 2006; DADHC, 2006).

My investigation provides much of the data needed to help the Australian Federal Government identify service gaps and overlaps. A detailed description of what services providers offer within a common management structure is provided in Chapter 5. However, even when part of the same management structure, an organisation's capacity to provide a true continuum of aged care services can be compromised. My research shows that different parts of an organisation do not always work together to ensure that there is a seamless flow of clients between services and over time

Using multinomial logistic regression models, I show in Chapter 6 what internal and external factors are associated with the adoption of these integrated aged care service structures. My thesis offers a better understanding about what kinds of providers are more likely to take up this aspect of integrated aged care—specifically, ones with common sponsorship, that are non-profit, and have greater capacity in terms of HACC services, package size and, to a lesser extent, residential bed size.

In Chapters 7 and 8, I look more closely at a set of eight provider organisations: four which have taken up the innovative integrated service structure and four who are known for innovation in other areas such as care coordination and information technology. To undergird discussions with these organisations, I asked them to participate in an online survey of the "culture of innovation". The results of this survey are discussed in Chapter 7. As well as descriptive analysis by organisation and by staff type, I used a principal components factor analysis technique to draw out broader areas of agreement from within the 29 questions of the survey.

Focus groups were held with five of the organisations and less formal discussions were held with two others. Through these, I was able to gain a better understanding of the unique paths that organisations took to get to their integrated structures within the context of broader aged care reform in Australia. Chapter 8 also includes a discussion of the other integrating mechanisms.

In Chapter 8, I report on discussions I had with policymakers, state planners and other aged care providers who are not part of integrated groups but are trying to navigate within this new context of aged care reform, sometimes considering how they might form other kinds of "virtually" integrated management structures and discussing the current development status of other integrating mechanisms.

Finally, policy recommendations are made to promote more effective future adoption of innovative delivery structures and development of the other integrating mechanisms to enhance the ability of services providers within a shared management structure to offer truly integrated care. These recommendations are found in Chapter 9.

As putting all of the pieces of an integrated system together can be a demanding and expensive task (Branch, Coulam & Zimmerman, 1995; Kane, Illston & Miller, 1992), this thesis offers insight into how it can be done incrementally. The following chapter sets the context for the study by giving an overview of the Australian aged care sector.

CHAPTER 2—Aged Care Services In Australia

2.1 Background

It is useful to provide an overview of aged care in Australia as well as the developments in the policy agenda from when data for this research was collected. Over the last four decades, starting with the Social Welfare Commission on Care of the Aged (Coleman, 1975) and continuing right up until The Government's 2012 "*Living Longer. Living Better"* (*LLLB*) package of reforms (DOHA, 2012a), the Australian Government has made a noticeable commitment to reviewing policies around its ageing population. This ongoing review has been in broader terms such as the sustainability of government policies and intergenerational impacts (e.g. a decade of *Intergenerational Reports* starting with the 2002-03 Budget) , as well as in more specific terms such as the government's provision of health and aged care services. With regards to health and aged care services, the increased focus partly has been on the promotion of healthy ageing in hopes of reducing eventual need. When care is needed, however, the federal government aims to guarantee that access to services is sufficient and that the quality of care is good.

Both residential aged care and care in the community have been subjects of thorough review and regular recommendations have been implemented for both care settings. The earliest foci were on institutional bias, inappropriate placements, and how uncontrolled growth in the supply of nursing home beds was escalating government expenditures (Coleman, 1975). These led to the first demographically-driven planning ratios for nursing home beds by way of a 1973 amendment to the National Health Act 1953 and early community care benefits for families through The Aged Persons Hostels Act 1972. A decade later, the predominance of institutional care was still substantiated despite that most older

people wished to remain in their own homes with appropriate support (McLeay, 1982).

Interestingly, as early as 1981, the lack of an *integrated* approach was noted by a reported mismatch between patient need and place of care (Steele Craik, 1981) and formal links between residential and community aged care programs still notably absent a decade after desirability was articulated (Rees, 1986).

The adoption of a case-mix reimbursement system for acute care services in the late 1980s led the next wave of investigation and legislation as its effect was to move more elderly patients out of acute care institutions into the community, hostels and nursing homes (Clare, Bellis and Jarrett, 1997). Community services were "inadequate for a 'continuum of care' and de-institutionalisation" (ibid, P. 22) and, among other things, fuelled growth in the Home and Community Care (HACC) Program.

The Aged Care Act of 1997 sets down matters relating to fees and payments, and responsibilities and standards that providers must meet in order to participate in Commonwealth-funded programs, as well as eligibility rules for recipients. It is through regular amendments to *The Aged Care Act of 1997* that important policy recommendations flow. In particular, the early 2000s brought recommendations in residential and community care found in the *"Review of Pricing Arrangements in Residential Aged Care*" (Hogan, 2004) and *"A New Strategy for Community Care—The Way Forward*" (DOHA, 2004).

Most relevant to the timeframe of this research are the 2012 reforms in the Australian Federal Government's *LLLB* package that were, in part, a response to the Productivity Commission's *Caring for Older Australians* report (2011). These

build on earlier reforms found in the 2010 Council on Australian Governments' National Health Reform Agreement (COAG, 2011).

2.2 Size and composition of the aged care population

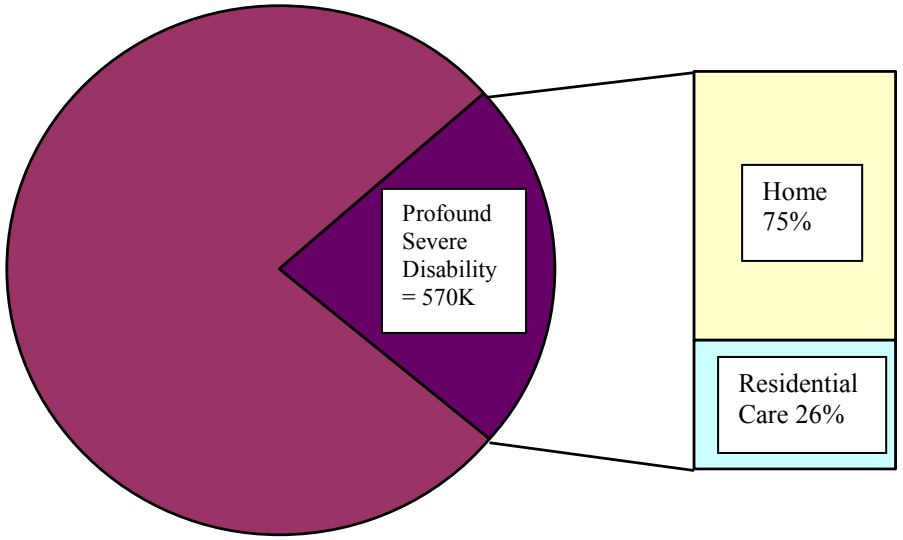
Australia's age structure has been changing for some time now with an overall trend towards an ageing population. The number of Australians aged 70 and older is expected to almost double between 2010 and 2030, from 2.1 million to 4.1 million. This is three times faster than the growth in the total population that is expected to increase by less than one-third (Author's calculations based on Treasury data reported in Productivity Commission, 2011, Table 3.1). In 2010, there were 2.1 million people aged 70 years and over or 9.4% of the total population. Subgroup analysis paints an even more startling picture. The latest figures show that, over the next 20 years, the number of Australians 85 years and older (those most likely to need aged care services) will grow from 365,000 to 802,000 (ibid., 2010). As a percentage of the total population this group likely to need care will grow from 1.6 per cent to 2.8 per cent.

The trend is a continuation of decades of decreasing birth rates and lengthening life expectancies. Both of these phenomena have economic policy implications. For one, they impact Australia's dependency ratio or the ratio of the economically dependent part of the population (especially young children and the elderly), to the productive part. This ratio is important because, as it increases, there is increased strain on the productive part of the population to support the others. In other words, barring any significant changes in disability, more people will live with prolonged periods of needing health and supportive services and there will be fewer people to pay for these services. The Intergenerational Report released by the Australia government as part of its 2002-03 Budget brought this

issue to the forefront and refocussed discussion around efficiency and effectiveness in the delivery of aged care services.

It is important to remember that most older Australians are physically active, able to care for themselves and are not in need of formal services. Nevertheless, we are now seeing many more older people with not only acute illness requiring hospitalization and a doctor's care, but also chronic disabling conditions that require aged care services, either at home or in nursing homes. Alzheimer's disease, osteoporosis, heart disease and stroke predominate among the many diseases that cause chronic disability in older age. In the 2011 Census, 570,000, or about one-fifth of people 65 years or older, reported needing assistance with core activities of living (Centre for Excellence in Population Ageing Research [CEPAR], 2014). Most of these (75%) still live in the community, mostly in their own private dwellings (ibid.). When physical and mental disabilities impair the capacity to perform the basic activities of daily life, care from others is needed to cope and sometimes to survive. Often, this long-term care responsibility falls on family members and friends. Then, when they have exhausted themselves physically, emotionally, and financially, the Australian federal and state/local governments step in to assist.

Figure 2.1: Care setting of severely/profoundly disabled, Aged 65+ years



The prevalence of disability rises steeply with advancing age. Only about 11% of people aged 65-74 were severely disabled in 2009, but that proportion rises to 54% for people aged 85 and over (Author's estimates from Australian Bureau of Statistic [ABS], 2013). Today, the fastest growing age group in the population, those aged 85 and over, is also the group most likely to need long-term care. Largely because women live longer than men, older people with disabilities are disproportionately very old women.

2.3 Who provides care for older people?

Care for older people is provided by both informal and formal sources, in the community and in residential settings. In the last two decades, there is evidence that both the "mix" of formal and informal services has changed as well as the proportion of services delivered in the community relative to those in residential care.

2.3.1. Informal care.

Although many people think aged care is synonymous with nursing homes, the predominant provider of care in Australia today is the family. Families devote enormous time and energy to the care of older relatives, often at considerable emotional and physical cost. In the past, fewer families cared for an older parent because relatively few people lived long enough to experience a prolonged period of disability (Brody, 1985; Hanley, Wiener & Harris, 1991). Because of increased longevity, the odds of being called upon to provide care to one's parents are much higher than in the past.

Estimates from the ABS show that, of the 1.2 million people aged 65 years or older who need assistance living at home, close to three-quarters use unpaid, informal support (ABS, 2013). In fact, the *number* receiving unpaid care has remained fairly constant over the last 10 years despite the number of older people increasing by over 20 per cent. In other words, the *percentage* receiving unpaid care has actually decreased. This phenomenon could be explained by the growing availability of formal paid services at home. Three-fifths of the 1.2 million older people are receiving formal services, a large fraction of whom are also assisted by unpaid carers.

The kind of things for which assistance might be needed includes activities of daily living (bathing, dressing, mobility) as well as things like property maintenance and household chores. The profile of unpaid carers has a different gender mix depending on what kind of assistance is included. So, for example, more than twice as many men provide assistance when the definition of assistance is broad, especially with tasks that are less intimate like property maintenance and transportation (ibid.). Other estimates indicate that the majority (70 percent) of

unpaid primary carers are women relatives of people with disabilities, usually wives, daughters, or daughters-in-law (ibid.). Interestingly, older people are both care recipients and carers. Over 113,000 people aged 65 years and above were the primary carer (i.e. provided the most assistance in terms of help or supervision) to a disabled care recipient.

2.3.2. Formal care

Over a period of almost three decades the service components of a continuum of aged care have developed and grown in Australia (see Table 2.1). Since 1963, the Australian Federal Government has funded residential care at "high" and "low" levels. Residential care also includes respite services. In addition, at the time data were collected for this study there were two major types of community care programs: the Home and Community Care (HACC) program and the community package programs[1].

Table 2.1 Summary of major aged care programs in Australia

Program	Date established	Purpose
Residential care (high and low levels)	1963	Permanent and respite placements for people needing help or complete assistance with ADLs plus some health and related services
Home and Community Care (HACC)	1985	*Delay* residential care placement and maintain independence
Community aged care Packages (CACP)	1992	Alternative for *low* residential care
Extended Care at Home (EACH)	2000	Alternative for *high* residential care
Extended Care at Home – Dementia (EACH-D)	2005	Alternative for *high* residential care

[1] Throughout the thesis, Community Aged Care Packages (CACP), Extended Care at Home (EACH) and Extended Care at Home for Dementia (EACH-D) are collectively referred to as "community package care" or "community package programs". Also, residential low and high level care are combined into one category.

By far the largest of these is the HACC program that was established in 1985. Its broad range of nineteen different in-home supportive services, ranging from home and yard maintenance to allied health and community nursing, are meant to *delay* residential care placement. Up until recently, in partnership with states and territories, the Australian Federal Government funded 60 per cent of the HACC program, while the state and territory governments funded 40 per cent. In 2011-12 nearly 750,000 aged persons with moderate, severe or profound disabilities were served in the HACC program (CEPAR, 2014); another 220,000 younger disabled were served by HACC (DOHA, 2012b). One-third (250,000) of older recipients used domestic assistance services, followed by 160,000 who received nursing services and 150,000 who received allied health services (CEPAR, 2014).

The Australian Federal Government also supports several smaller community-based programs. In 1992 Community Aged Care Packages (CACP) were made available, followed by Extended Aged Care at Home (EACH) programs in 2000 and EACH for dementia clients (EACH-D)[2] programs in 2005. These community package programs are more specifically designed to be *alternative* services to low (CACP) and high (EACH, EACH-D) residential care. Until recently, the community package programs were also distinct from the HACC program in that they wholly funded by the Australian Federal Government. Altogether, these community package programs served almost 83,000 older people living in the community. The CACP program had the majority—more than 63,000—recipients in 2012-13 (Department of Social Services [DSS], 2013). The EACH program served about 13,000 and almost 6,500 received EACH-D packages (ibid.).

[2] On August 1, 2013, CACP, EACH and EACH-D were transitioned to "Home Care Package Levels 2-4". A fourth, Level 1 was added to serve a less disabled population

As alternatives to residential care, a necessary pre-requisite to access CACP, EACH or EACH-D services is an assessment by the Aged Care Assessment Team which certifies that a high or low level of care and support is needed comparable to high or low residential care. Once a client is assessed, the government subsidizes the costs depending on the person's care needs. The resident can also be asked to pay fees and charges. For more about this assessment process, see below.

There are other community-based programs funded by the Australian Federal Government, including the Veterans Home Care program that serves 70,000 mostly aged war veterans and their widows, or widowers. These services are similar to the services available through the HACC program and are meant to support veterans in their homes and to assist their carers. There is also Innovative Care, Multi-purpose Service places and Transition Care that are not described here.

2.3.2.1. *Understanding the numbers*. It is worth noting that there is a difference between the number of aged care places *allocated* in the community and in residential care and the number of *operational* places (DSS, 2013) (see Table 2.2). Similarly, these numbers do not correspond one-for-one with the number of people actually receiving services on any one day, or over the course of the year. At any one time, some of the allotments will not yet be operational. The distinction between *allocated* and *operational* places is that, especially in residential care, a new aged care place can been allocated (awarded) to a provider in the annual open competitive process, but there may be a lag time before that place is ready to serve someone. Consequently, in residential care, only 86 per cent of allocated packages are operational. There are often additional approvals, as well as investments, that must be made to get an additional place ready to provide services.

Table 2.2: Aged care packages & residential care places and recipients

	Permanent[a] Residential Care		*Community Care*		
Total allocated	216,477 (78%)		60,310 (22%)		
	High[b]	Low[c]	CACP	EACH	EACH-D
Operational places	186,278				
Operational places by level or program	138,963	47,315	47,158	8,798	4,354
Recipients[d]	136,848	32,120	63,365	13,042	6,488

All data are from the "Report on the Operation of the Aged Care Act 1997: 1 July 2012 to 30 June 2013 (DSS, 2013)

Notes:

[a]There were 4,126 non-permanent residents receiving respite services in residential care on 30/6/2013.

[b]From July 1, 2014, the distinction between high and low care will be removed.

[c]58% of operational places allocated as low care were being used as high care

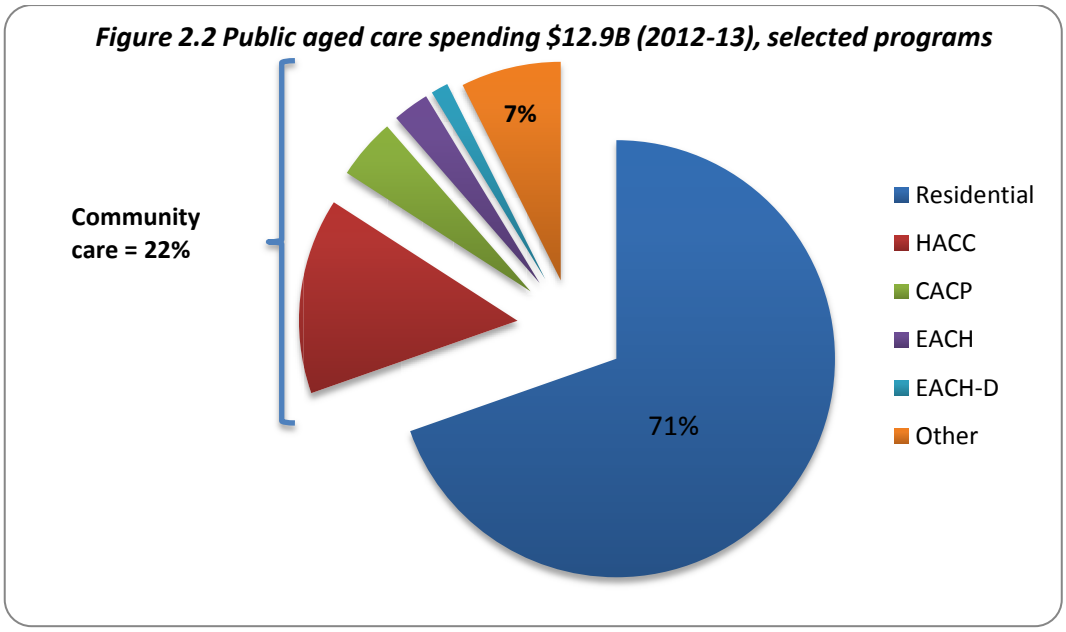
[d]Residential care recipients are counted on 30/6/13; whereas recipients of home care packages are for 2012-13 year. Some people receiving community care during the year may have received support through more than one program, or through residential care.

The number of people served is somewhat different from the number of allocated residential places or community care packages. This is because aged care services recipients are not a static population. There will be movement in and out of programs and between levels of care. Therefore, "double counting" (where an individual may show up in more than one count of people receiving services) is evident in some of the numbers available. Also, because some people receive services for only part of the year, the total number of people receiving services in a year will also exceed the allotments. In other words, one "place" may be used by more than one recipient during the year. Note, the recipients of community care are counted throughout the 2012-13 year, rather than a point in time (like residential care figures).

2.4 Public financing of aged care

In 2012-13, Australian Federal Government expenditures on the aged care system reached $12.9 billion (ibid.). Figure 2.2 shows that 71 per cent of this

spending was on the residential aged care program, 22 per cent was on community care programs (HACC, CACP, EACH, EACH-D), and another significant amount (7%) was spent on other programs such as respite and the multidisciplinary aged care assessment program.



The overall annual total spending on aged care is sometimes increased by large specially-targeted, or conditional, payments meant to serve particular purposes.

In residential care, about 71 per cent of the funding comes from the Australian Federal Government, 25 per cent from private contributions, and four per cent from accommodation payments (ibid.). The annual average Government payments (which consist of daily subsidies plus any behavioural, complex health care or other supplements) were $60,050 for high care residents and $25,000 for low care residents in 2012-13. Beginning March 2014, the daily public subsidies paid for the major aged care programs funded by the Government are shown in Table 2.3 below. As you can see, there is considerable overlap in the daily subsidy

rates between residential and community care, reflecting the intent of the community care programs to delay, or be substitutes for, residential care.

Table 2.3 Daily government subsidies for residential and community aged care programs (from March 2014)

Program	Daily subsidy[a]
Home care package[b] (4 levels)	$20.55 – 124.95
Residential care-permanent (high)	$94.79 – 183.97
Residential care-permanent (low)	$31.43 – 52.75
Residential care-respite	$28.02 – 85.76

Source: Department of Social Services, 2014

[a]There are also supplements for accessibility, remoteness, dementia and extra items such as oxygen and enteral feeding.

[b]On August 1, 2013, four home care packages replaced the three existing CACP, EACH and EACH-D options to bridge the large funding gap between CACP and EACH, and an additional dementia and cognition supplement was made available to level 4.

2.5 Private contributions to aged care

A contribution based on a person's ability to pay is often required in both residential and community care. There are government-set limits on these and, in both care settings, there are provisions for people unable to make contributions. It is Australian Governmental policy that access to care will not be determined by a person's ability to pay. Indeed, in residential care, so as not to be disadvantaged, a certain number of places—between 16 and 40 per cent—are set aside for those who are unable to make certain of these contributions (DSS, 2013).

2.5.1 Community care contributions.

Fees for community care depend on the client's ability to pay. No full pensioner will pay a fee; no part pensioner will pay more than 5,000 (AUD) in fees per annum. Those with higher incomes can be asked to pay additional charges on a sliding scale but never more than 10,000 (AUD). A lifetime cap will be set at 60,000

(AUD) for everyone. Again, inability to pay cannot be used to prevent people from accessing these community care programs if they have met the assessment criteria.

2.5.2 Residential care contributions. Contributions to residential aged care are more complicated and vary by resident status (permanent versus respite), level of income and assets, when they entered the home (as the rules changed in 2008), and whether or not high level or low level care is needed. Fees for residents fall into two main categories; namely, care payments and payments for accommodation and hotel-type services.

Care payments include the basic subsidy amount, care-related supplement and income-tested fees. These payments fund care and related services. In general, the Australian Federal Government funds most of these payments, through the basic subsidy and supplements such as the oxygen and enteral feeding supplements. Residents who have sufficient income may be asked to contribute to the cost of their care through an income tested fee. The amount of subsidy payable by the Government is reduced by the amount of the income-tested fee (DSS, 2014).

Payments for accommodation and hotel-type services cover the cost of food, utilities and providing accommodation for residential care. These payments include the standard resident contribution (or basic daily fee), accommodation payments and related supplements. In most cases, residents pay for the majority of these charges, with the Australian Federal Government paying where residents cannot afford to make these payments. The accommodation fees are a contribution to the cost of the person's accommodation much like a mortgage or rent. These fees serve to provide capital to service providers. The form that the asset-tested accommodation fee takes depends on whether the resident is accommodated in low level or high level care and may be paid in a lump sum bond, regular daily

charge, or some combination of these. The bond amounts and payments methods can vary and are negotiated with the provider. About 85 per cent of aged care homes held resident bonds in 2012; the average bond was more than $265,000. In 2011-12, the average daily accommodation charge was a little more than $28, with fewer than three-quarters of facilities charging these fees (DSS, 2013).

Special provisions exist for people who have difficulty paying fees, or who have a level of assets only somewhat above the minimum. Also, there is an expectation that, when a person moves into an aged care facility, they will sell their home to pay the bond and the daily fees. When this causes hardship for family members (partners, dependent children) who remain in the home, there are special protections as well. Aged care homes receive extra government funding for these special circumstances. (For a fuller explanation of the rules related to the resident's contributions, see *2012-13 Report on the Operation of the Aged Care Act 1997,* DSS, 2013, p. 70-75).

Respite clients in residential care are required to pay a flat fee set at the standard pensioner contribution ($30.77). However, because respite clients' stays are relatively short, they are not required to pay any kind of accommodation bond, or fee, at either care level (ibid.).

2.6 Access to aged care services

The demographic pressure of an ageing population and an increase in the numbers of Australians living with significant disability increases the numbers who need government-subsidized aged care services. Ensuring that access to aged care services is both sufficient and appropriate to meet the needs of the population is an important governmental planning function. There are several aspects to this planning process.

Annually, the Australian Federal Government creates new residential and community aged care places to be allocated in each Australian state and territory government. To ensure that future needs are met, that number of new places is related to benchmark ratios for people aged 70 and above and is set separately for high and low level residential care and for community care. The current target ratios are: 25 community care places, 44 low level residential care places and 44 high level residential care places per 1000 people aged 70 years and older (Department of Health [DOH], 2013). By employing a ratio of aged care places to those likely to use care (i.e. persons 70 years and older), the government hopes to ensure that the availability of care keeps pace with the ageing population.

In response to the 2004 Hogan report, the Australian government has been increasing the number of aged care places and rebalancing those places, so that more community care is available. In 1997, there were only 93 aged care places for every 1000 people aged 70 and over. By 2011, there were 113 aged care places for every 1000 older people (ibid.).

Once the total number of new places is determined, the Aged Care Planning Advisory Committee (ACPAC) advises the government on how those aged care places are allocated across planning regions based on demographic factors (age, disability, financial). Regionally, then, there is an open competitive process for allocating those places to services providers "who can best meet the identified care needs of the community" (ibid.). In reality, the for-profit aged care providers will not enter a market that will be unprofitable, so it will be more likely to be the not-for-profit providers who will meet community needs in marginal areas, such as rural and remote towns and villages (Deloitte Access Economics, 2011; Parliament of Australia, 2011).

The final step is using the Aged Care Assessment Teams (ACATs) to make sure that the right people get placed in the right settings. The ACATs play a critical role in determining the appropriate level of need for those seeking publicly-supported care. The ACAT completes a comprehensive "holistic" assessment which includes physical/functional, medical, psychological, social assessment as well as an assessment of more practical matters such as family carer needs, financial situation and so forth. An assessment is a prerequisite to receiving residential care as well as from the CACP, EACH and EACH-D programs. And, while assessment is not necessary for receiving HACC services, the assessment teams often refer people to the HACC when other more intensive services are not appropriate. In each year, approximately 190,000 assessments are completed by the multidisciplinary ACATs (Aged Care Financial Authority, 2013).

As suggested in the earlier discussion of allocated and operational places, any allocation of resources is likely to have practical impediments, but also to reveal aspects of political pressure. Again, there can be a lag time between places being allocated and then becoming operational. This is particularly true with residential care where building approval and construction may be necessary. It is less true with CACP and EACH packages. These tend to be operational soon after allocation. The number aged care places that are required, and the way that these places are distributed across the country and across care settings, is of utmost interest to a variety of stakeholders, including state/regional governments, providers, service users and tax payers.

2.7 Overview of reforms

While this thesis was progressing, the Australian Federal Government, along with the state and territory governments, had undertaken a number of

significant reforms that support the goals of integrated care specifically, and the way that the individual client and their family carer experiences the aged care system more broadly. These reforms are outlined below and include efforts to improve the integrating mechanisms defined earlier, i.e. financing, coordination, and information.

2.7.1 Consolidating the public financing system

Under the 2010 Council of Australian Governments (COAG) National Health Reform agreement, starting July 2012, the Australian Federal Government took full responsibility (funding, policy, management and delivery) for the aged care system, covering basic home care through to residential care in all Australian states and territories. One particularly relevant component of this agreement is that the HACC program became an Australian Government responsibility. In exchange, the state and territory governments became fully responsible for funding support service for people with disabilities under the age of 65.[3] It is proposed that this consolidation of aged care funding will result in a nationally consistent and better integrated aged care system (Australian Institute of Health and Welfare [AIHW], 2014). This consolidated system also will have strong links to health and hospital services, the logical next step in progressing integrated care in Australia which should provide a more streamlined and positive experience for older Australians. The COAG agreement also included the introduction of a national information line in July 2011 which was the first step to make it easier for people to access information about aged care services.

[3] It should be acknowledged that refinancing disability services for younger people to States prevents continuity of care for people with disability who access services before they turn 65.

2.7.2. Improving the continuum of care

As part of the "Living Longer Living Better" (LLLB) aged care reform package, the Australian Federal Government announced the intention to remove the distinction between low and high level residential care from 2014, thereby increasing the ability of residents to age in place (DOHA, 2012a). Although some residential care facilities specialise in either high or low care, many of these broadened their service offerings to include the full continuum of care which allows residents to stay in the same home as their care needs increase. As well, the recent reforms significantly increase the amount of home care available and replace the former HACC and three community aged care package programs (CACP, EACH and EACH-D) with four levels of Home Care Packages that support people with basic care needs, through to high care needs. A Home Care Package is a *coordinated* package of services tailored to meet the consumer's specific care needs. The package is coordinated by a home care provider, with funding provided by the Australian Federal Government.

2.7.3 Responding to consumer preferences

The 10-year reform efforts found in the LLLB are meant to give older Australians more choice, more control and easier access to a full range of services (ibid.). Among other things, the reforms include easier access to health care and service information, to health assessment and to service linkage. Fundamental to the reform process is a consumer-directed care (CDC) based system, which is a significant shift in how aged care services have operated to date and how consumers have experienced the service system. The critical elements in this change are individualised budgets, consumer choice about which provider they receive services from, and then a home care agreement and care plan indicating

the level of involvement the user wishes to have in decision-making and management of services. Through LLLB reforms, a number of new CDC home care packages will be introduced, eventually moving to all packages new and existing, being delivered in a consumer-directed way by 2015. In the longer term, CDC will be introduced into residential care.

Consumers have always voiced a preference for care in the community. The new introduction of accommodation bonds for high care residential care placements could create further financial inducements for families and older people to demand community care. The question remains as to whether the Australian Federal Government will respond to this with further shifting support to the community.

Taken together, the reforms found in both the COAG agreement and the LLLB, represent significant improvements in the potential for aged care service integration in Australia. Moreover, the State of New South Wales (NSW) has recently released details of an integrated care strategy that could provide a substantial framework for greater collaboration across the health system (O'Keeffe, 2014). The new strategy hopes to go that next step in encouraging health organisations to work together and form partnerships between hospitals and community-based services. The NSW State Government will provide $120m over four years to facilitate the integrated package. The goal is to provide so-called seamless or connected healthcare, which would particularly benefit older people who currently struggle to navigate the disjointed health system.

CHAPTER 3—Literature Review

3.1 Introduction and search strategy

In order to ground the research questions around adoption by community aged care providers of integrated structures, a review covering two separate bodies of literature was conducted. The first is the literature on integrated care that describes what this concept means, what it hopes to achieve, and what mechanisms facilitate achievement of those goals. I have defined integrated care as an innovation and so I also explore the literature associated with the adoption of innovations by health care organisations in section 3.3 as a complement to the literature on integrated care below.

Diffusion of innovation literature is vast and spans many disciplines. As it narrows it focus to innovation adoption in health care, the literature almost exclusively focuses on hospitals and health care systems and largely on technology. When the focus is on innovation in aged care (specifically nursing homes), the literature primarily focuses on the influence of market pressures and facility characteristics. In the area of adoption of innovation in aged care, only a few published articles were found and none used community aged care organisations as their unit of analysis. To my knowledge, there has been no literature specifically discussing integrated care models as innovations and what factors are associated with their adoption.

There were three principle aims for my literature review: first, to understand what internal and external factors had been previously associated with the adoption of innovations among aged care providers; second, to understand better what key mechanisms are used by providers to turn an array of services into an

integrated care system; and third, to understand what public policymakers have done to facilitate the adoption of integrated care by providers.

Greenhalgh and Peacock (2005, p. 1065) suggest, "In systematic reviews of complex and heterogeneous [qualitative and quantitative, from multiple and disparate sources] evidence (such as those undertaken for management and policymaking questions), formal protocol-driven search strategies may fail to identify important evidence." Rather "snowballing" strategies such as pursuing references of references, personal knowledge, and serendipitous discovery, can yield high quality references more efficiently.

The strategy that I have used started by reading three texts (Rogers, 2003; Evashwick, 2005; and Greenhalgh et al., 2005) in their entirety and pursuing references from those texts that looked interesting and relevant. The reasons for using these three texts are various. Rogers' work has indisputably been at the forefront innovation research for decades. Diffusion of Innovations is a classic text. I used Greenhalgh et al., because it itself was a very well-constructed meta-analysis. Finally, based on my own professional expertise, I found Evashwick's model more elegant and compelling than the many others that exist in the literature. Its choice was personal preference.

Similarly, from my own professional knowledge, I knew some of the seminal works—e.g. Walter Leutz's 1999 article in Milbank Quarterly entitled "Five laws for integrating medical and social services" (which Google Scholar notes has been cited 423 times) and authors who have written important works in the areas of innovation adoption in health care, especially long-term care (Banaszak-Holl, Nicholas Castle, Judith Lucas, Jacqueline Zinn) and integrated care (Robert Kane, Joshua Wiener, Robert Mollica). These snowballing strategies were periodically

supplemented with targeted searches in Google Scholar when a particular area needed clarity or to add the very important grey literature from government, foundations and other sources.

3.2 Literature on integrated care

> "*I don't know what you mean by 'glory,*'" Alice said.
> Humpty Dumpty smiled contemptuously. "*Of course you don't—till I tell you. I meant 'there's a nice knock-down argument for you!*'"
> "*But 'glory' doesn't mean 'a nice knock-down argument*'," Alice objected.
> "*When I use a word*," Humpty Dumpty said, in rather a scornful tone, "*it Means just what I choose it to mean—neither more nor less.*"
> "*The question is*," said Alice, "*whether you can make words mean so many different things.*"
> "*The question is*," said Humpty Dumpty, "*which is to be master that's all*."
>
> --Lewis Carroll's Through the Looking-Glass (1872)

A considerable volume of literature, both peer-reviewed and informally published, has been devoted to the concept of integrated care. Indeed, there is an entire online journal, the "International Journal of Integrated Care," which is an open-access, peer-reviewed scientific journal devoted to publishing original articles in the field of integrated care on a continuous basis. The journal covers a range of substantive areas including research and theory, case studies and care pathways. Much of the literature involves *describing* models of care; significantly less actually *evaluates* the evidence in terms of the clinical and cost benefits of these programs (RAND Europe, 2012; Hebert et al., 2010; Zhang et al., 2008; Pacala et al., 2000; Chatterji et al. ,1998; White, 1998; Branch, Coulam and Zimmerman, 1995; Newcomber et al., 1995; Manton, et al., 1994).

3.2.1. Definition

No common definition of the concept of integrated care exists. Indeed, the terms "integrated care," "coordinated care", "continuum of care" and others are often used interchangeably. As in the view of Humpty Dumpty above, some is a

matter of semantics and taste. However, different authors emphasize different aspects of the design of integrated care. Yet, many see integrated care as the answer to the fragmentation and inefficiency that characterize many health and supportive care systems. "Like a Rorschach test," Kodner and Spreeuwenberg write, "integrated care has many meanings; it is often used by different people to mean different things. It is most frequently equated with managed care in the US, shared care in the UK, transmural care in the Netherlands and other widely recognised formulations such as comprehensive care and disease management" (2002, p. 1).

In a report on the National Health Service's (NHS) integration care pilots, the evaluators write, "the concept of integrated care is fluid and highlights the fact that a broad range of initiatives are brought under its umbrella. This only serves to compound a number of issues, including that of assessing the added value of integrated care generally and its potential benefits for patients and professionals, as well as the potential cost savings it can engender (RAND Europe, 2012, p. 13).

Grone and Garcia-Barbero (2001, p. 7) offer this nicely general definition:

> "*Integrated care is a concept bringing together inputs, delivery, management and organisation of services related to diagnosis, treatment, care, rehabilitation and health promotion. Integration is a means to improve the services in relation to access, quality, user satisfaction and efficiency*."

These different definitions often reflect differences in context, particularly the community's configuration of providers and payers, as well as the target group to be served, the broadness of services to be included and what they hope to achieve. The more ambitious the goals, the more important it is that the care system includes all, or most of, the theoretical elements of integrated care.

In reviewing the literature, rather than distinct easily differentiated models emerging, what one finds is a set of overlapping integrating activities that are tailored to specific local circumstances. Burns and Pauly (2002) describe examples of what some models of integrated care look like in practice. These include: 1) care models that are integrated around specific diseases or individually tailored to address a complex set of conditions; 2) joint venture collaborations that rely on co-location of personnel to achieve coordination of activities and require changes in teamwork processes and delivery of care; 3) IT-integrated health care that relies principally on advances such as the electronic medical record, automated drug and supply dispensing, personal digital assistants, and remote patient monitoring; and 4) patient-integrated health care where the patient is empowered and given incentives to coordinate their health information and serve as their own gatekeeper.

Lloyd and Wait (2006) add to this list a variety of initiatives that loosely fall under the umbrella of integrated care. They include: 1) greater sharing of patient information among professionals in different sectors; 2) standardised communication protocols to facilitate and improve communication; 3) single assessment processes with a central point of information from which to coordinate care and 4) single access points to care.

In this part of the literature review, I will first discuss the most commonly cited aims and goals of integrated care. Next, I will outline the array of services that might be included in the continuum of care and the processes or mechanisms used to provide these services in a more integrated way. Then, I will outline a few illustrative models around the world and what aspects of integrated care they employ for which populations. Finally, I will explore in greater depth the

theoretical model of integrated care that I have chosen to frame the research questions in this thesis. This review is based, in part, on earlier reviews that have been published over the last several years (Ovretveit, 2011; Nolte and McKee, 2008; Davies et al., 2008; Fulop, Mowlem and Edwards, 2005).

3.2.2. Aims and goals of integrated care

Policymakers, planners, researchers, and providers have long recognized "integrated care" as a goal, especially for people with complex, long-term problems. Generally, that goal is to provide seamless care for these patients cutting across multiples services, providers and settings (Kodner and Spreeuwenberg, 2002). This seamless care can address common problems including poor coordination of services and benefits, cost shifting, and frustration for users in accessing needed services. Integration can occur at several levels: clinical, organisational (policy and management) and financial and can vary in its completeness from simple efforts at linking services to full integration (Leutz, 1999).

In Australia, on-going calls for the need to establish an integrated approach to service delivery include those from New South Wales Health (2004) and The Myer Foundation (2003). The NSW Health Framework focused on integrated service delivery across the acute health and medical systems and parts of the aged care system where the Department held responsibility. Here, at certain "pressure points" (e.g. at hospital emergency departments or at the time of discharge from hospital) the strategies suggest a larger role for multidisciplinary teams who are given case management tasks.

In its "2020: A Vision for Aged Care in Australia," publication, the Myer Foundation articulated a future in which an "integrated network of services that

meets the changing needs of individuals will have replaced the existing funding divisions and classifications that separate residential from community care, and high from low-level care" (2003, p. 6) The Myer "vision" takes the aged care system separately from the acute and medical care system suggesting that, because [at the time the report was written] both the Australian Federal and State/Territory governments had responsibilities for different parts of the aged care system, service fragmentation and cost shifting occurred within this sector. Different funding and client contribution arrangements led to a lack of coherence and lack of integration within the aged care system. Furthermore, they suggested that "rigid boundaries at the edges of particular types of care" exist and that this resulted in lack of flexibility and choice for individuals. Interestingly, in its 2007 update on the aged care system, the AIHW (2007) provided a somewhat different perspective on this and reported "a person who receives government-funded community care may not know which particular program funds the services received, the service provider being the 'face' of formal care."

In many countries, integrated care is seen as the answer to delivering higher-quality, more affordable services across the health and supportive care systems, especially for people with chronic and complex conditions. Because clinical, administrative and/or financing systems are often fragmented, care is inefficiently delivered and planned outcomes suffer (DADHC, 2007; DOHA, 2004; Allen Consulting Group, 2007). Moreover, care recipients, providers, administrators and other stakeholders are frequently dissatisfied with their experiences with working in and/or with accessing care in these delivery systems. Within the broad aim of creating a system that offers high-quality, cost-effective

care and high levels of patient satisfaction (Shaw, Rosen and Rumbold, 2011), are more specific goals and mechanisms for achieving them (Mollica, 2003; Wiener and Stevenson, 1998; Stone & Katz, 1996). When organised by stakeholder group (care recipients, providers, and payers), we see that some goals are shared across stakeholder groups and others are potentially in conflict.

3.2.2.1. Care recipient (Client) goals. Ultimately, clients want the services they need, when they need them, with the goal of maximizing their independence and functioning. They indicate that their satisfaction will improve if the system of care they need is easy to navigate, flexible to their changing needs and does not lead to duplication of services, or large unmet needs. The client is also concerned that care is affordable to them.

3.2.2.2. Provider goals. Providers also want to achieve better outcomes, facilitated by better coordination of services. As their clients increasingly experience multiple chronic conditions, these better outcomes are no longer centred on "cure" as in the traditional acute care orientation, but around "care" through enhanced functional status, minimised distressing symptoms and improved quality of life. These broader goals necessitate service provision from a broader array of health and care professionals and so, creation of effective multi-disciplinary teams is needed (Mollica, 2003). Providers' aim for service integration is to reduce fragmentation of services and simplify administration both associated from participating in multiple programs (ibid.). They seek to enhance quality by matching services to clients' clinical needs, rather than to clients' financial eligibility. Providers also care about maintaining their workforce by keeping satisfied workers while also improving customer satisfaction.

3.2.2.3. Payer goals. Like clients and providers, payers want better use of resources and better outcomes. In Australia's case at the present time the principle payer of aged care services is the federal government although, like most countries, there are other smaller local and state programs brokering aged care services. More specifically, service payers want to create the right financial incentives so that utilization patterns are changed and care is provided in the most appropriate, yet least restrictive and least costly setting (ibid.). This can be done in a number of ways, including shifting the risk to providers through prepayment, full or partial capitation (Stone and Katz, 1996; Wiener and Stevenson, 1998) and limiting the number of contracted providers so that standards can be set and performance monitored (Wiener and Stevenson, 1998). As one articulated aim of integration efforts is to save unnecessary costs, payers often focus on how financial incentives can achieve such specific goals as preventing unplanned hospitalizations, avoiding over-utilization of medications and reducing medical errors and how to capture savings from those achievements.

3.2.3. The array of services in the complete continuum of care

Much of the focus on integrated service delivery has been quite expansive to include both acute health systems and other human service systems such as long-term supportive care, education and housing (Kane et al., 2001; Eleazer and Fretwell, 1999; Eng et al., 1997; Wiener and Skaggs, 1995; Kane, Illston, Miller, 1992). The major categories of services that might be included in a continuum of care for a person with one or more chronic health conditions are: 1) **acute inpatient** such as medical/surgical units in hospitals, psychiatric or rehabilitative inpatient units, consultant services; 2) **extended care** such as that delivered in

residential care facilities; 3) **sub- or post-acute inpatient** services such as transition care provided in residential and community care settings; 4) **ambulatory** including physician office visits, outpatient clinics and various mental health counselling and other congregate care settings such as adult day centres; 5) **community care** including day/overnight respite, hospice/palliative care, nursing and therapy, in-home supportive services; 6) **wellness and health promotion** such as education, support groups, exercise programs; 7) **outreach and linkage** including transportation, information and referral, screening and finally 8) **congregate housing such** as assisted living and other congregate housing. Of note when reviewing the international literature, these various services often have different names in different countries. For example, "aged care" is known outside Australia as long-term care, elder care and social care.

The list here is in no way exhaustive but instead illustrative of the range and diversity of services and providers that make up the continuum of care. This diversity of services has many implications for attempts to integrate care across them. For example, there are clear implications for administration as the skills needed to administer services in one area may not be adequate or appropriate to administer in another.

Most of the services are fairly self-explanatory, but one category of service—congregate housing—deserves some elaboration here, as it has been identified as being a critical element in facilitating integration in certain models (Kane et al., 2001). It has been recognized that bringing discrete packages of services into peoples' homes is the most-desired option for consumers, but has certain disadvantages in terms of efficiency and effectiveness (Kodner and

Spreeuwenberg, 2002). For example, the service provider's travel costs and time must be taken into consideration and can add considerably to the unit cost of home-based care, especially in rural areas. In addition, private homes are not designed to be care settings and are not generally adapted for use by people with mobility and other functional limitations. At the same time, seniors living in naturally occurring or purposefully planned congregate housing settings have been getting older and their needs increasing. Consequently, there is a trend in looking for ways to deliver services to people in congregate settings where the service components and mechanisms for organizing these services can be physically co-located. These settings include both living situations (e.g. senior housing) and other settings like adult day health centres.

Certain models of care depend on the physical co-location of services to facilitate integration. For example, The Program for All-Inclusive Care for the Elderly (PACE) makes participant attendance at an adult day health centre a key component of its model (Kane, Illston & Miller, 1992; Mollica, 2003). At the adult day health centre, PACE participants have their conditions monitored by health professionals, receive restorative and preventative services, and enjoy the traditional offerings of a day care centre (nutritious meals and social activities). There are many other care models (e.g. in the U.S. states of Illinois and Massachusetts) that involve placing care managers and personal care workers in elderly housing sites to facilitate the efficient delivery of integrated services (Mollica, 2003).

3.2.4. Processes and mechanisms needed to achieve integration

In order that the array of services a person needs are not offered as a fragmented collection of services, certain processes or mechanisms are needed to integrate them. In the literature, different ways have been offered for organizing the discussion about what processes are needed to achieve integration (Wiener and Stevenson, 1998; Booth et al, 1997; Stone and Katz, 1996).

Some authors have attempted to understand integration by deconstructing the concept and grouping operational processes into major areas of concern. Rosen et al. (2011) used six groups of operational processes (clinical, informational, organisational, financial, administrative and normative) when investigating integration through four international case studies. Evashwick (2005) offers a slightly different grouping in her discussion of four integrating mechanisms: care management, information sharing, financing, and management and structure. Again, these reflect the different authors' varying emphases on the different components of integrated care.

In addition to discussing processes, Ham and Curry (2011) suggest that integration is multi-dimensional and can be defined on the basis of: 1) level—micro, meso, macro, 2) types—population-specific efforts, 3) breadth—vertical versus horizontal, and 4) degree—real versus virtual. Some of these distinctions have important implications for our understanding of integration and its potential benefits. For example, looking at levels of integration; one of the biggest challenges to integrated care is the variety of payers, usually federal and local governments but also private insurance (macro), involved in a person's (micro) care, their multiple and sometimes conflicting rules and processes of

accountability, as well as the rational motive to shift costs from one to another. If at the macro level, financing is not integrated, all the provider-level (meso) information sharing, care managing, etc. might not be adequately supported with the right incentive structures. Likewise, it may not be necessary, feasible or even desirable that providers merge ownership to create "real" integrated management and organisation when "virtual" structures, where providers work together through networks and alliances, can be equally effective.

Throughout this research, I adopt Evashwick's (2005) conceptual groups with one important exception. While Evashwick incorporates normative processes into the discussion of integrated management structure advantages, these are important enough to be treated separately as in Rosen et al. (2011). Consequently, for this study Evashwick's conceptual framework has been modified to include these normative characteristics—skilled leadership, high levels of trust, shared values, consistent communication—as their own separate element. An elaboration of this modified framework follows.

Evashwick (2005) presents four integrating mechanisms that are key to the success of integrated care delivery systems; each is discussed below. One of the most interesting aspects of this literature is the amount of agreement there is about both the essential components of integrated care systems and also that there is considerable need for all of the framework's characteristics to be in place to achieve true care integration. Yet, there is some disagreement about the *degree* to which some components—especially organisation and financing—must be integrated. The best explanation may lie in the conjecture that programs "integrate different aspects of their programmes to different degrees, depending in

part on opportunities" (Leutz, 1999. p. 7). In other words: "all integration is local," (ibid., p. 9).

3.2.4.1. Inter-entity management and structure. The first integrating mechanism Evashwick describes is inter-entity management and structure. She suggests "appropriate structure is a prerequisite for the other three integrating mechanisms to occur" (ibid, p. 187).

It is widely recognized that organisational arrangements for providers may include a range of structures, from the most formal structure of ownership where they operate as a single organisation to strong, informal relationships between a groups of organisations. Contractual affiliations between a series of networked organisations fall somewhere in-between the two (Leutz, 1999; Evashwick, 2005; Rosen et al., 2011). Rosen and colleagues refer to these distinctions as "real" (ownership) integration versus "virtual" (networks and informal relationships) integration. (2011). There is disagreement about the degree of organisational integration that is needed to achieve clinical integration. Leutz (1999) suggests that the degree of organisational integration (linkage, coordination or full integration) should depend on a population's characteristics including stability, severity, duration, and complexity of condition(s) as well as capacity for self-direction.

In the past, integrated management and structure changes frequently came about when hospitals in some countries responded to reduced payments by expanding into residential nursing facilities, hospices, home care agencies and urgent care centres (Evashwick and Aaronson, 2006; Matsuda and Yamamoto, 2001). Other integrated structures grew out of physician groups who purchased,

or affiliated with other institutional providers. In some instances, these expansions did not last because, either there was a failure to successfully integrate the financing of the structure, or the information systems failed (Evashwick and Aaronson, 2006). Providers also became aware that expanding too far geographically could undermine their success. Hospitals often returned to their "core business" of acute care (ibid.)

A particularly striking example is from the U.S. where, subsequent to expanding into new areas, hospitals closed many sub-acute nursing units and divested a large number of home health agencies that had been used to move post-acute clients into less intensive (and expensive) settings, while being covered financially as part of the hospital stay. This trend was brought about when the federal government instituted distinct payment mechanisms for these services, rather than including them in prospective capitated hospital rate and this resulted in the reversal of integrated post-acute structures in the U.S (Evashwick and Aaronson, 2006).

Generally speaking, in New South Wales, "real" integrated aged care structures aiming to support the needs of older clients grew from residential care providers who expanded into the community as new public programs were introduced. Depending on the provider, this was seen as either an extension of their mission to serve older people, or as a diversification of their business portfolio. Few of these organisations started as community care providers and then diversified into residential care and, indeed, this seems a very unlikely scenario. In recent years some aged care organisations, however, divested all of

their residential care and become community care-only providers (Allen Consulting Group, 2007).

Theoretically, there are a number of advantages that are associated with integrated service structures from both administrative and care delivery perspectives. Rundall and Evashwich (2005) provide discussion of this in great detail. The principle general benefits to organisations of integrated management are: increased efficiency, economies of scale, wider distribution of risk, greater bargaining power, expanded market via automatic referrals and product appeal to customers, improved customer satisfaction and enhanced quality and outcomes (ibid, p. 188). There are a number of management techniques that providers can utilize to increase the likelihood of coordination across the continuum of services provided. These management techniques also produce efficiency advantages from shared central employment/human resource functions, joint education and training, shared care protocols and so forth (Rundall and Evashwich, 2005).

Centralized purchasing can help reduce costs (economies of scale) across the system but can also ensure that information technology is compatible across the system (Rosen et al., 2011). Similarly, aligning human resource functions serves several purposes as well: to standardize job functions, pay scales and benefits so that all staff will come to expect similar treatment across services, but also to ensure that there is commitment to integration by staff through appropriately written job descriptions and performance evaluations that build measures of integrated work into their metrics. Other mechanisms include creating a shared vision so that the parts of an integrated system have common sense of purpose when working through day-to-day challenges, board education

about organisational relationships and creating a management team that represents the different parts of the continuum, or different functions across these parts (Rosen et al., 2011).

When services are linked together through common ownership, the normative integrative processes discussed by Rosen et al. (2011) such as shared culture, consistent communication, skilled leadership and high trust relationships, are easier to develop. This is not to say that they are easy. In particular, leadership can be very difficult to find and retain when the system they lead integrates across multiple service areas that historically have very different cultures (take, for example, hospitals and nursing homes). Often, case studies of integrated care identify one or two people who are leaders with the vision and communication skills fundamental to the success of the integration effort. When the integration is across acute and long-term care, it is particularly important that the organisation gets "right" certain key positions. So, for example, the choice of physician leadership can be critical, since working with a multidisciplinary team when managing chronically ill patients is not always an environment physicians are comfortable in (Kane, Illston and Miller, 1992)

3.2.4.2. Integrated care management processes. Several terms often are used interchangeably with integrated systems of care: care coordination, care or case management, care or patient navigator, disease management. There is a lack of consensus regarding their definitions and use in actual practice (Huber, Sarrazin, Vaughn & Hall, 2003; Whellen et al., 2002; Reid, Haggerty and McKendry, 2002; Weingarten et al., 2002; Wagner et al., 2001; Schmitt, 2001). However, each of these integrated care models seek to reduce fragmentation and improve health

care delivery through better coordination (Chen et al., 2000; Brown et al., 2004; American Medical Association, 2004; Norris et al., 2002).

The literature attempting to answer questions about whether these different mechanisms improve quality and save money reflect the fact that the boundaries between these terms is blurry and each of the models they represent have substantial overlap. Generally, speaking, one can think of the term *care coordination* to represent the process of working with a population on specific disease processes and *case management* to represent the process of working with a specific person helping them with all needs (insurance, transportation, housing) not just with a disease process.

Putting aside semantics, when studying these processes and the people who provide them, it is important to understand the context in which they operate. So, for example, it is essential that one knows if the person undertaking the management and coordination, is an integral part of the treatment team, or has outsider status. Do they manage or coordinate only the disease process(es), or are they also responsible for eligibility to services and resource allocation?

Clearly, both a structure and process for coordinating care are needed when organisational structures and payment systems are fragmented. "Mechanisms for coordinating clinical care are widely recognized as essential and….have indisputably progressed in sophistication and availability" (Evashwick and Aaronson, 2006, p. 50).

Take first the broader term of case management. Case management can be thought of as an integrative and collaborative process of coordinating individual care. Case management as a separate and billable activity of dedicated personnel

emerged in the 1970s; particularly in the context of the National Long-term care Channelling Demonstration (Weissert, 1988). Case management programs are now widespread in New South Wales, yet the features and functions of case management, as well as cost, vary considerably from program to program (Allen Consulting, 2007). These features and functions include: periodic assessment of client needs; planning diagnostic, treatment and support services; provider referral and, if needed, assisting clients in making appointments; follow-up to ensure services are provided as planned; and regular communication between clients and providers to keep information on client status and their service plan up to date. They can vary by populations and settings, purpose, funding, duration, and caseload size (White, 2005). Again, an important consideration is whether, in addition to care coordination, case managers are also given the responsibility of allocating an organisation's limited resources among a population; that is, when they are called upon to act as gatekeepers. When case management involves both coordination of services and the administrative function of purchasing or allocating services, tensions can arise (Kane et al., 1991).

Who is responsible for clinical care coordination as well as the broader array of responsibilities also varies quite significantly by program and can be controversial, as many people can carry out this responsibility (White, 2005). Again, who holds the position of case manager is determined, in part, by whether the role is primarily that of a gatekeeper, an advocate, or counsellor/mediator. Generally, someone holds the position with a social work or nursing background. However, a multi-disciplinary team might also do the job. For example, at the core of On Lok's service management system is the multidisciplinary team and

considerable staff time (both professional and paraprofessional) is devoted to formal and informal exchange of ideas and information[1] about patient care (Kane, Illston and Miller, 1992).

Care coordination or disease management, where the focus is on the coordination and management of specific chronic medical conditions (e.g., hypertension, diabetes, asthma), which lend themselves to a standardized approach, emerged from the more general case management idea and tends to emphasize the role of the client in self-management, as well as the formal care system. More typically, care coordinators are qualified nurses and may, or may not be, part of the treatment team.

In Australia, case management is not available to all clients of community aged care but instead, it is built into the community aged care package programs that aim to delay, or reduce, nursing home placement. Case management is available, however, to certain complex HACC clients (Allen Consulting Group, 2007). Similarly, with the U.S. Medicaid program the government specifies for which client populations targeted case management is available and what services comprise targeted care management (U.S. Centre for Medicare and Medicaid Services, 2008). Recent evidence of the effects of case management attached to community aged care was strongest for delaying, or reducing, nursing home placement and shortening nursing home length of stay, though there was no evidence of reduced costs or reduced use of medical services (You et al., 2012). This is consistent with other systematic reviews of case management (Grabowski, 2006; Pimouguet et al., 2010; Somme et al., 2012). It is worth noting that You et al.

[1] Information sharing is so vitally important to the success of care management and the entire system that it will be discussed separately below.

(2012) excluded case management that is part of an integrated care model, because it is difficult to attribute the intervention effects to case management alone (Zwarenstein et al, 2009).

The Coordinated Care Trials (CCT) undertaken across Australia, including at two sites in NSW, are worth a review here. The CCT coordinated regional projects to test whether multi-disciplinary care planning and service coordination leads to improved health and well-being for people with chronic conditions or complex care needs. Some also involved funds pooling between Commonwealth and State/Territory programs to provide funding flexibility for this coordinated approach to service delivery. A total of 18 trials in 2 rounds (1997-2000, 2002-2005) experimented with different locally determined processes to meet community needs for care coordination (Department of Health and Aged Care, 2001).

The first round of the Australian Coordinated Care trials demonstrated four key points in terms of what matters in the implementation of a case management system: 1) clear and valid policy and principles; 2) local ownership and buy in; 3) assessment of the health care system capacity and functionality to respond to the needs of frail people; and 4) customization to address the local community characteristics (Sturmberg and Martin, 2007). The randomized control trials (RCT)[2] used to evaluate the trials proved exceedingly challenging in methodological terms, despite a core data set and central rules across the trials, because there was such diversity in capacity, needs and implementation in each local setting. The major learnings were instead qualitative and centred on the processes of local needs assessment, understanding of the how local systems

[2] Though held up as the "gold standard," an interesting question arises about the appropriateness of using RCTs, which were developed to evaluate much simpler technologies, to evaluate complex systems interventions (Martin and Sturmberg, 2007).

worked and how they might be improved in future (Esterman and Ben-Tovim, 2002).

The main empirical findings on clinical care coordination are summed up in Ovretveit's (2011) comprehensive review.

1.) Clinical coordination can improve quality and save money but it depends on which approach is used, how well it is implemented, and other features of the environment (e.g. the financing system, regulatory schemes) in which the provider is operating.
2.) Better clinical coordination improves quality and saves resources, but only some approaches save more money than they cost to operate and sustain.
3.) Whether money is saved (or increased income generated) from reduced waste and improved quality depends on how the provider is paid.
4.) The most cost-effective approaches to clinical coordination use reliable data to identify the type and conditions of patients/clients most at risk of deterioration and then make sure that those people get the right type of coordinated care and self-care services. Strategies that focus on "high cost and chronically ill patients" who take up a disproportionate share of medical expenditures are "the most appropriate candidates" (Burns and Pauly, 2002, p. 136).
5.) Models that focus on preventing hospital admissions and managing certain chronic conditions (especially congestive heart failure and depression, (Mattke, Seid and Ma, 2007) are most likely to save money and raise quality.

6.) Certain types of patients (poor, vulnerable, ethnic minorities) tend to be underserved in terms of coordination of care.
7.) Changes are needed in payment systems, regulation, professional education and codes of practice to counteract the increasing fragmentation and pressure to neglect coordination.
8.) So that all players share in the financial costs and savings, arrangements (such as cost and saving sharing agent organisations) need to be put in place where one provider gains from another provider's spending on coordination improvement efforts.
9.) Cost savings depend on the type of coordination, how effectively it has been implemented and the timescale over which costs and savings are estimated.

Another comprehensive review by Davies and colleagues (2008) summarized the effectiveness of 85 studies of care coordination. The main features of these interventions ranged from coordination of clinical activities to supporting service users in accessing care. The impact of these on health outcomes, user satisfaction and cost savings was assessed. Positive patient health outcomes were seen in over 55 per cent of studies, 45 per cent had improvements in user satisfaction, but less than 18 per cent produced cost savings. As Rundell and Evashwich (2005, p.193) sum it up: both clients and providers benefit from care management when it is targeted towards clients with needs that are multiple and complex, as it facilitates the "client seeing the right provider for the right problem at the right time".

3.2.4.3. Information sharing processes. The ability of clinicians and managers to use individual and aggregate data to facilitate better outcomes delivered more efficiently is the overarching goal of an integrated information system. Ideally, the system should include a single client record that combines 1) financial, 2) clinical, and 3) utilization information. It can be used by multiple providers and public and private payers and shared across multiple sites. An integrated information system might also be an information system that simply permits access and use of data from multiple distinct sources. Enormous public and private effort has gone into creating systems and processes for sharing information to help support both external accounting reporting and internal care-related decision making (Shugarman and Zawadski, 2005) yet the ideal described above is still far from a reality.

In an excellent issue of *Health Affairs* (2005) dedicated to health information technology (HIT), many of the relevant general issues on this topic are discussed and are referenced here. At least two major themes central to the discussion of integration are found in the literature on HIT. First, it is important to consider all the pieces of the integrated care puzzle together, i.e. information systems, care processes and financial systems are all inter-connected. So, while information sharing is central to getting better outcomes more efficiently, one doesn't guarantee the other; information must be accompanied by redesigned care processes. Similarly, economic arrangements need to be set up so that the costs and savings associated with integrated information systems are fairly accounted for between stakeholders. The idea that information sharing is a necessary, but not sufficient component, of integration is common to all the integrating

mechanisms. Second, in working towards an information system that is both standardized and interoperable (two universally desirable characteristics), there is a "delicate dance" between the important role of government as the primary payer for health care and the innovativeness of market-based solutions (Iglehart, 2005, p. 1100).

Hillestad and colleagues (2005), in a sophisticated modelling exercise, attempt to quantify the benefits of HIT in terms of improvements in efficiency, safety, prevention and management of chronic diseases. Basing their estimates of productivity gains on evidence from other industries, they suggest that widespread adoption of electronic medical record systems (generally the first component of an integrated information system) would yield large savings and HIT-enabled prevention, and management of chronic diseases would yield even more. They admit, however, that these savings are "unlikely to be realized without related changes to the health care system." (ibid., p. 1103) The authors list a number of barriers including acquisition and implementation costs, as well as uncertain or slow financial payoffs, and argue for a significant government role in overcoming those barriers.

There are several reasons for disputing the claim that savings made from HIT will be anywhere near what Hillestad and colleagues (ibid., 2005) suggest and these are persuasively laid out in three sets of comments by Walker (2005), Himmelstein and Woolhandler (2005) and Goodman (2005). The reasons include challenging whether efficiency gains derived from other industries (and, indeed, some efficiency losses) are applicable to health care, agreement on some very complex operational issues such as standardization and interoperability,

insufficient evidence that disease management programs can generally reduce the overall cost of health care services, and a host of other unproven assumptions.

Although assumed that sooner or later HIT will pay for itself through savings from increased efficiency, better outcomes and reduction of waste and duplication, the difficulty is that this benefit will tend to accrue to a different group of stakeholders (payers and patients) than those who make the up-front investment (providers). Health information technology needs the support of appropriately designed reimbursement and payment systems (Hackbarth and Milgate, 2005; Rosenfeld, Bernasek, and Mendelson, 2005). Specifically, there are two issues at play here. First, the ways health and aged care are paid for in many countries are not set up to reward quality outcomes but instead to reward outcome volume, or cost-shifting. Consequently, one priority is to align economic incentives so that they support the goals of integrated information systems.

Second, the issue of who pays the upfront costs and to whom the benefits accrue must be addressed (Hackbarth and Milgate 2005). For example, should governments directly pay for clinical information technology, or use reimbursement policy to reward quality outcomes and let providers determine how to achieve those outcomes? Who should assume the risk of strategies that do not achieve their goals? Interestingly, in the same way that case or care management is not uniformly beneficial to all clients, Dey and colleagues (2013) suggest that committing resources to more sophisticated electronic medical records capability may not be uniformly beneficial to *all* providers. In both instances, appropriate targeting is needed to produce benefits that outweigh costs.

Finally, other than the financing role that governments play, there is much discussion about other ways that government could or should promote HIT adoption. An explicit instruction about what information technology capabilities it expects is one way (Rosenfeld, Bernasek and Mendelson, 2005) and articulating key functionalities and requirements is another. Generally, there is agreement that government intervention is appropriate when the private market fails to achieve the desired goals for IT services and products. The lack of agreement on data specifications and strategies for interoperability could be considered market failure.

In Australia too, integrated information systems are a long way from a reality, although the usage rates for health information technology in physicians' offices is quite high: Henderson and colleagues (2006) reported 89 per cent usage in 2003-05. Electronic prescribing and ordering tests were the most common uses of this technology. Only about one fifth of physicians used all the clinical functions available. An initiative by the New South Wales government called Health Services Network, or "HSNet", features notice boards, discussion forums, lists of providers and electronic referrals across a wide array of human services providers, but is relatively small-scale in its scope. A number of programs are implementing electronic client records including: Department of Veterans' Affairs Home Care; Victorian ACAT e-waiting list for aged care packages; federal government introduction of the e-Health record; and various programmes through Medicare Locals to introduce integrated electronic systems at the local level. It is too soon to evaluate the impact of these efforts.

There are some noteworthy examples of providers and provider/payers who have developed the sort of integrated information system model described by Shugarman and Zawadski (2005). They include the Veterans Health Administration (VHA) and Kaiser Permanente Health Plan both in the U.S. and both are organized in very different ways than most providers in the U.S. (Kleinke, 2005). These organisations have several features that make investment of time and resources in robust clinical HIT systems worth their while: they own their own hospitals, employ their own physicians and their membership is stable. Translation of these single-payer systems overseas is easier to envision when those critical features are in place.

3.2.4.4. Integrated financing. It is clear from the literature that: 1) when there are two or more different programs paying for overlapping services, cost shifting is expected to occur and 2) if the right financial incentives are in place, the most appropriate services in the least restrictive settings are likely to be provided. What is less clear and subject to much debate is how much and at what level financial integration is needed to address cost shifting (Leutz, 1999; Leutz, Greenlick and Capitman, 1994; Wiener and Skaggs, 1995) and whether shifting financial risk to providers through some sort of payment per person (rather than per service), such as capitation, is the best way to get the most appropriate, least expensive services delivered.

How much financial integration is needed seems to depend on the community where the programs exist and what opportunities are available. It has been suggested that the fragmented financing (and accompanying regulations) "is the single most significant factor driving service fragmentation and inhibiting

integration" in the U.S. (Evashwick and Aaronson, 2006, p. 46). Aaronson specifically points to the system (or "nonsystem") of financing services for people with complex or long-term, chronic care needs as the major impediment to developing a continuum of care (2005). Whereas, in Australia, the recent takeover by the Australian federal government of the largest community care program, moves the aged care system closer to having integrated financing at the payer level which could, theoretically, be joined with the federally-funded Medicare acute care program (The Myer Foundation, 2003).

To the extent that integrated financing systems are meant to address the issue of cost shifting, it seems sensible that pooling the various sources of funding is a way to reduce this. This pooling can happen at one or more of several levels: payer, provider or consumer. The ability to bring these sources together is complicated by the fact that, especially with regards to long-term and supportive services, in many countries there are often a large number of payers involved. They can be from the national, state and local levels and from both public and private sectors. In Australia alone, there were at least 23 separate federal, state and territory programs that contributed to the financing of long-term care services in 2009 (SCRGSP, 2010). Usually, this sort of service fragmentation reflects both a lack of uniform national policy and an incremental, or piecemeal, development of the system.

The history of the Australian federal government's involvement in funding aged care reflects a recurring pattern of expanded involvement through new programming followed by consolidation. So, for example, residential aged care has evolved from maintenance subsidies for pensioners in Benevolent Asylums,

beginning in 1909 until the introduction of a nursing home benefit in 1963, with capital funding being made available in 1954. The introduction of The Aged Care Act of 1997 brought substantial reform to the system and created a uniform national policy around funding, allocation, eligibility, and quality of residential and some community services. Similarly, the Home and Community Care Act of 1985 created the Home and Community Care (HACC) program which replaced a range of disparate community care services provided by federal, state and local governments. Recent reforms have continued this trend and put Australia in a strategically good position to promote integrated aged care through its financing system.

Largely, the literature considers integrated financing in the context of bringing together acute and long-term care financing. Historically, the pooling of funds was considered even more complicated as many viewed the acute care system as inherently medical and the long-term care system as inherently social. Over time, these distinctions have lessened as now aged care is providing a very high level of services for very sick people (Steering Committee for the Review of Government Service Provision [SCRGSP], 2010). There is now considerable overlap in the sorts of services each of these systems provide. Moreover, it is often the case that medical systems are funded differently than long-term care systems creating further barriers to integration. Each system comes with its own regulatory and reporting requirements. The success of pooled funding relies, in part, on waiving some of the coverage rules and removing the requirements that specific evidence be provided on how money is spent and on whom.

Consequently, at the provider level, integration means more than just bringing the various funding sources together. Because there are often separate or even contradictory regulatory and reporting requirements which create major obstacles for providers (Aaronson, 2005), payers must also be willing to allow flexibility in the way moneys are used regarding the customary coverage rules (Mollica, 2003) and shift their thinking away from specifying units of care that must be delivered to instead tying reimbursement to desired outcomes.

Stone and Katz suggest that "one of the questions facing payers and providers interested in developing an integrated approach is whether capitation is a necessary prerequisite for the development of a comprehensive delivery system" (1996, p. 222). There is much enthusiasm in the literature for capitated payments as a strategy for creating the right financial incentives for providers. Wiener and Stevenson (1998) include among four specific goals for integrated care shifting risk to providers through capitation. Similarly, Stone and Katz (1996) suggest cost containment features of integrated systems include prepayment, full or partial capitation. At the core of the On Lok/PACE model is capitation and provider assumption of risk. A number of factors might affect a provider's ability to assume financial risk, including the total negotiated capitation rate, the ability to negotiate favourable contracts for services the organisation does not offer directly, information management capability and the dedication of other resources from a sponsoring organisation (Kane, Illston and Miller, 1992).

Probably the most important issue in assumption of financial risk is how the budget is set for both acute and long-term care services. There are many technical issues that need to be resolved in risk assessment. For example, is there a

global budgetary cap (where provider risk includes enrolment), or a per capita budgetary cap? If the goal is to change inefficient provider behaviour, are there some savings built into the budget? On the long-term care side, which is the appropriate comparison group: people in the community or people in nursing homes? If the target population is meant to be frail older people, or people with multiple chronic conditions, how does the capitation rate adjust for these characteristics and others?

As suggested above, the other integrating factors, particularly information sharing and organisation integration, play a role in a provider's ability to assume financial risk. It is likely that a provider organisation will need to access at least some external services to be able to offer the entire continuum of care. In these circumstances, how sophisticated management is at negotiating rates and contracts, or even getting other providers to assume some risk, will bear heavily in the organisation's success. Additionally, a well-developed information system will be useful in tracking and benchmarking costs. Given all these issues, critics point to alternative approaches to capitation and full provider assumption of risk. For example, some integration models entail payers to provide financial incentives (retrospective financial micro-incentives) for adhering to evidence-based guidelines and for rewarding specific clinical interventions (Rosen et al, 2011). Other models rely on different payer sources coming together in various combinations of capitation and fee-for-service, depending on the scope of their program (Booth et al, 1997).

3.2.5. Conclusion

Generally, the theoretical arguments for integrated care have been clearly articulated in many different international contexts; as have the concepts underlying the practice of integrated care. Yet, there is still no common definition of what integrated care means and how it is to be achieved. Different authors emphasize different aspects of the design of integrated care. As a consequence of these different emphases, the evidence base on how well the theoretical goals of integrated care are met by these newly devised systems is mixed. One thing is clear from the literature: development of integrated care must respect the different contexts as well as the strengths and weaknesses of both providers and policies found in those different contexts. As in the view of Humpty Dumpty above, some is a matter of semantics and taste.

Practically speaking, the evidence shows that integration across acute and long-term care is difficult for many reasons (Leutz, 2005). Moreover, some worry about the risks of combining these two very different systems with their different orientations. Traditionally, the focus of acute care tended to be on "cure," delivered by highly skilled workers with a medical focus, and on costly technology. On the other hand, the focus of long-term care tends toward "care" delivered in a "low tech, high touch" way by low paid workers in a system that is often viewed as chronically underfunded. The disjuncture on so many aspects of these two systems worries traditional long-term care advocates who think the acute system will dominate and long-term care will either become overly-medicalised, or the funding levels would worsen even more.

As with the Myer Foundation's (2007) *2020 Vision*, there is an argument that the logical first step is to address the integration problems within the aged care sector and at the service provider level. The research here looks at service organisations that have taken this first step.

3.3 Diffusion of innovation literature

The theoretical frameworks and investigative toolboxes of many diverse research traditions have explored innovation and how it gets put into policy and practice. Across these research traditions certain consistencies have emerged from the findings, especially around the adoption of product innovation by individuals. It is not clear how much this vast body of literature can be generalized to the complex process-based innovations in health and related service organisations. It is not surprising that what accounts for the success or failure of organisational adoption of innovations is less consistent. The dynamics that govern the adoption of innovations in health care are especially complex and in aged care they are constrained by dominant public payers and heavy regulatory features.

3.3.1. Overview

For the most part, the research findings are largely categorized by what aspect of the innovation adoption decision is being examined: 1) characteristics of the innovation itself, 2) characteristics of the adopter, especially over time, 3) the process for communicating information about the innovation to the adopter including the notion of opinion leaders and 4) the broader context within which the adoption occurs. The questions of interest to the present study largely fall into the first, second and fourth areas, especially the latter two, as they deal with the

characteristics of adopters of innovative structures and the external forces that come into play on these decisions. Consequently, the literature review below will focus on these three areas.

Because there are a myriad of research traditions that have progressed this exploration, and because the interactions between the four component areas provide interesting nuance, the greatest enlightenment from future research should come from using a "whole-systems" approach that brings together the segmented research traditions and areas. Indeed, recently several excellent unifying theoretical models (Bowen & Zwi, 2005; Greenhalgh et al. 2005) have been published that attempt to look at the larger dynamic system together.

It is widely believed that the early 1900s work on "the laws of imitation" of Tarde (1903, referenced in Rogers 2003) shaped the earliest thinking on innovation research. Tarde's writings suggested a number of important ideas that were developed further in the 20th century and today. These include the importance of examining not just successful innovations, but innovations that do not get taken up, the now widely-accepted "S curve" that reflects the shape of the adoption of innovations when plotted over time, the importance of opinion leaders in influencing adoption and so forth.

Rogers' *Diffusion of Innovations* (2003), now in its 5th edition, reviews and interprets decades of diffusion research that identifies the factors that influence the decision to adopt an innovation, patterns of adoption, characteristics and traits of different kinds of adopters and innovations. Indeed, Roger's 45-year career was largely devoted to this topic. As with many others who have written about diffusion of innovations in health care or by health care organisations, I draw

heavily from the definitions, organizing principles and findings reported in this classic text.

Rogers, himself, was a rural sociologist whose interest in innovation adoption began by noticing how farmers made decisions around using the newly developed hybrid seeds available to them. Here, the decisions were made by individual farmers basically imitating other farmers within their social networks whom they respected and who had interpersonal influence over them. Similarly, Coleman et al. (1966) systematically considered the prescribing patterns of doctors for newly-introduced antibiotics and noticed that there were common characteristics among those who were "early adopters" of this clinical behaviour: specifically, they were better networked, better educated and had higher social status.

Early research in this area also centred on studies of communication networks (speed, direction, style, etc.) and economics/marketing where adoption of innovations was examined in the context of perceived and quantifiable costs and benefits of the innovation. As the unit of analysis moved from individual adoption to adoption by organisations, research broadened into areas such as culture change and change management, as well as placing the innovation in broader contextual frameworks. In perhaps the most thorough and recent systemic reviews, Greenhalgh, Robert, Bate, Macfarlane & Kyriakidou (2005) explore over 1000 papers on the passive diffusion, active dissemination, and the sustainability of innovations in health care organisations. I draw heavily from this book as well.

3.3.2. Characteristics of the innovation

3.3.2.1. Definition of innovation. It is useful to define innovation especially in the context of health service organisations, starting with Rogers' frequently cited definition:

> *"An innovation is an idea, practice, or object that is perceived as new by an individual or other unit of adoption. It matters little, so far as human behaviour is concerned, whether or not an idea is 'objectively' new as measured by the lapse of time since its first use or discovery. The perceived newness of the idea for the individual determines his or her reaction to it. If an idea seems new to the individual, it is an innovation."* (2003, p. 12)

In health care, innovation includes new technologies, new insurance models or methods of financing, new models of care, information systems and more.

Rogers' definition is focused on the perspective of the individual with regards to how they perceive the innovation. Others suggest that there may be a different dynamic and complexity regarding the research on innovation when the adoption is at the level of the organisation. Osborne (1998) extends the definition so that innovation in an organisational context involves newness, which is consistent with individual adoption, but also that innovation is defined as 1) both a process and an outcome 2) is distinct from invention in that innovation is the application (a process) of new ideas, and 3) involves "discontinuous change" which distinguishes it from incremental organisational development. Greenhalgh and colleagues (2005) go a step further with their definition making it relevant to health service organisations by suggesting that the newness is perceived by stakeholders, that

implementation involves a planned and coordinated action, and that the goals for the innovation are to improve health outcomes, administrative efficiency, cost-effectiveness, or user experiences.

The number of stakeholders potentially affected by the adoption of any innovation varies. The list includes: policymakers/regulators, payers (such as the federal, state/territory governments, and private insurance), providers and provider organisations, patients and, especially with products or technology, vendors. With these increasingly complex definitions, it is easy to see that, in the context of health service organisations, a review of the research findings about what attributes of innovations make them more likely to be adopted is going to be similarly more complex than that for individuals.

3.3.2.2. Key innovation attributes. The rate at which innovations get spread and adopted is dependent on a number of key characteristics and many innovations do not get adopted at all. Again, it is useful to start with Rogers (2003) in examining this literature, since Rogers identified the characteristics or key attributes that tend to be associated with successfully adopted innovations.

The five key attributes of innovations identified include: 1) relative advantage, 2) compatibility, 3) complexity, 4) trialability, and 5) observability, which are defined briefly below. Rogers (ibid.) emphasized that it is the *perception* of these attributes on the part of the potential adopter that affect the rate of adoption, not the objective classification by experts or change agents. Rogers' hybrid corn seed example is useful in discussing these attributes.

"Relative advantage" is "the degree to which an innovation is perceived as better than the idea it supersedes" (ibid, p. 15). It can be measured in a variety of ways: economic, social prestige, convenience, satisfaction. Importantly, the objective advantage is not at issue in terms of the rate of adoption, rather it is the perceived advantage. If a farmer perceives the hybrid seeds as producing better results (larger crop yields), then adoption is more likely. "Compatibility" speaks to how well the innovation is "perceived as being consistent with the existing values, past experiences, and needs of potential adopters" (ibid, p. 15). Better, more reliable, crop yields are always needed by farmers and this would be particularly relevant if a farmer had had bad experiences with different seeds. The values and norms of a social system are also relevant here.

The "complexity" of an innovation will have an effect on adoption. The more easily understood, less complex innovations are more likely to be adopted. Although a farmer might not understand quite what makes the hybrid seed different, certainly this is a relatively simple change to make—from standard to hybrid seed. If an innovation can be tried out or experimented with on a limited basis before wholesale adoption, it is more likely to be adopted. So, a farmer may plant just part of his field using the hybrid seed at first to see if its yield surpasses the yield of other parts. "An innovation that is "trialable" represents less uncertainty [about the risks and benefits] to the individual who is considering it for adoption, as it is possible to learn by doing" (ibid, p. 16). Finally, the degree to which an innovation's advantages are visible will impact on the likelihood that it gets adopted.

Whether the crop yield is better should be shortly evident. Among other things, "observability" of an innovation stimulates discussion among peers.

Rogers (2003) suggested that a sixth attribute—"re-invention"—deserves some mention. Bowen and Zwi (2005) call this "revisability" and this goes hand-in-hand with trialibility in that together they answer the question: Is there opportunity to trial and change the innovation, or is the innovation invariant? Although the hybrid seed example might not be the best to illustrate re-invention, certainly it will be trialled and changed or improved, not by the adopter, but by the inventor. Indeed, all these factors tend to be rather interdependent. For example, to the extent that an innovation can be revised in the adoption process, then the compatibility with the adopter's needs and values are enhanced.

As one might expect, the literature on *individual* adoption of health service innovations (e.g. clinical guidelines or electronic medical records) concludes that the well-established attributes described above fit the findings. That is to say, simple innovations that are perceived to have a clear advantage over what they are intended to replace, which are compatible with adopter's values, which are easy to use and trialable on a limited basis, which do not require major changes in the organisation or in personal routines, and whose impact is observable, are more likely to be adopted (Greenhalgh et al., 2005). When looking at the research about individual adoption, it is important to remember that Rogers (2003) emphasizes that attributes are perceived, which means that different people and potentially different adopter groups (clinicians, administrators), may perceive attributes differently.

Take, for example, electronic prescribing of medicines. Clinicians may perceive the shift from hand writing prescriptions on pads to submitting them via desktop computer or electronic tablet as cumbersome or time consuming. On the other hand, administrators, payers, and regulators may see improvements with using electronic prescribing of medicines regarding the occurrence of negative drug interactions, prescribing medicines that are not part of a formulary and misprescribing due to illegible handwriting or confusion between similar-sounding medicines.

As the literature moves from individual adoption, to adoption by teams and adoption by organisation, the findings are not so straightforward.

3.3.2.3. Key attributes within the health services organisation context. When the unit of observation is an organisation rather than an individual, attempts at finding well-established and broadly consistent attributes come up short. Greenhalgh and colleagues (2005) suggest that the complexity of organisational settings can limit the usefulness of the conventional attribution constructs that are used for individuals, consequently, a more expansive view of these attributes needs to be taken. For example, relative advantage will vary by stakeholder perception of the innovation such as in the example of electronic prescribing above and might even be conflicting between stakeholders. In the context of health services organisations, what is advantageous to administration might not be advantageous to clinical staff and so forth. Among other things, this suggests that attributes are dynamic and vary by adopter and the nature of the innovation. Returning to the previous example, as clinicians are provided evidence by administrators for the better

outcomes associated with electronic prescribing, their perceptions about the relative advantages will likely shift.

Judging relative advantage in economic terms might better suit organisational innovation as it explicitly forces analysis of both the costs and risks (monetary and otherwise) and benefits (monetary and otherwise) to different stakeholder groups. These might include profitability or return on investment, but also savings in time and effort, social prestige, and immediacy of reward. Some of these are easier to quantify than others and yet relative advantage is traditionally measured by subjective perceptions that share the same limitation. In the context of aged care service providers, innovations that lead to better clinical outcomes, improved client satisfaction, and more efficient use of limited resources (especially staff) should have a relative advantage. The question then becomes whether they are also perceived to have this advantage.

Similarly, compatibility with an organisation is more complex as it involves both the way an organisation operates but also its organisational values. Cain and Mittman (2002) suggest that the likelihood of adoption of innovation by an organisation is enhanced if the innovation can "integrate" and "coexist" with technologies and social patterns already in place in the organisation. Klein and Sorra (1996) introduced the innovation-values-fit construct to get researchers to look beyond organisational routines, policy and practice towards organisational values. Compatibility, then, is not just an attribute of the innovation but it involves a fit with the organisation's climate and context. Particularly relevant here are the explicit mission statements and implicit values of the aged care provider organisations. With the dominance of community- and religious-based provider

organisations in the Australian aged care sector, the stature of compatibility with values is perhaps elevated.

When thinking about complexity in an organisational context, it is useful to distinguish an innovation's complexity with the complexity of implementation, or the number of dimensions a potential adopter needs to evaluate in an adoption-decision process. So, while an innovation might be relatively simple to understand, but might involve training many people to change their behaviours. Take, for example, the idea of multi-disciplinary teams. The idea of this may be quite simple, but for these teams to work effectively, there often needs to be significant shifts in the way different team members interact with each other and break down hierarchies of authority and decision-making traditions.

If the innovation does not require a great deal of change or coordination, the trialability defined by Rogers and Shoemaker (1972) as meaning the degree to which an innovation can be experimented with, is relatively easy. Take for example, the free samples of new prescriptions drugs often given to clinicians to trial. Those innovations that require large capital expenditures may not be very trialable.

Trialability and re-invention—the degree to which the innovation can be adjusted to fit the organisation, which has gained currency in discussion of the attributes of innovation—have become somewhat interchangeable in the discussion of innovation within organisations. This is because adaption to context is often quite critical. Indeed, the idea of integrated care is a perfect example here as the literature suggests that development of integrated care must respect the different contexts as well as the strengths and weaknesses of both providers and policies found in those different contexts. Specific examples of this can be found in

the literature on the On Lok replication sites. Although the On Lok model has very specific underlying principles (Van Reenen et al., 1989), the replication sites often had to vary those principles to work with their local policy and practice environments (Kane, Illston and Miller, 1992).

Finally, there is strong evidence that if the results of the innovation are positive and visible to the potential adopters (e.g. by watching someone else use or do something), then it will be more easily adopted (Greenhalgh et al, 2005.) Again, in the context of organisations, this notion of observability is harder to examine because there are many relevant players for whom the innovation may or may not be observable. Certainly, the benefits need to be observable, or be made observable, to the key stakeholders and decision-makers within the organisation and externally (Meyer and Goes, 1988). Additionally, it is more difficult to observe service innovations than product innovations although the "product/process distinction is not an especially helpful one in relation to health service innovations" (Greenhalgh et al., 2005, p. 96.) If the improved results are slow to become visible, then adoption of the innovation is likely also to be slow.

3.3.3. Characteristics of individual adopters.

There are two types of theoretical orientation that can be utilized when examining innovation: process and variation. Rogers' (2003) theory looks at the adoption of innovations *over time*. Theories that look at innovation adoption over time are process theories. Flowing from this perspective are the categories of individual adopters (innovator, early adopter, early majority, late majority and laggard) that have become part of the accepted nomenclature of innovations research.

Other researchers, however, consider the explanation for adoption at a particular *point in time*, where all contributing factors are viewed as occurring simultaneously. This theoretical perspective is the variance theory of innovation adoption and the literature most relevant to present study. Examples in this area are covered in section 3.3.4. The literature also varies on other dimensions: first, whether adoption is by individuals or organisations and then, whether the innovation is a product or service.

Much has been written about the people-related differences in innovation adoption, in particular the five adopter categories. Rogers observed, originally from Iowa farmers and their uptake of a hybrid corn variety, that there is a

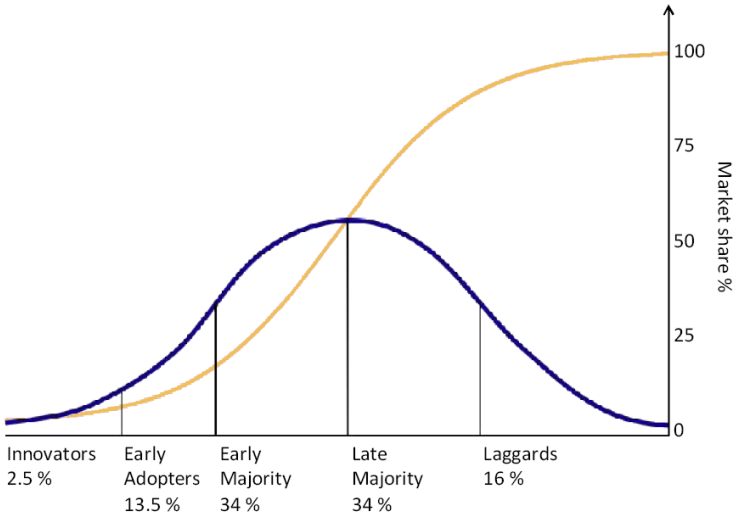


Figure 3.1 The Diffusion S-Curve

recurring pattern to the adoption of innovation over time that takes the shape found in Figure 3.1. This "S-Curve" model represents the *cumulative* number of adopters shown by the yellow line. The blue, normally distributed, bell curve represents the *new* adopters. They are simply two ways of representing the same data. This same adoption pattern has been shown repeatedly and generally shows

that, early on, a small number of people or organisations adopt an innovation (early adopters). As others see it in use and see that it is actually better than the previous way of doing things (observability), they too adopt the innovation. In this middle phase, the diffusion hits a level of critical mass and adoption happens quite rapidly. Then, eventually, a saturation point is achieved. The shape suggests that there are various degrees of resistance to innovations (put another way, adoption occurs at different rates) that would be reflected in the slope of the curve, though the general shape would remain the same. Organisations share the same S-shaped adoption curve.

Rogers gave names to each of the five adopter categories, as they *tend* to share certain characteristics. These are described below.

> *Innovators* are venturesome and cosmopolitan, i.e. they go outside their local circle of peer networks and sometimes form contacts or "cliques" of innovators, that are have geographically dispersed. They tend to have a high tolerance of uncertainty and failure and the ability (resources) to absorb possible losses associated with failure.
>
> *Early adopters* tend to be the opinion leaders in a local area. Potential adopters look to them for advice and information on an innovation, as the innovators aren't well integrated into the local social system like the early adopters. The early adopter is considered by many to be "the individual to check with" before adopting a new idea (ibid., p. 283). They must make judicious and successful innovation decisions to maintain their position in their peer group as opinion leaders. It is the early adopters who put their "stamp of approval" on innovations.

The *Early Majority* are highly connected to their peer system though just ahead of the average and terms of their adoption of innovations. They are more deliberate in their decision-making and their decisions tend to take longer to make. The follow the leaders and provide an important connection in their interpersonal networks.

The *Late Majority* are sceptical and do not adopt innovations in most others in their systems have already done so. They tend to have limited economic resources and, therefore, have a low tolerance for uncertainty. The adoption of an innovation may be responsive to economic necessity.

Laggards tend to be very locally focused, or even relatively isolated in their social networks. They are extremely cautious and thus resistant to innovations, perhaps as a result of limited resources.

It is worth noting that these five adopter categories are *statistically defined* categories (representing one and two standard deviations from the mean) not fixed personality traits. The descriptions above are generally observed traits of individual adopter categories that have been largely used in commercial marketing (or individual adoption of product innovations). The categories can be misused.

3.3.4. Characteristics of organisational adopters.

It is not clear if the observed traits of individual adopter categories would directly translate into organisational traits per se; again, because the organisational adoption (assimilation) of innovations is so much more complicated than adoption by individuals. Greenhalgh and colleagues (2005, p. 100) caution

that these categories have "never been rigorously tested in relation to service sector innovation and should not be applied in this context." Similarly, though the shape of adoption for organisations has been seen to follow the same S-curve, the literature most relevant of greatest relevance is not the adoption over time, but the adoption at a point in time.

A sizable literature is dedicated to examining the factors associated with the uptake of innovations in health care organisations, especially hospitals and health systems. The innovations studied encompass a wide range of new ways of doing things that are directed at improving health outcomes, administrative efficiency, cost-effectiveness or the user experience. Some of this research may not be relevant to the nursing home sector because nursing homes have different economic structures and face heavy regulation, diminishing some of the incentives created by competition (Castle and Banaszak-Holl, 1997). Moreover, the literature addressing management or service innovation in long-term care is considerably more limited. The most notable among the studies are set in nursing homes and include the work of Lucas and colleagues (2005) on continuous quality improvement; Zinn, Weech & Brannon (1998) on total quality management, and Castle (2001), Castle & Banaszak-Holl (1997), and Banaszak-Holl, Zinn & Mor (1996) on specialty units and services. All these researchers investigated the internal and external factors that are associated with uptake of these various innovations in U.S. nursing homes using multivariate statistical methods. Four of the studies are conducted at the state level and one at the national level.

There are some fairly consistent findings from the literature on nursing home innovation. Several organisational characteristics are regularly found to be

significant in the uptake of innovations in nursing homes. For example, nursing homes that are part of a chain have an increased likelihood of innovation (Banaszak-Holl, Zinn and Mor, 1996, Castle and Banaszak-Holl, 1997; Castle 2001). Larger bed size was also found to be a significant factor in some studies (Banaszak-Holl, Zinn and Mor, 1996; Castle, 2001; Lucas et al., 2005) while proprietary status can have a negative effect on innovation (Banaszak-Holl, Zinn and Mor, 1996). The literature on uptake of innovations has not yet extended to home and community care. It's not clear whether the same characteristics will be relevant in this care setting.

3.3.5. The adoption process.

Individual and organisational characteristics reflect the use of a variance perspective on innovation adoption. Recall, however, that some researchers are interested in the process of adoption rather than an event where all the variables are considered at a point in time. Indeed, the various steps for the adoption (or non-adoption) process have been outlined by a number of researchers (e.g., Rogers, 2003; Bowen and Zwi, 2005; Greenhalgh et al., 2005). Generally speaking, these involve first some stage of information gathering about the innovation, a second stage where there is evaluation of the innovation, and third where the innovation is adopted and then implemented. Rogers (2003) differentiates adoption (individuals) from diffusion that occurs within society as a group process. Greenhalgh et al. (2005) prefer to use the term assimilation in the context of organisational uptake of innovations. Semantics aside, the literature contains descriptions of the stages that organisations go through and applies these stages to case studies. Six empirical studies that focus on the process of adoption in health

care organisations of various innovations were reviewed and the general conclusions emphasize the complexity of these processes and uniqueness of each context.

In their *Pathways to 'Evidence-Informed' Policy and Practice*, Bowen and Zwi (2005) call these steps: 1) sourcing the evidence, 2) using the evidence and 3) considering capacity to implement. At each stage, they consider that an innovation, in this case a policy idea, can be rejected. Similarly, at each of three stages, some action takes place either adopt, adapt or act.

3.3.6. Broader context

The broader context is relevant regardless of whether an adoption of the innovation is viewed at a point in time or as a process. Broader context is particularly relevant for health- and other care-related organisations because of the significant role government financing and regulation plays in shaping organisational behaviours. Accommodating key "resource-providing constituents" is critical in markets where supply is constrained by public finance and planning (Pfeffer and Salancik, 1978, cited in Lucas et al., 2005). Reimbursement systems differences have been found to influence the uptake of innovation (Banaszak-Holl, Zinn and Mor, 1996).

To the extent that there is private pay in these largely public pay areas, real or perceived market competition (e.g. The Herfindahl index), especially for the more lucrative private pay clients, creates an incentive to innovate, (Banaszak-Holl, Zinn and Mor, 1996). In Australia, where allocation of residential facility licenses and community care packages has been under strict planning control since 1985

(Productivity Commission, 2011), providers gain competitive advantage by meeting the needs of government purchasers. Consequently, the government planning agencies that award service contracts potentially represent a more important factor in understanding the uptake of the defined innovation.

3.3.7. Conclusion.

Examining organisational adoption is, as Greenhalgh and colleagues (2005) concluded, "rather messy" and more complex than individual adoption, since organisational decisions depend on an array of contributing factors including structural determinants—size, function, differentiation, resources—and softer issues such as organisational culture. Organisations are thought to exercise strategic choice around innovations for different reasons (e.g. market pressures versus conformance with external expectations) and within the constraints of both institutional capacity and their environment.

The following Chapter 4 provides a detailed outline of the theoretical framework and study methods employed to investigate the characteristics and decisions of innovative providers of community aged care services in the Australian context. It outlines the quantitative techniques, specifically multinomial logit models and factor analysis, used to analyse the secondary data from State and Federal sources as well as the original data collected in a provider survey respectively. Chapter 4 also discusses the sample selection and techniques for conducting focus groups with senior staff of innovative provider organisations.

CHAPTER 4—Methods

4.1. Overview

In this chapter, the research questions are stated and the theoretical and technical approaches used to undertake the three separate but related studies described. Chapter 3 indicates there is clear evidence from the literature that a continuum of care delivered by integrated care systems has distinct advantages over care delivered in a fragmented way. Some aged care providers in NSW have adopted integrated service structures that span a variety of community and residential aged care programs with shared ownership, though most have not (see Chapter 5). For my first study, I use multinomial logistic regression modelling to investigate the environmental and organisational factors associated with the adoption of integrated aged care service structures with shared ownership. The procedures used to access and analyse the data from three sources are outlined in section 4.4.1.

Throughout this research, integrated aged care service structures are conceptualized as an "innovation." Evashwick's (2005) model helps to understand the advantages of these structures and what motivates organisations to adopt them as well as the other components of integrated care. The second study described here investigates, through an on-line staff survey, the organisational cultures of a sample of innovative aged care providers. Factor analysis was performed on the survey data to determine which factors were most strongly associated with innovation. The procedures used to administer and analyse these aged care provider surveys for the second study are discussed below in section 4.4.2.

Finally, for the third study, I investigate Evashwick's other three integrating mechanisms—care coordination, integrated information systems, and integrated financing—through focus groups with providers and policymakers. Content analysis was used to analyse data from the semi-structured focus groups and informal interviews with executive staff of service providers and government officials. The procedures for conducting and analysing focus group and interview data are outlined later in this chapter.

Generally, the literature on integration (Chapter 3) focuses on identifying best practices. Instead, these studies investigate what factors lead to the adoption of the component pieces of integrated service delivery and how evidence on integrated care gets translated into policy and practice. The overarching aim is to contribute to the understanding and promotion of integrated service delivery in the aged care sector.

Broadly, the study investigates the opportunities that exist for aged care providers to offer integrated services in New South Wales and to understand how organisations change to better fit the environment they faced and how organisational values and capabilities influence what that change looks like.

4.2. Research questions

The broad questions that this research aims to answer include:

1. What are the characteristics of community aged care service providers in NSW that have adopted various delivery structures?

2. What are the internal factors that influence community aged care service providers in NSW to adopt, or not adopt, formally integrated aged care structures?

3. What are the external factors that influence community aged care service providers in NSW to adopt formally integrated aged care structures?
4. What is the status of the uptake of other integrating mechanisms (care coordination, information systems, financing) as well as informal integration structures in NSW?
5. What can be done to promote more effective adoption of integrated aged care systems?

These study questions are addressed in the context of three separate, but related, studies.

4.3. Theoretical frameworks

The diffusion of innovation theory developed by Rogers (2003) and described in some detail in the literature review was of interest and helped to inform the conceptualisation of the research questions. An enormous literature has sprung from Rogers' work and researchers have applied his original thinking and robust observations on *individuals* to the behaviour of *organisations*. In an excellent survey ("meta-narrative review") of the literature on innovation in health care organisations, Greenhalgh and others (2005) discuss some of the theoretical limitations of Rogers' empirical findings. Especially relevant to this research is the limitation that Rogers focused on individual adoption. The unit of analysis that was chosen for this research is the service provider organisation and so it was necessary to look beyond Rogers' diffusion of innovation theory to find theoretical grounding for the research questions.

Greenhalgh et al. (2005) caution in their review that moving from individual adoption of an innovation to innovation adoption by an organisation is

rather complex, with adoption decisions depending on an array of contributing factors including structural determinants (size, function, differentiation, resources) and softer issues such as culture and context.

I draw upon three separate but complementary theories to frame questions around the internal and external factors that contribute to the decision to adopt innovative structures. Institutional theory (Meyer and Scott, 1992) and resource-dependence theory (Pfeffer and Salancik, 1978) are particularly useful when explaining the way external pressures influence organisational structure and practice. From my perspective, the differences between these two are more a matter of emphasis and semantics than a case of competing novel theories.

Both theoretical perspectives were utilized because organisations are thought to exercise strategic choice around innovations, but for different reasons (e.g., market pressures versus conformance with external expectations) and within the constraints of both institutional capacity and their environments. Consequently, it is important that questions about these decisions be framed to accommodate both perspectives. Several of the studies reviewed in Chapter 3 used these complementary approaches in framing study questions around innovation in health care.

The resource dependence theory (Pfeffer and Salancik, 1978), in particular, was relevant to the focus groups that were conducted with policy and planning officials in the third study and when asking providers about the influence of these same policy and planning officials. So, while these entities are part of the contexts that were investigated, the resource dependence theory emphasizes that survival in a changing environment is enhanced if the needs of what Pfeffer and Salancik

call key resource providing constituents are accommodated (1978). This is especially relevant in an environment where there are high demands on limited resources. The competitive tendering process that characterizes community and residential aged care in Australia and New South Wales suggests that aged care service provider organisations will respond to the demands of policy and planning officials. The question then becomes whether these officials are actively promoting the development of integrated delivery systems by awarding contracts to systems that have developed these.

The institutional theory (Meyer and Scott, 1992), on the other hand, offers guidance on formulating questions about the organisational characteristics that help project an image of quality to both users and payers of care, as well as to interest groups. The strategic choices made will depend on the resources, values, leadership of the organisation and how they want to position themselves favourably within the environment. Robbins and Barnwell (2006, pg. 280) tell us that, "although all organisations must respond to both economic and social demands [the two types of institutional demands], for many, one group clearly dominates." The relative importance of these demands was explored with innovative service provider focus groups. Again, institutional theory is not inconsistent with resource dependence theory; it is a matter of emphasis.

There are two types of theoretical *orientation* that can be utilized when examining innovation: process and variation. Rogers' (2003) theory looks at the adoption of innovations *over time*. The well known "s-curve" of his diffusion theory reflects the repeated observation that, over time, the adoption of innovations follows a similar pattern reflected in the five now well-known groups (innovators,

early adopters, early majority, late majority and laggards) of system member innovativeness, depending on whether the *individual* was relatively earlier in adopting the idea. Theories that look at innovation over time are "process" theories. The process theory of innovation presents a series of occurrences that explain how the innovation came about (Mohr, 1982). The service provider focus groups explored some areas in a way that would suggest a process orientation, as there are questions about the steps and timing of these providers when moving to integrated delivery systems. However, this information was gathered only on a very small sample of service providers and so the data were not sufficient to present a process theory of innovation in community aged care. As Mohr writes: "process theory often conceptualizes the steps without analysing the forces that drive from one step to the next" (ibid.).

Instead, the population-based aspect of the research—specifically, the multinomial logistic model— departs from Rogers (2003) diffusion of innovation model and does not look at the process of adoption over time, but considers the explanation for adoption at a particular *point in time*, where all contributing factors are viewed as occurring simultaneously. Therefore, the theoretical perspective utilized for the first study was the "variance" theory of innovation adoption (Mohr, 1982; Kaluzny, McLaughlin and Jaeger, 1993; Shortell et al., 1995). Variance theory of innovation supports the common hypothesis testing and regression model types of investigation that are utilized and reported later in Chapter 6.

Analyses of the secondary data (described below) obtained from the Aged and Community Care Management Information System (ACCMIS) for community care packages and residential care, and the administrative data put together by the

DADHC for an earlier study (Hixon, 2009), explored if there were certain variables that increased the odds of a provider offering integrated services, where time was immaterial to the outcome. Mohr's (1982) variance theory proposes that internal and external factors predict adoption; the unit of analysis is the organisation as a whole; and organisational characteristics, the values orientation of leaders, community relationships and the innovation itself may be critical predictors of adoption. All of these aspects of Mohr's (ibid.) theory were considered relevant for answering the research questions.

It is worth noting here that Mohr (ibid.) hesitates to use the term "theory" when discussing innovation study, especially in the context of organisations because of the complexity to which Greenhalgh and colleagues (2005) refer. A case in point: results from study on innovations in residential aged care show inconsistent associations between facility size, proprietary status and competition and the adoption of innovation (Lucas, 2005). Mohr (ibid.) writes that theory suggests unequivocal stability, which is anything but the case in the relatively thin literature on innovations in aged care service provision. While innovation is a stable term, meaning departure from habit, custom or tradition, organisational structure is too multidimensional to have a constant meaning. These are relevant comments on theory and will serve as word of caution when drawing connections between the research findings and those that have come before. In sum, there are several complementary approaches used to frame the questions in this research. The overarching interest is in how organisations make decisions about adopting the structure and processes associated with integrated aged care services and how

these decisions are influenced by both internal and external factors at a certain point in time.

4.4. The three study designs

To investigate integrated aged care delivery systems in general and aged care providers' decisions to take up integrated service delivery structures in particular, three separate but related studies were undertaken. These studies employed both quantitative and qualitative study approaches. The three studies were: 1) the development of a multinomial logistic regression model to examine what factors are associated with integrated service delivery systems using secondary data from New South Wales; 2) a staff survey of the culture of innovation for a specified sample of provider organisations in the State; and 3) semi-structured focus groups or interviews with a sample of aged care providers representing innovative practice in either structural integration or in other ways. The studies were completed over a period of four years.

4.4.1. Study 1: Multinomial logistic regression modelling

The first study consisted of the development of a multinomial logistic regression model to examine what factors are associated with integrated service delivery systems using secondary data from New South Wales. There were two levels of analysis: service level and provider level. Descriptive analyses were done at both the service and provider levels while only the provider level was used for the modelling.

4.4.1.1. Study populations. The study population for the *service level analysis* consisted of all NSW providers of community aged care services funded by the Home and Community Care, (HACC), Community Aged Care Packages (CACP),

Extended Aged Care at Home (EACH), and/or Extended Aged Care at Home – Dementia (EACH-D) programs (n=2168). Chapter 5 provides the results of the service level analysis. The study population for the *provider level analysis* is a subset of this population; city and state-government run programs were excluded and then the services were aggregated by provider sponsorship to the planning area (n=619). The strategy for this is described further below.

4.4.1.2. Data sources. The secondary data sources for this study included the publicly available data from the Aged and Community Care Management Information System (ACCMIS) for CACP, EACH and EACH-D as well as administrative data from the Department of Ageing, Disability and Home Care (DADHC) on the various avenues of HACC funding including Home Care Block Grants, grants through Department of Health/Area Health Services, and funding through Ministry of Transportation. The administrative data were provided through a research grant to the author with DADHC. Residential care information from the ACCMIS was included when the service provider was also involved in delivering either HACC or other community care services. Information on provider tax status was from the Australian Tax Office online ABN Lookup Webservice. Appendix 1 outlines the process used to put together these data sources.

4.4.1.3. Research procedures. The research procedures undertaken in each of the three stages of the first study occurred as follows:

Stage 1 (Months 11-40): Database construction from public and other administrative sources.

Two databases were created from public and other administrative sources: one to look at total community care services and the other to look at a subset of non-government community care service providers.

The larger services-level database was created by merging administrative data from DADHC on the HACC program, and data from the Australian Federal Government's Department of Health and Ageing (DOHA) on the residential and packaged community care. (A complete description of the data, its sources, and the decision rules used to merge the data can be found in Chapter 5 and Appendix 1). The original database, presented in Chapter 5, uses a "service" unit of analysis at the *local government* area which provides information on 2168 services. Also in Chapter 5, the refined database was used which presents the more aggregated "service provider" as the unit of analysis and at the *local planning* area that is larger than local government area. This refined database contains information on 619 service providers.

The distinction between services and service providers is important, as illustrated by way of two fictional examples revealing the difference between provider and service. ABC Community Care (the service provider) offers the following services: ABC home modification and ABC food service. With Commonwealth-funded programs (residential and packages), the provider, Loving Care, Inc., owns and operates Loving Care Nursing Home and Loving Care Packaged Care. Sometimes these providers are part of larger organisations with state and national presences. (Definitions of organisation, provider and services can be found in Appendix 1).

The difference between local government area and local planning area is also worth noting. In the service-level analysis, aged care services offered by the

same provider in a *local government* area are reported as one, even if they are not physically co-located. Similarly, providers in the same *local planning* area are counted as one in the provider-level analysis found in Chapter 5. In a way, the two different units of analysis reflect different perspectives as well. One might think of the service level as reflecting the perspective a consumer and/or their family might take when needing services: looking in their local government area for someone who can provide the services that they need. On the other hand, the provider level analysis at a local planning area is better suited and reflects the decisions that are made around how to structure service delivery and the potential influences of the government officials in these planning areas. Local and state government providers were eliminated from the refined database that was used to examine provider-level decisions, since their adoption decisions were expected to systematically differ from those of their non-government counterparts. You will note Table 5.4 shows that the proportion of providers in a local planning area that are identified as local or state government ranges from 23 per cent in Southeast Sydney to 65 per cent in New England.

There were two areas identified where a finer distinction in the original service-level categories was thought to be useful. First, the "non-government" category from the DOHA data was broken down into five tax status categories to examine differences between non-profit and proprietary organisations. There is a significant body of literature that addresses the differences between these two types of sponsorship (e.g. Banaszak Hol, Zinn and Mor, 1996) and there was interest in seeing if the patterns were borne out with this population. Information about tax status was retrieved from the Australian Business Register's "ABN Lookup" database (http://abr.business.gov.au/).

Similarly, the "HACC only" designation from the original version of the data base likely concealed differences in providers who deliver a single HACC service and those who provide a wide range of HACC services and so the HACC only category was broken into "HACC single" and "HACC other." Finally, in the refined database for service providers, additional information was added on residential bed size, aged care package size, and common sponsorship. Once these refinements were complete, descriptive analysis like that found in Hixon (2009) and in Chapter 5 were run and reported.

The two versions of the database (service and provider) were used for three purposes. First, they were used to describe the community care services and providers in New South Wales (Step 2). Second, the provider database was used to create multinomial logistic regression (MNL) models to understand what variables predict selection into the seven structural models (see Step 3). Third, the provider database was used to identify the adopters of integrated structures (the innovation "adopters", n=8).

Stage 2 (Months 20-23): Determine the differences among services and service providers that fall into different structural types

Descriptive statistics of the combined ACCMIS and DADHC database were conducted to provide simple summaries about the data and to provide the average, the range and simply describe the differences between subgroups. Both total community aged care services (n=2168) and non-governmental community aged care service providers (n=619) were described in detail using these techniques. The results of the descriptive analyses are found in Chapter 5.

Stage 3 (Months 41-47): Create a multinomial logistic regression model using non-government provider database

Inferential statistics were used to make judgments of the probability that an observed difference between groups was reliable, or whether this happened by chance, in order to make inferences from the data to more general conditions. Multinomial logistical regression (MNL) techniques assisted in making inferences about what factors predicted which of seven structural models the provider participants fell into; ranging from segregated, single service offerings to fully-integrated services across the aged care continuum. The MNL model, therefore, helped to create a profile of aged care service providers who were most likely to adopt a fully-integrated model, or the "innovation".

Three MNL models were created using the PASW Statistics (Version 18) software package (http://www.spss.com.hk/statistics/); one using the full data and two using different subsets of the data. In all three models, the dependent variable "integration model", was created by combining three other variables that identified program participation in four community care programs (HACC, CACP, EACH and EACH-D), plus residential aged care as established by data from the DADHC and the DOHA. The simplified three variables (HACC, Packaged Care, Residential) were found in 2^3 -1 or 7 combinations[1]. Although a rough order of these was imposed according to increasing levels of structural integration in the descriptive tables presented in Chapter 5, it was unclear how to order "HACC only," "Packaged Care only" and "Residential only" and whether combining categories, so as to impose order, might have diminished the usefulness and predictive capacity of the model.

[1] "Residential only" was excluded and "HACC only" was eventually split into two categories: HACC Single and HACC Multiple. As noted in footnote a. on Table 4 in chapter 5, the size of the "HACC+Residential" group was so small that it had to be combined with "HACC+Packages+Residential" for the MNL models.

The independent variables tested for use in the MNL model were tax status (5 categories), geographic remoteness (6 categories), local planning area (16 categories), total program funding, number of beds, number of packages, and shared sponsorship (a proxy for "chain" membership). The choice of these variables was guided by the existing literature on innovation and organisational behaviour in aged care services. For example, the number of beds in residential aged care was found to be an influence in adoption of certain innovations (subacute units and CQI) (Castle, 2001). Similarly, resource dependency theory suggests that in aged care services government planning and policy officials will strongly influence organisational decisions, and so a variable capturing local planning areas was included (Lucas et al., 2005).

The logistic regression model developed to predict which of the seven packages of services a provider offered occurred as follows: The latent index associated with a service provider p (for p=1,…,619) providing the set of services in category j (for j=1,..,7) is given by:

(1) $Y_{pj} = B_{oj} + B_{1j}X_p + e_{pj}$

where X_p is a set of characteristics of provider p that will include tax status, planning region, remoteness, funding, number of beds and packages. The intercept term B_{oj} captures unmeasured factors that may induce providers *in general* to have a relatively high/low propensity to offer services in category j. The error term e_{pj} captures unmeasured factors that may induce provider p *specifically* to choose to offer services in category j.

In the MNL model, the provider is assumed to choose to offer the set of services j that generates the highest value of the latent index (i.e. provider p will choose to offer set j if Y_{pj} is greater than Y_{pk} for all other options k). Note, for

instance, that in the case of for-profit service providers the latent index would presumably be interpreted as profits. For non-profit providers the latent index would capture a more complex range of factors (such as benefits to stakeholders consistent with a mission objective).

The MNL model is obtained by assuming that the error term e_{pj} has an extreme value distribution that is independent across categories *j*. In that case, the model predicts that the proportion of service providers who offer the group of services *j* is given by:

$$(2) \qquad P_j(p) = \frac{\exp(B_{0j} + B_{1j}X_p)}{\sum_{k=1}^{7} \exp(B_{0k} + B_{1k}X_p)}$$

Notice that (2) implies the familiar expression for the odds ratio:

$$(3) \qquad \frac{P_j(p)}{P_k(p)} = \frac{\exp(B_{0j} + B_{1j}X_p)}{\exp(B_{0k} + B_{1k}X_p)}$$

and for the log odds ratio:

$$(4) \qquad \begin{aligned} \ln\frac{P_j(p)}{P_k(p)} &= (B_{0j} + B_{1j}X_p) - (B_{0k} + B_{1k}X_p) \\ &= (B_{0j} - B_{0k}) + (B_{1j} - B_{1k})X_p \end{aligned}$$

Equation (4) shows how the MNL parameter estimates can be obtained by regressing the log odds ratios on the independent variables X_p. However, only the differences in the coefficients are identified – that is, (B_{0j} - B_{0k}) and (B_{1j} – B_{1k}). Thus, it is standard in MNL models to normalize the latent index associated with one alternative to zero (by setting the coefficients for that alternative to zero). That is, *j*=7 could be made the base alternative, with Y_{p7} = 0, B_{o7} = 0 and B_{17} = 0, supposing that:

$$(5) \qquad 1\frac{P_j(p)}{P_7(p)}1 = B_{0j} + B_{1j}X_p$$

where B_{1j} is reinterpreted as the effect of X_p on the propensity to offer the group of services in category *j* relative to category 7.

It is important to note three things: First, this need for a normalization (i.e., measuring all effects relative to a base alternative) is not a limitation of the analysis; rather it is a feature of all discrete choice analysis. Second, the choice of the base alternative is immaterial for the substantive results (that is, the model will give identical predicted probabilities and identical predicted effects of the independent variables regardless of which category is chosen as the base). Third, despite this, the interpretability of the results does depend on the choice of the base alternative. The *B* coefficients will have a more intuitive interpretation if the base alterative is chosen to be that with either the lowest or highest level of services. For example, in the former case, a positive B_{1j} can be interpreted as indicating that the associated independent variable motivates a provider to offer a higher level of service.

4.4.2. Study 2: Staff survey of the culture of innovation

An online survey of the culture of innovation was conducted on staff from a specified sample of eight provider organisations in the State.

4.4.2.1. Study population (n=8 organisations). All service provider organisations who, within at least one of 16 DADHC local planning areas, offered all of the following services: HACC, CACP, EACH, EACH-D plus high and low residential aged care, were invited to have their staff complete the Culture of Innovation survey. A total of eight organisations met this definition. These organisations are referred to as having formally integrated aged care structures (i.e., they have shared ownership). Four other purposefully selected, non-representative organisations nominated for their innovative practices were asked

to participate in the survey. From the twelve organisations, four organisations with formally integrated aged care structures and four organisations nominated for their innovative practices agreed to participate.

4.4.2.1.1 Recruitment strategies: provider organisations. Recruitment occurred in two stages: first, an introductory letter, including a description of the study and consent form, (see appendix 2) was sent to the CEO/Executive Directors of each of the 12 service provider organisations. Among other things, those documents assured confidentiality. Then, at least one direct phone call follow up occurred to answer questions and to invite participation. This recruitment process yielded agreements to participate in the survey for eight aged care providers. Throughout the period of time that the staff of these provider services were completing the survey (approximately one month), regular contact was continued with their CEOs/Executive Directors. After completing the survey, each of the eight organisations was contacted about receiving survey results and invited to be part of the focus group process (Study 3).

4.4.2.2. Data. The primary data came from a self-reported opinion survey that consisted of 29 close-ended questions. This was completed by 220 staff (73 management, 106 supervisors and 42 direct care) from eight provider organisations and was administered through "Survey Monkey" an electronic survey website. A copy of the survey and specific questions can be found in Appendix 3. The survey questions fall into seven domains: risk taking, resources, knowledge, goals, rewards, tools, and relationships. Staff were asked to rate their organisation using an 11-point scale for judging each of the 29 statements. For example, on this 11-point scale ranging from -5 (behaviours and practices that greatly hinder innovation) to +5 (behaviours and practices that greatly aid

innovation, staff are asked to rate whether "senior leadership is willing to take a risk on new ideas that might make things better".

4.4.2.3. Research procedures. The research procedures undertaken in the two stages of the second study occurred as follows:

Stage 4 (Months 47-49): Collect data using an on-line survey on the known conditions for innovation from aged care provider organisation staff identified through secondary data (n=4) and peers (n=4)

Once it was established which variables were associated with selection into the various structural models of community aged care, additional strategies were needed to understand what factors were associated with innovation. The independent and dependent variables used in the MNL and descriptive analysis were constructed out of the available administrative data and were not necessarily analysed to help understand the concept of innovation in aged care service provision. The questions posed in the on-line survey about the culture of innovation (described below) were, therefore, designed specifically to better understand innovation within aged care services.

From the database, the adopters of innovative structures were identified, with eight organisations falling into the innovation category. These were the "critical" cases and represented service providers that offered the entire range of services from HACC, CACP, EACH, and residential care. Then, from the remaining group, four providers were selected by expert nomination to reflect those providers that had a reputation for innovation but were not representative of the aged care provider population as a whole.

To each of these eight service providers, a package of materials was sent to the CEO, Executive Director or other senior administrator, describing the studies

(both the online survey and staff interviews) and containing consent forms (the materials in the package can be found in appendix 2). Often, this information was passed onto another senior manager who became the contact person. Usually this person was responsible for the studies, innovation, community services or similar activity. The contact person was asked to do two things: first, they were responsible for distributing the internet link to the online survey to direct care staff, staff managers and administrators that were jointly identified. Second, they helped to identify which senior staff members were the most suitable to join a focus group or to be interviewed to discuss the results from the survey and to extend thinking around the concept 'innovation' in aged care services.

The survey instrument selected for the survey was developed by the UK National Health Service Institute for Innovation and Improvement to determine organisational culture for innovation (Maher et al., 2009) (Appendix 3). Three additional open-ended questions were added to the survey to ascertain which service provider the user was employed by, what their position in the organisation was, and how long they had been employed there. The survey was administered through "Survey Monkey", an electronic survey website. Each service provider was sent an electronic link to the survey that they then forwarded to their staff with a message indicating the provider's support for the study and assurances that the survey was confidential and their answers would only be given to management in aggregated form (text was provided but organisations were encouraged to customize the message as appropriate).

The survey questions fell into seven domains: risk taking, resources, knowledge, goals, rewards, tools, and relationships. Staff were asked to rate their organisation using an 11-point scale for judging each of the 29 statements that fall

into the seven domains. For example, on this 11-point scale ranging from -5 (behaviours and practices that greatly hinder innovation) to +5 (behaviours and practices that greatly aid innovation, staff are asked to rate whether "senior leadership is willing to take a risk on new ideas that might make things better". The survey was designed in such a way that users could still progress even if they chose to not answer all questions. In those instances, the average value for the specific question replaced missing data.

The data collected from the 12 organisations on the 29-item survey was exported from "Survey Monkey" into a Microsoft Excel spreadsheet for analysis. These data provided important information about the internal cultural factors associated with innovation that were used to undergird the provider interviews in Stage 6.

Stage 5 (Months 50-53): Analyse survey data collected in Stage 4

Altogether 224 surveys were completed; 19 were omitted from the analysis because the respondents answered only the first demographic questions. For the descriptive analysis, sixteen incomplete surveys were used as answered, making necessary adjustments in how means were calculated. For the factor analysis, missing data were replaced with mean values for the specific question.

The first step in analysing the survey data was to conduct a descriptive analysis. Of particular interest in the analysis was variation between provider organisations as well as variation between staff types (direct care, staff supervisors and management). Data were first sorted in two ways. First, the average score for each of the 29 questions was calculated for each organisation. In this way comparisons between organisations could be made. Second, the average score for each question was calculated for each organisation and sorted by staff type to see if

there were systematic differences between senior staff and management and direct care staff.

Then, an exploratory factor analysis was run, which served two purposes. First, it helped to simplify the number of variables (n=29) by grouping together variables into identifiable domains ("factors") that were used to describe many variables under study. Factor analyses grouped together those variables that were highly correlated to each other and eliminated others that were not correlated to other variables (Munro, 2005). This technique assisted in knowing which of the organisational culture factors were most related to innovation by aged care organisations.

The second purpose of using factor analysis was to help modify the survey instrument for use with aged care organisations, since it was originally developed for use with public sector hospitals health systems. Although having undergone reliability and validity testing on this health sector, the survey instrument had not been previously been used with aged care organisations (personal communication with Lynne Maher, May 18, 2011).

4.4.3. Study 3: Semi-structured focus groups and interviews with staff from innovative providers and government officials

In the third study, Evashwick's other three integrating mechanisms—coordination, integrated information systems, and integrated financing—were investigated using semi-structured focus groups with innovative providers as well as less formal interviews with policymakers.

4.4.3.1. Study populations. Executive staff from the eight provider organisation personnel who completed the survey in Study 2 were invited to participate in focus groups. Five service providers participated in the focus

groups, and two other providers agreed to unstructured interviews around the survey results and innovation and integration more broadly.

Recommendations for appropriate state and federal government officials were solicited from study participants and other informed persons. Six officials were invited to participate in semi-structured interviews about innovation, integration and current changes in aged care policy. Two agreed to participate (both from NSW) and another (Australian Federal Government) instead provided a collection of policy documents that would help inform my understanding of policy changes. Australian Federal Government officials were reluctant to participate because the invitations to do so came at a time when they were in the middle of implementing changes from the Council of Australian Governments (COAG) agreements.

4.4.3.2. Data from semi-structured focus groups and informal interviews.

Primary data were obtained through focus groups and interviews. Focus groups were held with executive staff of five service providers and interviews were held with the executive staff of two service providers, all of which were considered to be innovative as determined by the inclusion criteria. Primary data from these sources added further explanation and support to the secondary data findings, including the internal factors (e.g. organisational and system-level values, capacity to implement) that motivate the organisations' behaviours around adoption of integrated structures and the other integrating mechanisms. In addition, because aged care providers are particularly dependent on the needs of what Zinn and colleagues (1998) refer to as key resource-providing constituents, a total of four government planning and policy officials shared their thoughts on what external factors (e.g. policy influences, economics, relationships with others)

drove the adoption decisions through email correspondence and document provision.

4.4.3.3. Research procedures

The research procedures undertaken in the four stages of the third study occurred as follows:

Stage 6 (Month 50 - 52): Conduct semi-structured focus groups with Executive staff of innovation adopters and other innovators.

In order to add depth of understanding to the findings generated from the survey data, semi-structured focus groups were held with executive staff of service providers from whom data were collected on their organisation's culture. Altogether, five provider organisations agreed to participate in a focus group. Each focus group was conducted in person at the organisation's administrative office and usually in conjunction with a senior staff meeting. They lasted anywhere from one to two hours. The interview protocols can be found in Appendix 4 and interviewee demographics in Appendix 5.

The primary justification for using focus groups in this phase of the study was to obtain additional data to the survey data and achieve methodological rigour (King and Horrocks, 2010). Group interviews helped to encourage recall among participants and stimulate opinion elaboration. Blumer (1969, p. 41, quoted in King and Horrocks) goes so far as to suggest "A small number of individuals, brought together as a discussion or resource group, is more valuable many times over than any representative sample. Such a group, discussing collectively their sphere of life and probing into it as they meet one another's disagreements, will do more to lift the veils covering the sphere of life than any other device that I know of. "

Although the intent was to pilot the focus group questions and procedures with an additional organisation before convening the focus groups, this idea was rejected because the number of willing service providers was small. Instead, a debriefing was undertaken with the first focus group members to gain feedback on whether the questions were clear, easy to answer and adequately captured the sorts of information that would help to add to the robustness of other phases of the study. These participants were asked whether there are any parts of the focus group questions and purposes that they are unsure about, as well as whether they had questions or concerns about any aspects of the procedures to obtain, record and analyse these data. Participant feedback in relation to these questions confirmed the suitability of the questions being asked and satisfaction with the procedures being undertaken.

The subsequent focus groups with members of the remaining service providers focused on two broad domains. First, the internal factors that influence the diffusion of innovations were explored, including organisational and system-level values, capacity to implement innovation, leadership and other topics related to the culture for innovation. The de-identified survey findings were presented to the participants in summary form to guide the discussion further. Second, the external factors that influence diffusion of evidence were raised for discussion. These included but were not limited to policy influences, economics, and relationships with others.

To stimulate candid, free-flowing discussion, it was important that the focus group participants be assured of confidentiality during and following the group discussion. All group members agreed not to disclose information that was shared during the focus group outside of the focus group membership. They also agreed

to abide by the normal rules of courtesy and consideration in facilitated group discussion, whereby the members were respectful of each other's opinions and experiences and allowed others to give voice to these when invited, and to be cognisant of the role of the facilitator in maintaining free-flowing discussion within the time frame allocated.

Having agreed to these conditions, the discussions started with open-ended and general questions and then moved to more specific questions. This is called the "funnel-shaped interview technique." For example, the discussion moved from general questions such as: "What influences led your organisation to adopt this integrated care structure?" to the more specific: "Did your local planning area provide specific contracting incentives to move into integrated care?" By starting with the general, open-ended question, there was less risk of posing leading questions, but rather exploration of the widest range of possible influences that may or may not have been consistent with the theories on innovation diffusion.

At first the participants were asked to confirm their organisation's information from the provider database, in order to build a relaxed interview mood before moving on to more complicated questions about innovation adoption. The results from the survey plotted on the portal chart were then shared with the permission of each of the focus group members, as well as how each organisation compared with other organisations. The results from the survey were not presented any earlier in discussions to avoid any leading questions, in terms of what factors influenced innovation adoption. Bringing in the survey findings a little later in the discussion also helped to keep innovation adoption in the forefront of the participant's future thinking and to give them a reason to stay engaged with the discussion.

The focus group discussion ended with a debriefing on the findings from the primary data collection involving organisational culture and support for innovation. The focus groups with providers were recorded and transcribed. A professional transcriber was employed with instructions to produce "verbatim" (in contrast to "edited") transcripts, in order that the words and pauses were transcribed exactly as heard on the tape recordings. When analysing these data, however, some minor editing occurred to these transcriptions to help with clarity and readability.

The semi-structured format of the focus group with these elite participants was chosen for a number of reasons. First they were purposively selected for their expertise in either their organisation. Among other things, this type of elite interview results in equalizing a typically asymmetrical power relationship between interviewer and interviewee (Kvale and Brinkmann, 2009).

Within a semi-structured approach, there was also more leeway to allow the conversation to move in the directions that the elite interviewee found appropriate (within parameters). Consequently, there were opportunities to explore the unique circumstances under which each organisation had made decisions about innovation adoption. So, while there were specific domains of interest to be covered within the interview, the somewhat more conversational interview format adopted lent itself to the exploration of factors leading up to the adoption of innovative structures. Given that the study findings on innovation diffusion in organisations tend to be somewhat ambiguous (Greenhalgh et al., 2005) than is the case with individual innovation adoption, the ability to collect stories from different perspectives and compare different accounts was more informative coming from the narrative approach. It was anticipated that using this technique

may have relaxed the goal of "truth" discovery, providing a greater opportunity to obtain richer sources of information on the decisions framing innovation and how organisational culture and other factors might have influenced these decisions. It was hoped that using his technique might get at the "truth" for each organisation more effectively, since focused or closed-ended questions can force the participant into a limited choice response that may not be accurately directed.

The other reason for choosing this method over other focus group discussion structures was that it was likely that I would have pre-formed views about the service providers, based on the survey findings, as well as some hypotheses derived from the literature about what leads to the adoption of organisational innovations. Additionally, as I was the only one conducting the interviews, there was no need for the stricter structure associated with standardized interviews, since variability in focus group facilitation was less of a concern.

That said, it was every bit as important when using this somewhat less strict discussion style, to employ rigour in the conduct of the interviews and analysis of these data. A standardized focus group discussion guide was, therefore, used to lead the participants through each of the questions of interest. In addition, when reviewing the focus group tapes and transcripts against the focus group guide, if any questions were left unasked, the participants were contacted individually to help fill in the missing information.

Stage 7 (Months 56-57): Conduct informal interviews with policy and planning officials

Although six senior officials from both the State of New South Wales and the Australian Federal Government were invited to participate in informal interviews about integration and innovation more broadly, only two agreed to participate and

one other official offered to send official written information that would be useful to my study. (As indicated previously, the invitations were issued in the middle of implementation of new COAG agreements that fundamentally altered the relationship between the Federal Government and States with regard to aged care services.)

In this study it was considered important to understand what policies were in place to encourage integrated provider structures and whether any formal mechanisms (contracting requirements, educational/training sessions, etc.) were used to influence a movement towards integration. Recall from chapter 2 that some authors distinguish between *diffusion* which is less purposeful, uncontrolled or unintentional process and *dissemination* that is a more controlled, a more conscientious effort to spread knowledge (Green et al., 2009). That subtle distinction was explored in interviews with the officials.

To access these state-level and federal policy and planning officials, key informants (in this case, participating providers and other researchers in this area) were asked to identify who were most closely involved with issues of the structure of the community aged care system. Contact was made with those officials through email and, if they agreed to interviews, appointments were set up. This process was less formal than with the provider focus groups. At the interview, an outline of issues to be covered was used and detailed notes were taken during the free-flowing conversation. Interviews were not tape recorded. No formal consent was given, but participants were assured anonymity and their agreement to participate implied consent. In instances when interviews were not agreed to, officials offered

to share documents and other information that was helpful in understanding the policy context of the study.

Stage 8 (Months 53-58): Analyse interviews

To extract meaning and insight from the focus group discussions and the interviews, the following strategy was used. The tape recordings of the focus groups were transcribed and checked for accuracy by listening to the tape recordings while reading the transcriptions and by making hand-written notations on the transcripts, where differences were identified between the recorded statements and transcribed information. Summaries of participant responses to each question were then prepared. The summary responses were coded to identify the main concepts relating to the questions asked of the study participants. While undertaking the data coding procedures, relevant non-identifiable participant quotes that closely reflected the common responses were placed alongside the main concepts. The common responses expressed by participants were grouped under each topic area and compared with responses that differed, using the words provided by the interviewees where possible (Pope, Ziebland et al. 2000). These procedures developed key themes for each main topic of interest. During this process, very little interpretation took place which might have altered the intended meaning behind the words spoken. When necessary, the themes were collapsed, expanded and re-labelled.

Along with the thematic content analysis, there was a parallel validation process occurring, taking into consideration the issues that were identified within the quantitative analyses. So, for example, there was a certain checking and re-checking of the interview transcription against what was uncovered in the surveys

and from the administrative database. Issues of special interest included: the extent to which non-profit/for-profit status drives decision-making, as well as the extent that organisation culture was mentioned in the context of decisions regarding the uptake of innovations.

Stage 9 (Months 59-60): Develop recommendations

Once the analyses were completed, final recommendations were developed. The key here was to use the conceptual model of Evashwich, which outlined the mechanisms necessary for integrated care, and to consider them in the NSW context. Simultaneously, consideration was given to reading the most up-to-date literature on significant, recent reforms in Australia, as well as international comparisons in the literature.

4.5. Ethical Considerations

As this study involved human participants and sets of non-public administrative information provided by the DADHC, ethical approval was required. The study was approved by the UTS Human Study Ethics Committee in November 2009, Reference Number 2010-004A (see Appendix 6).

The decision to adopt an integrated care structure was a strategic decision that might have impacted on organisations' success in the market or their perception of excellence among stakeholders. Therefore, any questions related to this strategic decision might be perceived as reflecting its competitive advantage and confidentiality around this needed to be guaranteed. That is why institutional consent was obtained from all providers before any of the data were collected. The privacy and confidentiality of the study participants were assured as identified on the information and consent forms that the participants willingly signed. The

consent forms stated that the participants' identities would remain confidential and that data would be kept in a secure and confidential manner. Similarly, the electronic survey clearly stated that participants would be unidentifiable, other than by their position within their organisation. All data from the provider database and electronic survey of organisation culture were stored electronically on the password-protected hard drive of a personal computer at the approving university. Audiotapes of interviews were kept in a private locked file cabinet also at the university and de-identified transcripts from those interviews were stored on the personal computer's secure password-protected hard drive.

4.6. Summary

The originality of this research was twofold. First, with the exception of Banaszak-Holl et al. (1996), Zinn et al. (1998), Castle (2001), and Lucas et al (2005), there seem to be few studies on innovations in the aged care sector using this adoption of innovation approach and none in community aged care. Each of these papers looked at some combination of the organisational and market, or environmental factors, that influenced early adopters, or non-adoption of innovation in U.S. nursing homes. All used statistical techniques to explore these topics, yet none confirmed their findings further in the form of focus group discussions as occurred in this study. Second, most of the literature on integration focuses on identifying best practices, rather than investigating what factors lead to the adoption of the innovative component pieces of integrated care.

A variety of study methods were employed to answer the study questions on the characteristics of community aged care providers in NSW who have adopted certain innovative delivery structures, what internal and external factors influenced them to adopt these structures, and what can be done to promote more

effective adoption of innovation delivery structures. Multinomial logistic regression was used to identify the set of characteristics from secondary administrative data that predicted the category of service structure that - government aged care service providers fell into. Data from an on-line survey of organisational culture was then used to elaborate on the organisation characteristics associated with both organisations with innovative structures and a sample of others. Finally, semi-structured focus group discussions were conducted with providers and interviews were conducted with policymakers to further explore the internal and external factors associated with the uptake of innovative structures and innovation more generally.

The following chapter will report on the study findings from each of the three related studies, in particular the differences among aged care services and the providers of services that fall into a range of integrated models: from single service providers to providers with fully-integrated structures.

CHAPTER 5—Descriptive Analysis of Services and Providers

5.1. Background

In Chapter 1, I briefly discussed the fact that an open competitive process is used for allocating aged care service places to providers "who best demonstrate they can meet the needs of the ageing population within a specified aged care planning region" (DOH, 2013).[1] Presumably, the determination of who can best meet the needs of the community must take into account a number of factors including identifying where there are gaps and overlaps in the aged care system, understanding the extent to which service integration is available, and seeing the system in its entirety rather than as separate parts (i.e., community aged care packages, HACC and residential care).

Why is it important to investigate these factors? An ongoing responsibility of the government is to strengthen the capacity of the aged care system to supply efficiently delivered, well-coordinated if not seamless care to its older residents with the least disruption to their normal living situation. Unfortunately, the design of the major community aged care programs in Australia, with their similar target populations and service types, has inevitably lead to gaps and overlaps in the system (DADHC, 2007; DOHA, 2004; Allen Consulting Group, 2007). Take, for example, one of the most interesting design peculiarities in the community aged care system. Community nursing is available through the HACC program, but not through the

[1] Under the 2010 COAG agreement, with the Commonwealth takeover of aged care, they "will not substantially alter service delivery mechanisms before 1 July 2015. There is no requirement for services to be delivered under competitive tender processes" (COAG, 2010, p. 55).

Community Aged Care Program (CACP), though nursing would logically be a service needed to allow CACP to be an alternative to low residential care which is its policy goal. Anecdotally, there is evidence of CACP recipients have needed to use HACC to supplement their package with community nursing. This behaviour is rational, certainly, but raises the posing of larger questions about whether this is a threat to efficiency and equity.

The planning process for contracting with providers for aged care services would be enhanced by a comprehensive knowledge of what proportion of agencies demonstrate the ability to deliver care across the continuum from basic needs, such as meal preparation, administration of medicines and housekeeping, to high-level residential care. The need for better quality data and more strategic consultation to facilitate the planning process in NSW has been called for in the past (Council of Social Services of New South Wales, 2006; DADHC, 2006). It follows, then, that residential care, the community packaged care programs and the HACC program cannot be examined in a vacuum. Rather, the whole range of services available to older people should be examined together. As the Australian Federal Government took over responsibility for the aged care system in its entirety on July 1, 2014, this research is especially timely.

The NSW Department of Ageing Disability and Home Care (DADHC, now ADHC) funded a research project, "Community Aged Care Service Provider Capacity Mapping Project," (Hixon, 2009) which is reported on here. The purpose of this project was to create a database that allows planners and policymakers to answer the questions of who provides service, what services, in what quantities, under what sponsorship, and

where around NSW. Ultimately, this database should allow them to more effectively target areas that need development and identifies how this might be accomplished. The database is particularly useful in helping to gain a better understanding of the structural capacity of HACC providers to offer continuity of care across a wide-range of community care programs. The database combines information on the characteristics of providers of HACC, other Federally-funded community aged care services such as Community Aged Care Packages (CACP), Extended Aged Care at Home (EACH and EACH-D) as well as residential care. The assumption behind this interest in the service provider structure is that good structural capacity facilitates good care processes and good care processes lead to desired outcomes for clients. Moreover, a desirable service provider structure is one that can deliver a wide array of services across a continuum. In other words, the goal is to develop service provider systems that are "integrated" across community and residential programs regardless of funding source. The DADHC-funded project (Hixon, 2009) was completed before the COAG agreement (2011) that led to the Australian Federal Government taking over funding and responsibility for all aged care programs, but its relevance is perhaps even greater now.

5.2. The data

Five sources of data were combined to create a service-level policy and planning database. (Appendix 1 provides a lengthy description of the sources of data and the process, including decision rules for extracting data from these various sources and combining them in a consistent and reliable way.) The data sources include the publicly-available data from the Aged and Community Care Management

Information System (ACCMIS) for CACP, EACH and EACH-D as well as administrative data from DADHC on the various avenues of HACC funding including Home Care Block Grants, grants through Department of Health/Area Health Services, and funding through Ministry of Transportation. Residential care information from the ACCMIS is included only when the service provider is also involved in delivering either HACC or other community care services. The database aggregates information to the level of *services* in local government areas (LGAs). This is then analysed by DADHC-defined local planning areas (LPAs).

5.2.1 Terms and definitions

The various sources of data do not consistently use terms related to community care providers, nor do they use consistent geographic boundaries. For purposes of this database, therefore, the following provider terms and geographic areas are used. (Appendix 1 also provides a complete table of database variables and explanations.)

"Service Provider" (also referred to as "approved provider" in ACCMIS) is used to represent the organisation from which the "services" are organized and delivered. These service providers include organisations as varied as strong, dominant church-based organisations such as Uniting Care and Baptist Community Services to local cities and councils. Also included in this variable in the database are the Department of Health/Area Health Service, Ministry of Transportation and Home Care Block Grants which are not "service providers" per se, but do represent the state-government organisational level that is equivalent to "service providers" in the non-government sector. They are the level at which HACC funding is organized and funding is distributed.

In terms of sponsorship, these are classified as non-government, local government and state government. The database gives a count of the number of "services" (HACC and other) delivered by each "service provider" in the local planning area (LPA), as well as details on what kind of services. It also provides funding information for the individual "services" and the "service provider" total for the LPA. Information at the "outlet" level is not presented.

The 16 DADHC-defined LPAs have been used as the primary level of analysis and unique databases have been created for each. They are only slightly different from the LPAs created by the Commonwealth for the ACCMIS. A state-wide database was also created. Within the 16 LPAs, the provider data can be sorted by local government area (LGA). LGAs are classified according to "remoteness" using the terms "major cities," "inner regional," "outer regional," "remote," and "very remote." When services are delivered across LGAs, and those LGAs cross remoteness designations, they are classified as "mixed."

5.2.2. Limitations

There are always limitations when combining data sources that were designed for different purposes and that vary somewhat with regard to their terms and definitions. Below are the limitations encountered when creating the original database.

There is a clear value in including in the database information on HACC funding that comes through the Department of Health and its Area Health Services, the Ministry of Transportation, and the Home Care Block Grant (including Aboriginal and Torres Strait Islanders program). It helps fill out the picture of HACC funding and how

it is organized and distributed. However, by doing so, the "service provider" and "service" designations are slightly altered and interpretation of results becomes less consistent. In future analysis, it might make more sense to include these streams of funding in some of the analysis and calculations (e.g. looking at how funding breaks down between government/non-government) but not in others (e.g. average number of services per service provider).

There are two areas where a finer distinction in the categories would be useful. First, it would be informative to further break down the non-government category to examine differences between non-profit and proprietary service providers. There is a significant body of literature that addresses the differences between these two types of sponsorship and it would be interesting to see if the patterns are borne out with these data. Similarly, the "HACC only" designation may hide differences in providers who deliver a single HACC service and those who provide a wide range of HACC services. It is assumed that these types are systematically different. Finer analysis would find reasonable ways to break down this heterogeneous group.

LGA designations in the HACC data represent the market or service area for each service and often include more than one LGA. In contrast, with the Commonwealth programs, in this study the LGA was assigned on the physical location (address and town) of the service. Only in some instances will it directly correlate with that service's market. Consequently, using the database to examine who is providing what services in each LGA, the federally-funded services are somewhat under-represented.

5.2.3. Refinements for service provider level analysis

Subsequent to the original DADHC database, a second version of the database was created. The purpose of the second database was to address the limitations listed above and be able to analyse decisions around service delivery structures at the provider level. Several important changes and additions were made to this database so that a *service provider* level of analysis could be conducted. These are outlined below.

5.2.3.1. The unit of analysis is different. Rather than using "services," (e.g., ABC home modification, ABC food service) I have used "service providers" (ABC Community Services) by local planning area.[2] A large fraction of service providers are actually part of larger organisations that have state or even national presences (e.g. Baptist Community Services and Uniting Care). In these cases, the decisions about service delivery structures are probably made at a "higher" organisational level. How much autonomy service providers have at a local level was explored in the qualitative part of the research. However, "service provider" at the local planning area is the level of aggregation that is logical for all providers, large and small, freestanding or part of a larger entity.

5.2.3.2. A subsample of the original database, representing only non-government service providers, is used. It is likely the decision-making process for state

[2] These are the sixteen DADHC-defined local planning areas. To produce more robust results for the logit model reported in Chapter 6, the local planning areas were aggregated into the six planning regions. Note: the descriptive analysis presents *services* at the *local government area*. So, there have been two types of aggregation: services into service providers and local government areas into local planning areas.

and local government providers is systematically different from non-government providers, so they have been removed from the analysis. Also, state and local government providers tend to be somewhat less heterogeneous and provide mainly certain kinds of services (e.g. nursing) and/or in certain areas (e.g. mainly rural).

5.2.3.3. Refinements or additions have been made to the data.

"HACC only" has been divided into "HACC single" and "HACC multiple", reflecting whether the provider offers only one kind of service, or a more diverse package. The assumption here is that these two types of providers are systematically different. In addition, variables from the Australian Business Register representing tax status have been added (http://abr.business.gov.au/). Also, a measure of whether the service provider has "common sponsorship" (otherwise known as "chain") has been constructed. Finally, data on the number of residential beds, number of community care packages, and number of HACC services has been added to the database.

5.3. Description of services

This section describes findings from the service level database.

5.3.1. Overview by local planning areas

The 16 DADHC-defined LPAs are used as the level of analysis in the database. Table 5.1 provides a descriptive overview of these LPAs. As indicated, there are 778 service providers delivering 2168 services in New South Wales. The LPAs range geographically from the strictly urban ("Major cities" designation) to the mostly rural ("outer regional," "remote" and "very remote"). Outside the five LPAs that represent major cities only, LPAs tend to be geographically mixed with some combination of urban and rural designations. Southeast Sydney LPA is clearly the largest in terms of

total funding, and number of providers and services. The picture is less clear on the other end of the spectrum, with the most remote LPA Orana/Far West having the least funding, but Central coast having the fewest service providers and Nepean the fewest services. Throughout the analysis, funding totals are influenced by the inclusion of residential care that is connected to other community-based services and, in the more rural areas, by home care block grant money.

The number of LGAs within each LPA varies considerably, probably due to population density. Administratively, there are likely to be interesting differences that emerge for DADHC when working in an LPA with only two local government areas (LGAs) like Central Coast relative to one like Riverina/Murray that has 26 separate LGAs. Central Coast has the smallest number of service providers yet the number of services offered indicates that each provides a fairly high average number of services. This is confirmed in Table 5.2 which summarizes service provider characteristics.

The North Sydney LPA shows more consolidation of services within a relatively small number of providers than found elsewhere. Here the average service provider offers more than 4 different services and has a total funding of $2.8 million. The largest of these service providers (The Uniting Church) offers 27 different services and has a total budget of $26.5 million for this LPA alone. Table 5.3 shows that the Uniting Church, along with several other statewide and regional providers, shows considerable market dominance. The top three providers account for between 30% and 66% of total funding in each LPA. In eight of 16 LPAs, the Uniting Church is among the top three providers in terms of funding. Baptist Community Services are dominant players in six of 16 LPAs.

Returning to Table 5.2, we see that the average total funding in each LPA, which ranges from $0.8 million to $2.8 million, hides the fact that, within each LPA, there is enormous variation. For example, again in North Sydney, the smallest provider has funding of only $20,000. Compare this to the $26.5 million for Uniting Care, the largest provider described above. In 13 of the 16 LPAs, the service providers with the largest total budgets have integrated systems (i.e. they have both community care and residential care in their service package). In the others, the largest total budget falls to the combined Home Care Block Grants (HCBG) in that LPA. Here the comparison of funding is complex, since HCBG data do not include information about which provider is actually delivering these HACC services through the block grants, or how the funding is further broken down at this service level. The HCBG are more dominant in rural and remote areas. The smallest providers tend to have very small single service HACC grants.

Three-quarters of the LPAs have an average number of services per service provider, somewhere between two and three. Again, this average obscures the ranges which are quite significant, with the largest providers having as many as 29 services delivered by the service provider in that LPA. Many of these largest service providers are actually the services funded through HACC grants distributed through the Department of Health/Area Health Services, though frequently the largest are among those non-government providers with market dominance discussed above.

5.3.2. Sponsorship type: Government and Non-government

Sponsorship refers to whether the service provider is the state government, local government or non-government. Here, rural/urban distinctions are particularly

clear when examining sponsorship differences between LPAs. State and local government providers are systematically different from non-government providers, both in terms of the services they provide and where they provide them. Table 5.4 shows that State government grants, specifically, HACC grants through Department of Health/Area Health Services, the Home Care Block Grant, and Ministry of Transportation grants, comprise a larger percentage of the services and funding in rural areas than in urban. For example, 44 per cent of services and 50 per cent of funding in Orana/Far West LPA is streamed through state government, while only 38 per cent of funding is provided to non-government providers. The commonly accepted reason for this is that there is "market failure" in rural and remote areas and that the State government needs to supplement services where non-government providers can't achieve economies of scale. One would expect that it is difficult to develop services of all kinds in the remote and very remote areas of Orana/Far West LPA, explaining why the State government must step to fill the void.

Urban areas (especially North and Southeast Sydney LPA) have more highly-developed non-government provider arrangements or sources and, therefore, a much larger percentage (83% and 84%) of funding goes to these providers with a much smaller fraction (15% and 16%) flowing to state government. Local government involvement ranges widely from less than one per cent in three LPAs (Central Coast, Nepean and Southeast Sydney) to 21 per cent in New England.

5.3.3. Service integration

Investigating the current capacity for service integration was a key area of inquiry of this research and helped to inform recommendations in terms how and

where NSW can build future capacity. One outcome of the descriptive analysis was the development of a typology (see Table 5.5) for aged care services.

Table 5.5: Typology of NSW aged care services

2,168 services							
1,558 (72%) Community care				**610 (28%) Community and Residential**			*Residential only*
1,268 HACC only	139 Packages only	151 HACC & Packages		69 HACC & residential	224 Packages & residential	317 HACC, Packages & residential	*Not included*
Group1	Group 2	Group 3		Group 4	Group 5	Group 6	
> > Increasing level of structural integration > >							

Integrated service provider arrangements that include those with some combination of community care (either HACC and/or community packages) plus residential care are "vertically integrated"[3] (Groups 4, 5, and 6) with Group 6 representing the greatest level of structural integration. Another group are referred to as "horizontally integrated" and those provide some combination of various community care services (Group 3). As can be seen in Table 5.5, a fair amount of integration already exists in NSW with 28 per cent of total services being delivered under the auspices of vertically integrated service providers, and seven per cent by horizontally integrated service providers.

Table 5.6 describes the number and percentage of services in each LPA that are delivered within different types of community-only and integrated arrangements.

[3] Vertically integrated provider structures are across different types of services e.g. residential facilities and packaged care; horizontally integrated means providers who integrate across services that are alike, e.g.. all packaged care.

There is no clear picture from these data whether the LPA drives services integration. Similarly, no clear geographic patterns are discernable from these data. Statewide, the percentage of services delivered by providers of community-only care ranges from 61per cent to 87per cent. Both the highest (Southwest Sydney) and lowest (North Sydney) concentration of community-only providers is in the Sydney metropolitan area. HACC-only providers are, by a significant degree, the dominant arrangement; the 58 per cent of services delivered by HACC-only providers is nearly four times the number of the second most common arrangement. Interesting, it is the most fully-integrated services (i.e. HACC, packages and residential) that represent this second arrangement with 15 per cent of aged care services provided under these auspices.

North Sydney LPA has the greatest percentage of services provided in an integrated service provider arrangement (39%). Among the three different vertically integrated arrangements, the greatest proportion are those that include HACC, care packages, and residential services (labelled "HPR" in the database). Over half of the total services delivered through HPR arrangements. Vertically integrated providers also include community packages and residential care, (labelled "PR") or less frequently, HACC plus residential care ("HR").

There is interesting variation in service integration between non-government and state or local government sponsorship. Table 5.7 shows that non-government providers have a slighter higher development of integrated delivery systems than local governments (36% versus 31%); while state government has very little integrated delivery (only 5%). It is worth noting that local government integration is

driven largely by significant integration in just three LPAs (Far North, New England and Riverina/Murray).

5.4. Descriptive analysis of service providers

This section offers a brief descriptive analysis of non-government service providers. This second look at aged care in NSW allows a better understanding of the characteristics of who provides services, how they are structured and ultimately, (in Chapter 6) which of these characteristics drives them to form the service structures they have chosen.

Table 5.8 shows there are 619 non-government service providers in New South Wales who provide some combination of HACC, packages and/or residential care. The 159 state and local government providers and their services are not included in this group, nor are "residential only" providers. It is worth noting that, because the unit of analysis is different (service providers rather than services), comparisons between these data and that presented in Table 5.5 are not easily interpretable. For example, when using "service provider" as the unit of analysis and eliminating government providers from the discussion, these providers appear to be more tilted toward providing community care (83% compared to 72%). Table 5.5 indicates that 72 per cent of *services* in NSW are delivered by providers who only offer community care. In contrast, Table 5.8 reveals that 83 per cent of non-government *providers* offer only community care. This is a subtle but important distinction. If any conclusion is to be drawn, it is that non-government integrated providers tend to offer a wider array of services. Worth noting in Table 5.8 is that the former "HACC only" category of

Table 5.8: Non-government service providers by structural integration group

619 Non-government service providers						
Community care only (83%)				Community + Residential care (17%)		
201 HACC single	215 HACC Multiple	58 Packages only	41 HACC+ Packages	2 HACC+ residential	65 Packages+ residential	37 HACC + Packages+ residential
Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7[1]
→→ Increasing level of structural integration→→						
[1] An eighth group—"Residential care only"—is not included here.						

providers is split almost evenly between single (n=201) and multiple (n=215) service offerings. Table 5.9 shows some real differences between these two categories. Taken together, these HACC providers still dominate the landscape, comprising fully two thirds of the total number of service providers in NSW compared to the more integrated provider types.

Table 5.9 presents a selection of service provider characteristics. Almost of half of the service providers are located in major cities, with most of these in the metropolitan Sydney area (41%) where 56 per cent of the population aged 65 or older reside. Not quite 12 per cent are in outer regional/remote areas, reflecting both population distribution and a greater presence of government providers outside of the metropolitan areas. Charitable and non-profit providers very much dominate the landscape with 89 per cent of the non-government service providers across all provider structures. Common sponsorship exists for about one third of these providers.

The particular interest of Table 5.9 is how the fifth category (Res) might differ from the others across planning region, common sponsorship, tax status and

geographic location. No clear story emerges from planning region or geographic location. However, it appears that common sponsorship is more prevalent in these more structurally integrated service providers especially compared with providers who have HACC services, either alone, or in combination with packages. There are also more for-profit organisations involved as Package Only providers. This would be consistent with the fact that the Australian Federal Government allows community care package providers to retain unspent funding while, under the HACC program, any savings are to be returned to the State. The ability to make a profit makes packaged care more attractive to for-profit providers than HACC.

Finally, although much more dominant in terms of numbers, in terms of operating revenues from public programs, HACC providers are much smaller. Table 5.9 shows that the average revenue for HACC single is only $A0.160M and for HACC multiple is $A0.402M, while the average operating revenue for the HACC + packages + residential group is $A8.048M. Indeed, the averages again conceal the extremely large range that exists for public operating revenue which starts at just $A2,200 for a single service HACC provider and goes to $A26.5M for another provider that offers the full range of aged care services. Not surprisingly, providers who offer packaged care have larger operating revenues than HACC-only and those who offer residential care have the largest operating revenues of all.

There is significant range in number of HACC services, number of nursing home beds and number of packages offered (see Table 5.10). Remember that these are the total number of beds in a local planning area for service providers under the same sponsorship. So, for example, the top of the range for beds (908) does not represent a

residential care facility with 908 beds, rather it means that this particular sponsoring organisation has 908 total beds, distributed across a number of service providers (in this case 5 low care facilities and 1 high care facility) in that local planning area. Package-only providers tend to be a bit smaller than those providers offering both HACC and packages. The most integrated group (Res) tends to be bigger. This is reflected in the number of HACC services as well.

5.5. Conclusions and next steps.

Exploring the data in two different ways allows for different kinds of questions to be explored. Looking at the data from the level of services is useful to policymakers and planners in understanding the service gaps and overlaps that a user might face and that they need to address. On the other hand, when examining the data from the level of the provider, policymakers and planners have a better sense of who is providing what kinds of services and in what quantities, and this helps them when making contracting decisions. It also allows particular questions to be answered: for example, what factors drive provider decision-making with regards to what kinds of services they wish to provide. Compare, for instance, Table 5.5 relative to Table 5.8. In Table 5.5, we see 72 per cent of services are delivered by community-only providers and 28 per cent of services by community plus residential providers whereas these proportions are 83 per cent and 17 per cent when looking at the organisation level results in Table 5.8. One might assume that this says something about differences between non-government and government providers.[4] But what it really reflects is that the most integrated category is populated by some very large organisations with

[4] Recall government providers are not included in the provider-level data.

large numbers of services that are counted as separate units in Table 5.5 and as a single unit in Table 5.8. It is useful to see the data presented both ways.

Service provider structure deserves greater attention and may be the key to driving changes in the system needed to advance continuity of care. The descriptive findings here raise a number of interesting questions that deserve further investigation. The first is how to build structural capacity in integrated service delivery. We see that a significant amount of integration already exists in the aged care services system in NSW. More than one-third (35%) of services are delivered within vertically and horizontally integrated service provider arrangements. These local areas where very findings prompt questions about how to build capacity, particularly in regions and high proportions of agencies are not integrated, and instead involved in only HACC or community care package programs.

The descriptive analysis completed for this research raised interesting new questions to explore. For example, descriptive analysis doesn't provide sufficient insight into what characteristics correlate with integrated delivery systems, or whether there are associations between the collected variables (and possibly others) and integrated delivery systems. When patterns are not immediately discernible, more sophisticated statistics may reveal those patterns, such as the relationship is between geographic location, sponsorship, tax status and the formation of different kinds of provider systems. The data are explored using more complex multivariate methods and results are reported in Chapter 6. Moving from descriptive analysis to more sophisticated analysis may provide insights. This analysis offers greater insight into the development of integrated delivery systems and predicts future trends.

Table 5.1: Descriptive overview of Local Planning Areas

Local Planning Area	# of local government areas	# of service providers	# of services	Total funding (in $m)	Geographic diversity
Central Coast	2	26	92	55.9	Major cities
Central West	11	37	91	33.9	Inner/Outer Regional
Cumberland/Prospect	6	42	152	102.2	Major cities
Far North Coast	7	46	113	55.9	Major cities, Inner/ Outer regional
Hunter	9	61	162	105.0	Major cities, Inner regional
Illawarra	4	55	129	80.0	Major cities, Inner regional
Inner West	7	43	112	56.3	Major cities
Mid North Coast	9	61	147	75.4	Inner/Outer Regional
Nepean	3	33	77	35.9	Major cities, Inner regional
New England	13	41	135	35.6	Inner/Outer Regional
North Sydney	11	52	221	145.8	Major cities
Orana/Far West	18	40	105	30.2	Inner/Outer Regional Remote, Very Remote
Riverina/Murray	26	57	143	54.4	Inner/Outer Regional
Southeast Sydney	9	87	232	153.3	Major cities
Southern Highlands	13	40	103	37.6	Major cities, Inner/ Outer regional
Southwest Sydney	7	57	154	75.3	Major cities, Inner regional
TOTALS	155	778	2168	1132.7	

Table 5.2: Service provider characteristics

Local Planning Area	# service providers	Avg. # services per service provider (Range)	Average total funding for service provider (in $m) (Range)
Central Coast	26	3.5 (1-12)	2.15 (0.03 – 11.3)
Central West	37	2.5 (1-15)	0.9 (0.002 – 7.4)
Cumberland/Prospect	42	3.6 (1-29)	2.4 (0.03 – 18.9)
Far North Coast	46	2.5 (1-6)	1.2 (0.008 – 9.5)
Hunter	61	2.7 (1-20)	1.7 (0.007 – 12.1)
Illawarra	55	2.3 (1 – 13)	1.5 (0.02 – 20.2)
Inner West	43	2.6 (1 – 16)	1.3 (0.02 – 11.2)
Mid North Coast	61	2.4 (1 – 10)	1.2 (0.01 – 13.0)
Nepean	33	2.3 (1 – 12)	1.1 (0.02 - 5.4)
New England	41	3.3 (1 – 21)	0.9 (0.01 – 8.0)
North Sydney	52	4.3 (1 – 27)	2.8 (0.02 – 26.5)
Orana/Far West	40	2.6 (1 – 20)	0.8 (0.02 – 7.3)
Riverina/Murray	57	2.5 (1 – 21)	1.0 (0.009 – 9.0)
Southeast Sydney	87	2.7 (1 – 21)	1.8 (0.02 – 18.9)
Southern Highlands	40	2.6 (1 – 20)	0.9 (0.01 – 5.6)
Southwest Sydney	57	2.7 (1 – 24)	1.3 (0.004 – 13.2)

Table 5.3: Market dominance in Local Planning Areas

Planning region	*% funding**	*3 largest providers*
Central Coast	51	• The Uniting Church/Uniting Care (HPR) • Baptist Community Services (HPR) • ADSSI Ltd (HP)
Central West	62	• The Uniting Church/Uniting Care (PR) • Catholic Healthcare Ltd. (PR) • Baptist Community Services (PR)
Cumberland/Prospect	53	• Baptist Community Services (HPR) • Our Lady of Consolation Aged Care Services (HPR) • The Uniting Church/Uniting Care (HPR)
Far North	44	• The Trustees of the Roman Catholic Church for the Diocese of Lismore (PR) • Clarence Valley Council (HPR) • FEROS Care Limited (HPR)
Hunter	39	• The Trustees of the Roman Catholic Church for the Diocese of Maitland-Newcastle (PR) • Calvary Retirement Community Cessnock Limited (PR) • Baptist Community Services (HPR)
Illawarra	53	• The Uniting Church/UnitingCare (HPR) • Warrigal Care (HPR) • Illawarra Retirement Trust (HPR)
Inner West	66	• The Uniting Church/Uniting Care (HPR) • St. Basil's Homes (HPR) • Presbyterian Church (NSW) Property Trust (PR)
Mid North Coast	43	• The Trustees of the Roman Catholic Church for the Diocese of Lismore (PR) • Baptist Community Services (HPR) • Catholic Healthcare Ltd. (PR)
Nepean	58	• Catholic Healthcare Ltd. (PR) • Sydney Anglican Home Mission Society Council/ANGLICARE NSW (HPR) • Anglican Retirement Villages (PR)
New England	62	• H.N McLean Memorial Retirement Village Pty Ltd (HPR) • The Uniting Church/Uniting Care (PR) • Uralla Shire Council (HPR)
North Sydney	54	• Anglican Retirement Villages (HPR) • The Uniting Church/UnitingCare (HPR) • RSL LifeCare Limited (PR)
Orana/Far West	43	• Cooinda Coonabarabran Ltd (PR) • United Protestant Association of NSW Limited (PR) • Kanandah Retirement Ltd (PR)

Riverina	45	• Lutheran Aged Care Albury Inc (PR) • Baptist Community Services (HPR) • The Haven Community Incorporated (PR)
SE Sydney	30	• The Uniting Church/UnitingCare (HPR) • Catholic Healthcare Ltd.(HPR) • The Benevolent Society (HPR)
Southern Highlands	44	• Warrigal Care (PR) • Mercy Care Centre Young (HPR) • Bega & District Nursing Home Ltd (PR)
SW Sydney	42	• The Hammond Care Group (HPR) • Carrington Centennial Trust (PR) • Harbison Memorial Retirement Village (PR)

*Excluding HACC funding through Department of Health/AHS, Ministry of Transportation and Home Care Block Grants.

HP = Provider of HACC plus community packages

HPR = Provider of HACC plus both community packages and residential care

PR = Provider of both community packages and residential care

Table 5.4: Services and Funding by Government type

Local Planning Area	Non-Government		Government				Total	
			State Government		Local Government			
	Services	Funding (in $m)	Services	Funding (in $m)	Services	Funding (in $m)	Services	Funding (in $m)
Central coast	67 (73%)	45.6 (82%)	19 (21%)	9.9 (18%)	6 (7%)	0.4 (<1%)	92	55.9
Central west	56 (62%)	22 (65%)	31 (34%)	11.2 (33%)	4 (4%)	0.7 (2%)	91	33.9
Cumberland/prospect	103 (68%)	78.6 (77%)	39 (26%)	19.9 (19%)	10 (7%)	3.7 (4%)	152	102.2
Far North	74 (65%)	33.8 (60%)	25 (22%)	15.6 (28%)	14 (12%)	6.5 (12%)	113	55.9
Hunter	121 (75%)	80.2 (76%))	37 (23%)	18.3 (17%)	4 (2%)	6.5 (6%)	162	105.0
Illawarra	93 (72%)	61.9 (77%)	26 (20%)	11.6 (15%)	10 (8%)	6.5 (8%)	129	80.0
Inner West	77 (69%)	39.7 (71%)	18 (16%)	15.2 (27%)	17 (15%)	1.4 (2%)	112	56.3
Mid North Coast	111 (76%)	59.9 (79%)	22 (15%)	12.5 (17%)	14 (10%)	3.0 (4%)	147	75.4
Nepean	53 (69%)	25.2 (70%)	20 (26%)	10.5 (29%)	4 (5%)	0.2 (<1%)	77	35.9
New England	48 (36%)	16.1 (45%)	35 (26%)	11.9 (33%)	52 (39%)	7.6 (21%)	135	35.6
North Sydney	168 (76%)	122.3 (84%)	36 (16%)	21.8 (15%)	17 (8%)	1.7 (1%)	221	145.8
Orana/Far West	46 (44%)	11.6 (38%)	46 (44%)	15.1 (50%)	13 (12%)	3.5 (12%)	105	30.2
Riverina/Murray	65 (45%)	30.7 (56%)	44 (31%)	16.5 (30%)	34 (24%)	7.2 (13%)	143	54.4
Southeast Sydney	178 (77%)	127.6 (83%)	32 (14%)	24.8 (16%)	22 (9%)	1.2 (<1%)	232	153.3
Southern Highlands	48 (47%)	20.5 (55%)	37 (36%)	10.8 (29%)	18 (17%)	6.3 (17%)	103	37.6
Southwest Sydney	111 (72%)	51.7 (69%)	34 (22%)	22.3 (30%)	9 (6%)	1.3 (2%)	154	75.3
RANGE	36 – 77%	38 – 84%	14 – 44%	15 – 50%	2 – 39%	<1 – 21%		

Table 5.6: Services by integration category

	Community Only				Integrated Community & Residential			
Local Planning Area	HACC Only	HACC + Packages	Packages Only	TOTAL	HACC + Packages + Residential	Packages + Residential	HACC + Residential	TOTAL
Central coast (92)	39	28	7	74 (80%)	12	6	0	18 (20%)
Central west (91)	58	6	6	70 (77%)	2	18	1	21 (23%)
Cumb/Prospect (152)	76	19	6	101 (66%)	32	13	6	51 (34%)
Far north (113)	62	0	11	73 (65%)	17	19	4	40 (35%)
Hunter (162)	97	19	6	122 (75%)	16	24	0	40 (25%)
Illawarra (129)	65	6	20	91 (71%)	24	11	3	38 (29%)
Inner west (112)	76	4	4	84 (75%)	21	5	2	28 (25%)
Mid north coast (147)	80	14	8	102 (69%)	13	29	3	45 (31%)
Nepean (77)	55	0	3	58 (76%)	10	8	1	19 (24%)
New England (135)	88	4	3	95 (70%)	16	8	16	40 (30%)
North Sydney (221)	121	5	8	134 (61%)	57	23	7	87 (39%)
Orana (105)	60	3	13	76 (72%)	12	15	2	29 (28%)
Riverina (143)	85	0	13	98 (69%)	15	17	13	45 (31%)
SE Sydney (232)	140	15	16	171 (74%)	39	12	10	61 (26%)
S. Highlands (103)	62	8	5	75 (73%)	19	8	1	28 (27%)
SW Sydney (154)	104	20	10	134 (87%)	12	8	0	20 (13%)
TOTAL (2168)	1268 (58%)	151 (7%)	139 (6%)	1558 (72%) Range: 61-87%	317 (15%)	224 (10%)	69 (3%)	610 (28%) Range: 13-39%)

Table 5.7: Integration by Government type

Local Planning Area	Non-Government		Government				Total	
			State Government		Local Government			
	Community only	Integrated	Community only	Integrated	Community only	Integrated	Community Only	Integrated
Central coast	49	18	19	0	6	0	74	18
Central west	39	17	27	4	4	0	70	21
Cumberland/Prospect	52	51	39	0	10	0	101	51
Far North	49	25	22	3	2	12	73	40
Hunter	81	40	37	0	4	0	122	40
Illawarra	60	33	26	0	5	5	91	38
Inner West	49	28	18	0	17	0	84	28
Mid North Coast	67	44	21	1	14	0	102	45
Nepean	35	18	19	1	4	0	58	19
New England	37	11	31	4	27	25	95	40
North Sydney	81	87	36	0	17	0	134	87
Orana/Far West	30	16	39	7	7	6	76	29
Riverina/Murray	41	24	41	3	16	18	98	45
Southeast Sydney	117	61	32	0	22	0	171	61
Southern Highlands	32	16	35	2	8	10	75	28
Southwest Sydney	91	20	34	0	9	0	134	20
	910 (64%)	509 (36%)	476 (95%)	25 (5%)	172 (69%)	76 (31%)	1558 (72%)	610 (28%)

Table 5.9: Descriptive statistics by provider structure

	Community only				Community + Residential (Res)*	Total
	HACC Single (HS)	HACC Multiple (HM)	Packages Only (P)	HACC + Packages (HP)		
	N=201	N=215	N=58	N=41	N=104	N=619
Planning Region						
Metro North	17.9	15.3	10.3	14.6	19.2	16.3
Metro South	27.4	23.3	25.9	34.1	18.3	24.7
Hunter	10.9	10.7	12.1	19.5	14.4	12.1
Northern	11.9	28.8	17.2	7.3	17.3	18.9
Southern	13.9	8.4	19.0	14.6	11.5	12.1
Western	17.9	13.5	15.5	9.8	19.2	15.8
Common Sponsorship						
Yes	16.4	21.4	56.9	36.6	61.5	30.9
No	83.6	78.6	43.1	63.4	38.5	69.1
Tax Status						
Charitable	84.6	92.6	75.9	90.2	97.1	89.0
For profit	15.4	7.4	24.1	9.8	2.9	11.0
Geographic location						
Major cities	50.7	41.4	56.9	58.5	46.2	47.7
Inner regional	19.4	27.0	27.6	17.1	29.8	24.2
Outer regional	10.9	14.9	10.3	4.9	10.6	11.8
Mixed	18.9	16.7	5.2	19.5	14.4	16.1
Average operating revenue: public subsidies						
($A millions)	0.160	0.402	1.018	1.667	5.695	1.354

*This category (Res) represents the combination of three service provider types: packages + residential (PR=65), HACC + residential (HR=2) and HACC + packages + residential (HPR=37)

Table 5.10: Descriptive statistics by provider structure

	Community only				Community + Residential (Res)*	Total
	HACC Single (HS)	HACC Multiple (HM)	Packages Only (P)	HACC + Packages (HP)		
	N=201	N=215	N=58	N=41	N=104#	N=619
Residential bed size (n=104; avg.= 35; range=5-908)						
1-49					22.1	22.1
50-99					29.8	29.8
100-199					32.7	32.7
200+					15.4	15.4
Package size (n=201; avg.=65; range=1-318)						
1-24			37.9	22.0	28.8	30.7
25-49			22.4	31.7	25.0	25.7
50-74			12.1	17.1	13.5	13.9
75-99			10.3	14.6	6.7	9.4
100+			17.2	14.6	24.0	20.3
HACC services (n=496; avg.=2.4; range=1-14)						
1	100			22.0	23.1	44.4
2		51.6		17.1	33.3	26.4
3		24.7		17.1	10.3	12.7
4		8.4		14.6	7.7	5.4
5-9		14.4		22.0	12.8	9.1
10+		0.9		7.3	12.8	2.0

*This category (Res) represents the combination of three service provider types: packages + residential (PR=65), HACC + residential (HR=2) and HACC + packages + residential (HPR=37)
#For package size, n=102 as HR (=2) is excluded; for HACC service count, n=39 as PR (n=65) are excluded

CHAPTER 6: Factors Associated with Integrated Care Structures

6.1 Background

This chapter moves from descriptive analysis of aged care services that were presented in Chapter 5, to explore the relationship between external and internal variables and the existence of different kinds of provider systems using more sophisticated analytical techniques. While helpful in gaining an insight into provider and service characteristics, descriptive analysis cannot identify relationships between the outcome variable and other specific aspects of integrated delivery structures. Nor can descriptive analysis isolate the effects of certain factors controlling for others. When patterns are not immediately discernible, more sophisticated statistics often bring those patterns to light.

Recall from Chapter 5 that data from three main sources were used for this analysis. Two sources were publicly-available databases: the Aged and Community Care Management Information System (ACCMIS) was used to obtain characteristics of the community package programs and residential care; and the Australian Tax Office online ABN Lookup Webservice was used to obtain provider tax status. These were merged with data from the New South Wales Department of Ageing, Disability and Home Care (DADHC, now ADHC) the state administrative agency for the HACC program.

The area of interest in this study is to understand the internal and external factors associated with the decision to adopt different service structures, so it is important to use data representing the appropriate level of decision-making. From the original data sources, data needed to be aggregated in two ways: from services

to service providers and from local government areas into local planning areas.[1] A large fraction of service providers are actually part of even larger organisations that have state or even national presences (e.g. Baptist Community Services). In these cases, the decisions about taking up innovative service delivery structures are probably made higher up the organisational level ladder. However, service provision at the local planning area is available for all providers, large and small, freestanding or part of a larger entity and is, thus, the unit used for this analysis. The question of how much autonomy service providers who are part of larger organisations have at a local planning area level is explored separately in the related case study part of the research reported in Chapter 8.

Although Chapter 5 shows that state and local government provision of aged care services ranges from 23-65 per cent of total services in different regions of the State and thus a very significant factor in the overall picture of the State, in researching this question, it became apparent that the decision-making process for state and local government providers was systematically different from non-government providers. For example, state and local government providers tend to be somewhat less heterogeneous and provide mainly certain kinds of services (e.g. allied health or nursing) in certain geographic areas (mainly rural). They tend not to be engaged in exploring the same range of services and service areas as non-government providers. Consequently, state and local government providers were excluded from the analysis. In discussions with non-governmental providers, the somewhat different role providers like Home Care Services of New South Wales play is articulated (see section 8.3).

[1]These are the sixteen DADHC-defined local planning areas. As contracting is done at this level, it was logical to use this level of aggregation to consider provider structure. To produce more robust results for the logit model, the local planning areas were aggregated into the six planning regions.

The sample for this investigation consisted of 619 non-government service providers comprising just less than two thirds of counted services provided in New South Wales and about three quarters of expenditures (Hixon, 2009).

To investigate provider organisations' decisions to take up the various service delivery structures, a multinomial logistic regression ("logit") technique was used. Logit models are useful for predicting group membership when the groups (dependent variable) are not ordered. The dependent variable for the *main model* (n=619) is service delivery type and consists of seven different provider structures ranging from the less integrated, single service HACC providers (HS) to the more integrated HACC + community package + residential care providers (HPR)[2]. These are shown again in Table 6.1. As the seven categories cannot be ordered by a single measure, a multinomial logistic regression (MNL) strategy was used.

Table 6.1: Non-government organisations by structural integration group (n=619)

Community care only (n=515) 83%					Community + Residential care (n=104) (17%)		
201 HACC Single (HS)	215 HACC Multiple (HM)	58 Packages only (P)	41 HACC+ Packages (HP)		2 HACC+ Residential (HR)	65 Packages+ Residential (PR)	37 HACC + Packages+ Residential (HPR)
→→ Increasing level of structural integration→→							

[a] An eighth group—"Residential care only"—is not included here.

Table 6.2 describes in more detail the dependent and independent variables and their sources. Independent variables chosen for this study were: common sponsorship ("chain"), bed size, community package size, number of HACC services, tax status, HACC planning region and geographic location. Three of the

[2] In the descriptive analysis, seven categories of provider structure are used. For the logit models, HR and CR have been combined as HR only has 2 observations.

independent variables were chosen because they were used in previous studies: common sponsorship, bed size, and tax status (Banaszak-Holl, Zinn and Mor, 1996; Castle and Banaszak-Holl, 1997; Castle 2001; Lucas et al., 2005). Two variables, HACC planning region and geographic location, were added to test the hypothesis that regional planners might be influencing the innovation decision and metropolitan providers might behave in a systematically different way. The final two variables, community package size and number of HACC services, reflect the hypothesis that, in a similar fashion to bed size, the size of the community services will be relevant to the uptake of innovation.

Four logit models were estimated because all providers did not offer the full array of community and residential services. The main model (Model 1) included all 619 providers, but only used four of the seven independent variables. Model 1 excludes the variables measuring nursing home bed size, community packaged care size, and the number of HACC services offered. Three additional models --the HACC model (Model 2, n=497), the Community packages model (Model 3, n=201) and the Nursing home model (Model 4, n=104)--were estimated to examine the effects of those independent variables.

For each model, two tables of results are presented; these are Tables 6.4-6.10. The first set of tables (Tables 6.4, 6.6, 6.8, and 6.10) present the estimated coefficients (Betas) and significance levels (Sig.) of each of independent variables. Unlike with ordinary least squares regressions, except for the sign (+ or -), there is no direct interpretation of the coefficients in MNL output. Instead, to better understand the impact each independent variable or factor has on service structure, a "base case" or reference group was created to represent probabilities for a "typical" provider and then the independent variables were changed, one-at-

a-time, to show their marginal effects on the dependent variable. The typical provider varies by provider structure and hence by model. The second table for each model presents these marginal effects (see Tables 6.5, 6.7, 6.9).

6.2 Results

Table 6.3 (page 149) presents the means of the independent variables by category of dependent variable. This summarises much of the descriptive information provided in Chapter 5. Four MNL models were estimated: the Main Model (Model 1), the HACC Model (Model 2), the Packages Model (Model 3) and the Residential Model (Model 4).

6.2.1.Main Model (Model 1).

Table 6.4 (page 150) presents the parameter estimates for Model 1. The reference group for the Main model was the HACC Single (HS) service provider type. A number of independent variables were statistically significant here at the .01 and .05 levels. The strongest result is seen with common sponsorship which is positively associated with an increase in the probability of three provider types: community packages (P), HACC + community packages (HP), and community (HACC and/or packages) + residential (Res). For-profit status is associated with decreases in the probability of a provider being in the HACC multiple (HM) or community + residential (Res) provider types. Being in the Northern planning region was positively associated with falling into the HM type while being in the Metro North or Metro South were negatively associated with falling into the Res type.

The typical provider for the Main model (Model 1) is defined as non-profit, with no common sponsorship, from the Metro South planning region. The final row of Table 6.5 (page 151) shows that a typical provider had a high probability

(42.2 and 38.2) of being either a single service HACC provider (HS) or a multi-service HACC provider (HM); and also a 6.7 per cent probability of being in the Res group. Geographic location (major city, inner regional etc.) had little impact on the fit of the model and on the probabilities.

Large departures from the base case occurred in six situations. Of greatest relevance to this research were the three variables that significantly impacted the probability of being in the community + residential group (Res). Common sponsorship increased the probability from 6.7 per cent to 29.0 per cent but for-profit status decreased it from 6.7 to 1.7 per cent. Common sponsorship actually increased the probability of being in any of the three groups providing packaged care (P, HP and Res) while decreasing the probability of being in either of the HACC provider types. Only being in the Metro North planning region decreased the probability of being in the Res group, but only very slightly from 6.7 to 6.4. Finally, being in the Northern Planning Region significantly increased the probability that a provider was in the HM group while for profit status significantly decreased that probability.

These results suggested a few things. First, both common sponsorship and tax status should be investigated more fully in the qualitative phase of the research. Common sponsorship bears greater investigation because it would be important to understand exactly how this impacts on building integrated services. Because tax status seems to have the opposite effect on integrated service building, it is also of interest. Second, there may be fewer differences attributable to policy and planning leadership than expected, as planning regions had little or no statistically significant impacts on the probability of falling into the various groups. Consequently, the implication for which state policymakers and planner to

interview is not clearly indicated by the modeling. Moreover, the lack of variability between regions doesn't necessarily reflect whether commissioning is actually a driver in promoting integration so much as that there may not be much authority for variation.

6.2.2. HACC model (Model 2) and Community packages model (Model 3) results.

Table 6.6 (page 152) presents parameter estimates for the HACC model (Model 2). Only two provider types are specified: HACC + Community packages (HC) and the category HI (which is a combination of HR and HCR). The reference category is HACC only, which is the combined category of HS and HM. When taking into consideration the number of HACC services and its impact on provider type, common sponsorship is again significant. Tax status and geographic location were omitted in the model because the other variables were much more robust without them.

The typical HACC services provider (or "base case") shown in Table 6.7 (page 153) was from the Metro South, had no common sponsorship and offered 2.4 services. The impact of common sponsorship is especially strong here where it increases the probability that a provider is fully integrated (HI) from 1.5 per cent to 15.7 per cent. HACC providers who offered a smaller number of services (one standard deviation below the mean) were less likely to be in the fully integrated group (0.9%) and those with a larger number of services (one standard deviation above the mean) were more likely (2.6%).

Table 6.8 (page 154) shows the parameter estimates for the Community packages model (Model 3) where the reference category is Community packages only (C). Community care package size has a positive and statistically significant

impact on a provider offering fully integrated services (HCR). The other significant finding from this model is that common sponsorship was negatively associated with being in the HC category. Tax status and geographic location were again omitted from the model.

The marginal effects of these factors relative to the base case--which is set at 40 packages, common sponsorship and Metro South planning region--are seen in Table 6.9 (page 155). While the typical provider in this model has 40 community care packages, by increasing this one standard deviation to 111, the probability offering fully integrated services (HCR) nearly doubles from 13.6 per cent to 25.6 per cent. Similarly, by reducing the package size to 14, the probability of being fully integrated is halved from 13.6 to 6.6. Those providers without common sponsorship have an significant increased probability (19.2 to 42.8 per cent) of offering both HACC and community packages

6.2.3. Residential model results.

The Residential model (Model 4) was less robust than the HACC services (Model 2) and the Community packages model (Model 3). None of the variables were statistically significant when put into the residential model together (see (Table 6.10, page 155). Common sponsorship had the strongest effect but the coefficient in the MNL was not statistically significant. The marginal probabilities for Model 4 are not shown here. Why residential bed size has less impact on the probability of offering integrated services than the number of HACC services and number of community care packages is worth exploring with providers in the focus groups reported in Chapter 8.

6.3. Discussion

The questions that this phase of the research attempted to address were: what are the internal factors (tax status, common sponsorship, service capacity) that influence community aged care providers in NSW to adopt or not adopt the defined innovative structures? What are the external factors (HACC planning region) that influence community aged care providers in NSW to adopt the defined innovative structures. The impact of these factors is summarized in Table 6.11 (page 157). Although collected for other purposes, the administrative data accessed to answer these questions provided some answers. For instance, the descriptive data revealed that that "common sponsorship" was typical of the most integrated category of service provider models (the "innovation") and this was a significant factor in the logit models where other factors are controlled for as well. The descriptive data also identified that parts of the community aged care landscape are dominated by just a few providers and that they may be driving these dynamics. The for-profit providers were identified as being less likely to take up the integrated service model, but one has to go beyond these data to understand why this is. Both common sponsorship and tax status are investigated more fully in the qualitative phase of the research.

Furthermore, residential bed size did not influence the probability of falling into provider structure groups, yet community care packages and number of HACC services did. This suggests, perhaps, a willingness to expand into community care more enthusiastically is a better signal of innovativeness than the resources associated with larger residential bed size.

Finally, while a three-fold variation (from 13 to 39 per cent) in integrated care services was observed across regions in the descriptive analysis, most of this

reflects internal forces rather than the external influence of public commissioning. External forces, proxied by HACC Planning Regions, did not have much influence over which structure type a service provider fell into, suggesting that policymakers and planners were not using their influence to move providers in this direction. Again, this finding was pursued more thoroughly in the next phase of the research when state and federal policymakers and planners were interviewed.

This investigation provided much of the data needed to help the policymakers and planners understand what factors lead to the adoption of a continuum of services in New South Wales. Of course, it has been argued that without the other integrating mechanisms (care management, information systems and integrated financing), structure alone is a necessary but not sufficient component of the organisation's capacity to provide a true continuum of aged care services. Service providers, even when part of the same supposedly integrated system, do not always work together to ensure that there is a seamless flow of clients between services and over time (see Chapter 8 for more discussion).

The characteristics of providers that are more likely to provide aged care services within an integrated structure are common sponsorship, non-profit and having greater capacity in terms of HACC services, package size and, to a lesser extent, bed size. Understanding both this set of facts and why these things matter may help promote more effective future adoption of innovative delivery structures. With this knowledge resources can be targeted for the development of other integrating mechanisms.

Finally, there is much about the drivers of integrated care that could not be determined from this database alone. Consequently, a fuller, richer picture has been painted through interviews with a sample of innovative aged care providers

to determine the strategic directions that both government and providers have made in the past that have shaped the present structure of the service system, and the major policy and planning considerations to be taken into account in making future strategic decisions. These data are presented in the following Chapter 7.

Table 6.2: Definitions and sources of dependent and independent variables

Variable	Definitions	Sources
Dependent variable		
HACC Single (HS) HACC Multiple (HM)	Home and community care program (HACC) provider which provides either a single service (HS) or multiple services (HM) from the 20 available in the State through State/Commonwealth funding	New South Wales Department of Ageing Disability and Home Care Administrative data
Community packages only (P)	Provider of one or more types of Commonwealth-funded community care packages: Community Aged Care Packages (CACP), Extended Aged Care at Home (EACH), Extended Aged Care at Home – Dementia (EACH-D)	Commonwealth Aged and Community Care Management Information System (ACCMIS)
HACC + Community packages (HP)	Provider of HACC + community care packages	
HACC + Residential (HR)	Provider of high and/or low level of residential care funded by the Commonwealth[a] and HACC	
Community packages + Residential (PR)	Provider of high and/or low level of residential care and community care packages	
HACC + Community packages + Residential (HPR)	Provider of high and/or low level of residential care, community care packages and HACC	
Independent variables		
External		
HACC planning region	The six planning regions as defined by the New South Wales Department of Ageing Disability and Home Care (DADHC)	DADHC administrative database
Internal		
Tax status	Providers with either charitable/non-profit or for-profit tax status	Australian Tax Office online ABN Lookup Webservice
Common sponsorship	Providers are part of a larger organization ("chain"); potentially with shared resources and decision-making or not	ACCMIS and HACC Administrative data
Number of HACC services	Number of services a provider offers of the 20 available through HACC	HACC Administrative data
Residential bed size	Total number of residential beds the provider has in a local planning area	ACCMIS
Community package size	Total number of community packages the provider has in a local planning area	ACCMIS

[a] Residential only providers in the State are excluded from the analysis

Table 6.3. Means of independent variables by category of dependent variable

Factors	*Community only*				*Community + Residential[a] (Res)*	*TOTAL*
	HACC Single (HS)	*HACC Multiple (HM)*	*Packages Only (P)*	*HACC + Packages (HP)*		
	n=201	*n=215*	*n=58*	*n=41*	*n=104*	*N=619*
Planning Region (n=619)						
Metro North	.179	.153	.103	.146	.192	.163
Metro South	.274	.233	.259	.341	.183	.247
Hunter	.109	.107	.121	.195	.144	.121
Northern	.119	.288	.172	.073	.173	.189
Southern	.139	.084	.190	.146	.115	.121
Western	.179	.135	.155	.098	.192	.158
Common sponsorship (n=619)						
Yes	.164	.214	.569	.366	.615	.309
No	.836	.786	.431	.634	.385	.691
Tax status (n=619)						
Charitable	.846	.926	.759	.902	.971	.890
For profit	.154	.074	.241	.098	.029	.110
Geographic location						
Major cities	.507	.414	.569	.585	.462	.477
Inner regional	.194	.270	.276	.171	.298	.242
Outer regional Remote	.109	.149	.103	.049	.106	.118
Mixed	.189	.167	.052	.195	.144	.161
Residential bed size (n=104; avg.=135; range=5-908)						
1-49					.221	.221
50-99					.298	.298
100-199					.327	.327
200+					.154	.154
Package size (n=201; avg.=65; range=1-318)						
1-24			.379	.220	.288	.307
25-49			.224	.317	.250	.257
50-74			.121	.171	.135	.139
75-99			.103	.146	.067	.094
100+			.172	.146	.240	.203
HACC services (n=496; avg.=2.4; range=1-14)						
1	1.0			.220	.231	.444
2		.516		.171	.333	.264
3		.247		.171	.103	.127
4		.084		.146	.077	.054
5-9		.144		.220	.128	.091
10+		.009		.073	.128	.020

[a]This category (Res) represents the combination of three service provider types: Packages + residential (PR=65), HACC + residential (HR=2) and HACC + packages + residential (HPR=37);
For package size, n=102 as HR is excluded; for HACC service count, n=39 as PR are excluded

Table 6.4. Model 1 parameter estimates for independent variables (multinomial logit, main model, n=619)

Variables	*Service provider type*[a]							
	Community Only						*Community + Residential*[b] *(Res)*	
	HACC Multiple (HM)		*Packages only (P)*		*HACC + Packages (HP)*			
	Beta	*Sig.*	*Beta*	*Sig.*	*Beta*	*Sig.*	*Beta*	*Sig.*
Intercepts	-0.158	.537	-2.05	.000*	-2.279	.000*	-0.952	.002*
HACC Planning Regions								
Metro North	-0.029	.935	-1.146	.063	-.002	.997	-0.964	.031**
Metro South	0.059	.855	-0.225	.654	0.675	.269	-0.888	.035**
Hunter	0.201	.607	0.327	.574	1.1	.102	-0.049	.917
Northern	1.122	.001*	0.566	.306	0.084	.918	0.207	.643
Southern	-0.281	.478	0.055	.921	0.497	.477	-0.715	.142
Common sponsorship								
Yes	0.45	.09	2.187	.000*	1.126	.004*	2.32	.000*
Tax status								
For profit	-0.725	.029**	0.701	.076	-0.43	.449	-1.667	.009*

Notes:
Parameters for Western planning region, no common sponsorship and non-profit/charitable are set to zero because they are redundant
Model results: McFadden R^2=.089; X^2 = 157.6; df = 28; Sig. = .000
*Significant at .01; **Significant at .05

[a] Reference category = HACC Single (HS)

[b] This group (Res) represents the combined categories of HR (HACC+Residential), PR (Packages + Residential) and HPR (HACC+ packages + Residential)

Table 6.5. Model 1 marginal effects relative to a base case (multinomial logit, main model, n=619)

Variables	*Community only*				*Community + Residential[a] (Res)*
	% probability of being in HACC Single (HS)	*% probability of being in HACC Multiple (HM)*	*% probability of being in Packages (P)*	*% probability of being in HACC + packages (HP)*	
HACC Planning Regions (base = Metro South)					
Metro North	47.2	39.1	1.9	4.8	6.4
Hunter	34.5	36.0	6.2	10.6	12.7
Northern	22.5	59.1	5.1	2.5	10.7
Southern	46.8	30.2	6.4	7.9	8.8
Western	40.5	34.6	5.2	4.1	15.6
Common sponsorship (base=no common sponsorship)					
Yes	17.9	25.5	16.4	11.1	29.0
Tax status (base=charitable/non-profit)					
For profit	55.4	24.3	11.1	7.2	1.7
BASE CASE (Metro south, no common sponsorship, non-profit)					
	42.2	38.2	4.3	8.5	6.7

Notes.
Model results: Model results: $X^2 = 157.6$; df = 28; Sig. = .000

[a] This group represents the combined categories of HR (HACC + Residential), PR (Packages + Residential) and HPR (HACC + Packages + Residential)

Table 6.6: Model 2 parameter estimates for independent variables (multinomial logit, HACC model, n=496)

	Service provider type[1]			
Variables	***HACC + Community Packages (HC)***		***HACC and Residential With/out Community Packages (HI)***	
	Beta	*Sig.*	*Beta*	*Sig.*
Intercept	-2.888	.000*	-1.642	.008*
Number of services	.292	.000*	.274	.000*
HACC Planning Regions				
Metro North	-.037	.958	-.454	.520
Metro South	.587	.337	-.512	.466
Hunter	.908	.169	.336	.661
Northern	-.675	.395	.332	.634
Southern	.589	.395	.199	.788
Common sponsorship				
No	-.764	.050**	-2.575	.000*

Notes:
Model results: X^2 = 91.332; df = 14 ; sig. = .000
* Significant at the .01 level; ** Significant at the .05 level.
[1]HI represents the combination of HR (HACC + Residential) and HPR (HACC + Packages + Residential) categories. P (Packages) and PR (Packages + Residential) are left out of this HACC model.
Reference category = HACC only which is the combined category of HS (HACC Single) and HM (HACC Multiple).
Parameters for Western planning region and Common sponsorship are set to zero because they are redundant.

Table 6.7: Model 2 marginal effects relative to a base case (multinomial logit, HACC model, n=496)

	Community Only		
Variables	% probability of being in HACC only (H)[a]	% probability of being in HACC + Community packages (HP)	% probability of being in HACC and Residential With/out Community Packages (HI)
HACC Services [b] (base = 2.4 services)			
0.25 Services	94.4	4.7	0.9
4.6 Services	82.6	14.8	2.6
HACC Planning Regions (base = Metro South)			
Metro North (n=84)	93.6	4.7	1.7
Hunter (n=58)	85.5	11.1	3.4
Northern (n=96)	93.8	2.5	3.7
Southern (n=58)	88.6	8.3	3.1
Western (n=73)	92.5	4.8	2.6
Common sponsorship (base = no)			
Yes (n=122)	70.1	14.2	15.7
Base case (2.4 services, no common sponsorship, Metro South planning region			
	90.0	8.5	1.5

Notes:
Model results: McFadden R^2 = .166; X^2 = 91.332, df = 14, sig. = .000
[a] HACC single and HACC multiple have been combined; reference category
[b] 2.4 services = HACC mean; services 0.25 = HACC mean – 1 s.d.; 4.6 services = HACC mean +1 s.d.

Table 6.8: Model 3 parameter estimates for independent variables (multinomial logit, Community packages model, n = 201)

	Community Only				***HACC + Community packages + Residential[a] (HPR)***	
Variables	***HACC + Community Packages (HP)***		***Community Packages + Residential (PR)***			
	Beta	*Sig.*	*Beta*	*Sig.*	*Beta*	*Sig.*
Intercepts	-2.671	.009*	.280	.726	-3.599	.002*
HACC Planning Regions						
Metro North	.749	.403	-.017	.980	.191	.825
Metro South	.521	.490	-.931	.121	-.744	.362
Hunter	.684	.413	-.278	.679	-.379	.672
Northern	-.644	.481	-.526	.393	-.195	.814
Southern	.104	.897	-1.203	.069	-.160	.845
Common sponsorship						
Yes	-1.169	.01*	-.123	.755	.141	.776
Package size						
Logpackages	.387	.106	.079	.702	.888	.001*

Notes:
Model results: $X^2 = 42.336$, df = 21, sig. .004
Parameters for Western planning region and no common sponsorship are set to zero because they are redundant
*Significant at .01

[a] Reference category = Community packages only (P)

Table 6.9. Model 3 marginal effects relative to a base case (Multinomial logit, Community packages model, n=201)

	Community only			
Variables	***% probability of being in Community packages only (P)***	***% probability of being in HACC + Community packages (HP)***	***% probability of being in Community packages + Residential (PR)***	***% probability of being in HACC + Community Packages +Residential (HPR)***
HACC Planning Regions (base = Metro South)				
Metro North	23.7	14.4	41.2	20.7
Hunter	29.3	16.8	39.3	14.5
Northern	35.8	5.4	37.5	21.3
Southern	40.5	13.0	21.5	25.0
Western	26.4	7.6	46.8	19.1
Common sponsorship (base = common sponsorship)				
No	27.4	42.8	21.6	8.2
Package size [a] (base = 40 packages)				
14 packages	47.4	15.5	30.5	6.6
111 packages	30.0	21.7	22.7	25.6
BASE CASE (Metro south, common sponsorship, 40 packages)				
	39.6	19.2	27.6	13.6

Notes:
Model results: $X^2 = 42.336$, df = 21, sig. .004
[a] 40 packages = logpackages mean; 14 packages = logpackages mean – 1 s.d.; 111 packages = logpackages mean +1 s.d.

Table 6.10: Model 4 parameter estimates for independent variables (multinomial logit, Residential model, n=104)

	Service provider type	
Variables	***HACC+Packages+Residential (HPR)***	
	Beta	*Sig.*
Intercept	-1.919	.126
Number of beds (logbed)	.208	.422
HACC Planning Regions		
Metro North	.780	.313
Metro South	.613	.421
Hunter	.432	.595
Northern	.546	.478
Southern	1.233	.135
Common sponsorship		
No	-.578	.229

Notes:
Model results: McFadden R^2 = .053; X^2 = 7.192; df = 7; sig. = .409
Reference category is the combined categories of PR (Packages + Residential) and HR (HACC + Residential)
Parameters for Western planning region and Common sponsorship are set to zero because they are redundant.

Table 6.11: Summary of direction and significance for variables in 4 Models

Variables	*Full Model (1) N=619*				*HACC Model (2) n=496*		*Packages Model (3) n=201*			*Residential Model (4) n=104*
	HM	P	HP	Res	HP	HRes	HP	PR	HPR	HPR
Common sponsorship	**+**	**+***	**+***	**+***	**+ ****	**+***	**-***	-	+	+
HACC Planning Regions										
Metro North	-	-	-	-**	-	-	+	-	+	+
Metro South	+	-	+	-**	+	-	+	-	-	+
Hunter	+	+	+	-	+	+	+	-	-	+
Northern	+*	+	+	+	-	+	-	-	-	+
Southern	-	+	+	-	+	+	+	-	-	+
Size										
HACC services					**+***	**+***				
Community packages							+	+	**+***	
Nursing home beds										+
Tax status (for profit)	-	+**	-	-*						

Notes:
*Significant at .01; **Significant at .05
HP=HACC + Packages; HRes=HACC + Residential (HR) and HACC+Packages+Residential (HPR); PR=Packages + Residential; HPR=HACC +Packages + Residential
Tax status was dropped from all but the full model (1).
Western planning region parameter is set to zero because it is redundant
McFadden R^2 = .089 (Model 1); = .166 (Model 2); = .077 (Model 3) ; =.053 (Model 4)

CHAPTER 7—Culture of Innovation Survey Results

7.1. Overview

Chapters 5 and 6 described the results of the analyses on secondary data, answering general questions about integrated aged care structures. This chapter presents the results of primary data collected specifically to address the question of what internal "cultural" factors are associated with innovative aged care organisations.

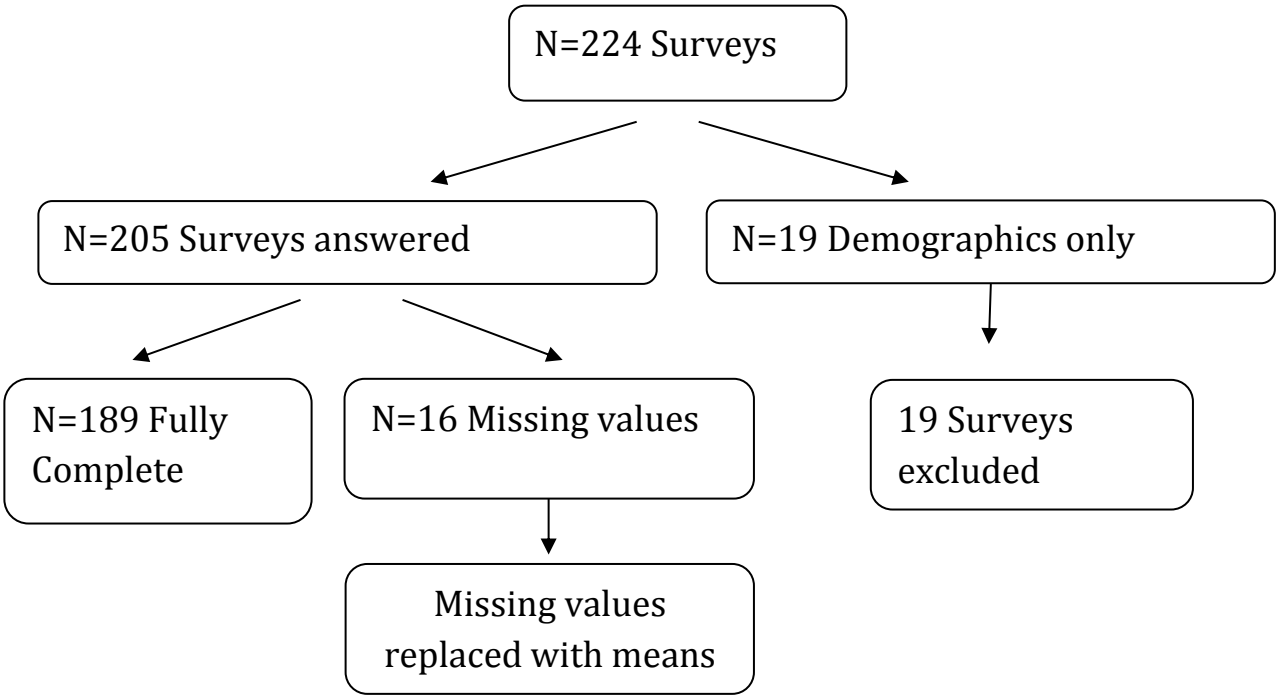
To do this, community aged care provider staff were surveyed with an instrument developed by the UK National Health Service Institute for Innovation and Improvement to determine organisational culture for innovation (Maher et al., 2009). The items and scoring rules for the survey instrument were described in the Methods Chapter 4 and can be found in Appendix 3. The survey questions fall into seven domains: risk taking, resources, knowledge, goals, rewards, tools, and relationships. Each of the seven domains contains four statements that respondents are asked to rate their organisation using an 11-point scale ranging from -5 (behaviours and practices that greatly hinder innovation) to +5 (behaviours and practices that greatly aid innovation). There is also one statement about the overall culture of an organisation. For example, in the "Risk" domain, respondents are asked to rate whether "senior leadership is willing to take a risk on new ideas that might make things better". For this study, questions were added to the survey on how long the respondent has been with their organisation and what position they held.

As advised in Chapter 4, the survey was administered through "Survey Monkey," an online survey tool. A link to the survey was distributed through each of the organisational contact people. Unfortunately, this distribution was not

handled uniformly, whereby some organisations sent the survey to all staff and others sent it to just a subset of staff. This was an unanticipated weakness in the study protocol, even though survey response was voluntary and respondents were assured that their responses were anonymous. Nevertheless, this would have contributed to response bias.

A total of 224 respondents from the eight organisations responded to the online survey (see figure 7.1). Of those, 19 respondents completed only demographic questions about position and tenure, and 16 only partially completed the survey. Missing data were handled in different ways. For the descriptive analysis, all missing responses were omitted. In the factor analysis, for those surveys that were at least partially complete, I replaced missing values with the mean value for the relevant question. The responses were exported from "Survey Monkey" into a Microsoft Excel spreadsheet for the descriptive analysis and then into PASW Statistics (Version 18) software package for factor analysis. The

Figure 7.1: Culture of Innovation Surveys



organisational-level descriptive analysis formed one area of discussion in the provider focus groups.

7.2. Descriptive analysis

The first step in analysing the cultural of innovation survey data was to conduct descriptive analyses. Tables 7.1 and 7.2 show the results of this organized in two ways: Table 7.1 (page 8) presents the results *by organisation,* Table 7.2 (page 9) presents the results *by respondent's position*. Although eight total organisations participated in the survey, only seven of these are included in the results. The eighth organisation did not distribute the survey widely; rather, only the CEO and CFO completed the survey and they rated the organisational culture in such a way (both assigned a value of 5 to almost all of the survey items) that the two surveys were not reliable. After several requests to invite wider response to the survey throughout the organisation, these remained unanswered, so this organisation was excluded from the analysis.

Two organisations (A and D) consistently ranked the highest in 27 out of 29 survey items. One of these organisations (A) came from the group of organisations that were chosen because they had an integrated aged care structure; the other (D) was identified through expert nomination as an "innovator," but only offered community aged care services. (For a full description of the eight organisations involved in this part of the research and a discussion of the findings from focus groups, see Chapter 8.)

The survey results suggested that the strength of Organisation A was most pronounced in the "Goals" dimension which relates to the signal that leadership gives, indicating that innovation is highly desirable by setting aspirational goals and challenging others to find ways of achieving those goals. (Note- in Chapter 8

the focus group data for Organisation A identified numerous instances when participants spoke of their "growth strategy" and what the organisation was doing such as cross subsidizing and dedicated staff, to support that growth strategy, even though there was not a specific reference to "goals").

Organisation D scored highest on the survey in the areas of "Relationships" and "Knowledge." The relationship dimension refers to the patterns of interaction between people in the organisation, a sense of common purpose and trust that their input would be honoured and explored, rather than easily dismissed. Although this organisation had grown rapidly in the couple years prior to the study, it was still a relatively small organisation. The positive effect on relationships of both its relatively small size and "flat [organisational] structure" were articulated in the focus group discussion that is reported in Chapter 8. The knowledge dimension reflects the idea that if broad-based information, both from within and outside the organisation, is widely gathered, easily accessible, rapidly transmitted and honestly communicated, then a better condition for innovation is created. Again, both size and a flat organisational structure appeared to be a relevant factor with regards to knowledge and information flowing easily and quickly. (See Chapter 8 where focus group discussions confirm these findings.)

Looking at the seven domains by taking an average of the four measures that make up each revealed little, the average scores ranged only from 2.03 to 2.86. However, there was, quite a lot of variation across organisations within each of the 28 questions and between each of the four questions within each domain. The single question ("Resources2") that revealed the most variation between organisations, was on the organisation's ability to "find the resources we need to fund innovative ideas." Here the scores ranged from 0.56 to 3.52. On the other

hand, there was very little variation (2.38 to 3.85) across organisations on the statement: "I am capable of generative creating ideas" (Tools3). Within a single domain, there was fairly significant variation. For example, the lowest and highest scores for individual questions both fell within the "knowledge" domain. So, while overall respondents felt comfortable with asking their direct supervisor for information they needed (3.78), they did not feel they received much information about what other organisations were doing to face the same challenges they face (1.18).

Of particular interest in the analysis was the variation between staff types. The variable about position held was coded into: direct care, staff supervisor and management. Of the 222 respondents, 106 were staff supervisors, 73 senior management, 42 direct care, and one unknown. Two of the organisations do not employ direct care staff and two did not send the survey to direct care staff. With only one exception, managers always gave the highest scores to the measures. In 24 out of 29 measures, direct care staff gave the lowest scores. Consequently, the organisations that had survey responses from the largest number of direct care staff had the lowest overall scores.

7.3. Factor analysis

The next step taken in analysing the survey data was an exploratory factor analysis. This step served two purposes. First, it helped to simplify the number of variables (n=29) by grouping together variables into identifiable dimensions ("factors") that could be used to describe many variables under study. Factor analysis groups together those variables that are highly correlated to each other and eliminates others that are not correlated to other variables (Munro, 2005).

The second purpose of using factor analysis was that this technique helped modify the survey instrument for use with the aged care organisations, as it was developed for public sector hospitals health systems and had not been used with surveying aged care organisations previously (personal communication with Lynne Maher, May 18, 2011).

The 29 questions were factor analyzed using principal component analysis with Varimax (orthogonal) rotation. Table 7.3 on page 10 shows that the analysis yielded three factors explaining a total of 71.7 per cent of the variance of the entire set of variables. Factor 1 was labelled "Senior Leadership" due to the high loadings by eight items, five of which directly related to positive characteristics held by senior leaders. This first factor explained 36.2 per cent of the variance. The second factor derived was labelled "Support" because there were high loadings on two variables that captured two ways of describing support for trying new ideas from direct supervisors or in other ways. The variance explained by this factor was 25.7 per cent. The final factor that the analysis produced was labelled "Individual skills" and consisted of just one variable that indicated that the individual felt they were "capable of generating new ideas". This final factor explained 9.7 per cent of the total variance. The communalities of the variables included are all fairly high: 61-83 per cent, suggesting that the variables chosen for this analysis were moderately strongly related with each other. The Kaiser-Meyer-Olkin measure of sampling adequacy of 0.951 supported the use of factor analysis for these data.

Two clear patterns of response among survey participants were identified from factor analysis: one pattern is the clear role that several aspects of senior

leadership play in promoting innovation. Another pattern is direct supervisor support for trying new ideas, regardless of whether the idea succeeds or fails.

These findings were shared during the focus group discussions with senior staff of aged care providers to focus discussion on innovation factors, as reported in the following chapter. Chapter 8 will provide results from semi-structured focus groups conducted with four provider organisations, as well as less formal discussions with three other groups of providers and with policy and planning officials.

Table 7.1: Culture of Innovation Survey Results (n=222, 7

Organisation	n=	Risk1	Risk2	Risk3	Risk4	Resource1	Resource2	Resource3	Resource4
A	18	**4.45**	3.36	3.36	**3.64**	**3.36**	2.91	**3.45**	2.27
B	46	1.38	1.73	1.08	1.28	0.45	0.90	0.48	0.38
C	30	3.31	3.15	2.54	2.15	2.35	1.62	2.04	1.12
D	25	4.13	**4.17**	**3.54**	3.33	3.00	**3.52**	3.04	**2.78**
E	31	3.40	3.03	3.37	3.57	2.20	2.27	2.57	2.67
F	14	3.69	2.85	2.62	2.77	3.00	2.77	2.85	2.15
G	58	2.20	2.52	1.84	1.68	0.88	0.56	0.96	0.30
AVERAGE	222	*3.22*	*2.97*	*2.61*	*2.62*	*2.18*	*2.08*	*2.19*	*1.67*
Organisation	n=	Knowledge1	Knowledge2	Knowledge4	Knowledge4	Goals1	Goals2	Goals3	Goals4
A	18	**4.73**	3.09	2.00	3.91	**4.45**	**4.00**	**3.09**	3.45
B	46	1.45	0.70	-0.05	1.20	2.03	1.13	0.58	1.00
C	30	3.60	1.96	1.04	1.76	3.24	2.52	1.96	2.12
D	25	4.57	**3.91**	**3.04**	**4.00**	3.96	3.83	3.04	**4.04**
E	31	4.17	2.55	0.90	2.54	3.96	3.62	2.69	3.62
F	14	4.46	1.77	1.00	1.69	4.08	3.85	2.77	3.54
G	58	3.53	1.40	0.33	1.38	2.64	1.49	1.44	1.09
AVERAGE	222	*3.78*	*2.20*	*1.18*	*2.35*	*3.47*	*2.92*	*2.22*	*2.69*
Organisation	n=	Rewards1	Rewards2	Rewards3	Reward 4	Tools1	Tools2	Tools3	Tools4
A	18	**4.09**	**3.73**	2.27	2.82	2.36	2.64	3.45	3.00
B	46	1.10	0.43	0.63	0.98	0.40	0.30	2.38	1.05
C	30	3.16	2.60	2.44	1.84	2.12	2.16	2.60	1.92
D	25	4.00	3.45	**3.73**	**3.82**	**3.05**	**3.18**	3.27	3.55
E	31	3.85	3.31	2.80	3.64	2.62	2.50	**3.85**	**3.73**
F	14	3.54	2.85	2.23	2.54	1.38	1.85	3.69	2.38
G	58	1.93	0.91	0.86	0.73	0.73	0.95	3.45	1.30
AVERAGE	222	*3.09*	*2.46*	*2.13*	*2.33*	*1.80*	*1.94*	*3.24*	*2.42*
Organisation	n=	Relationships1	Relationships2	Relationships3	Relationships4	Overall1			
A	18	2.55	3.55	2.55	2.91	3.91			
B	46	0.53	2.43	0.78	0.83	0.90			
C	30	1.92	3.52	1.64	1.40	2.28			
D	25	**3.41**	**4.05**	**3.59**	**3.73**	**3.95**			
E	31	2.96	3.50	2.62	3.04	3.69			
F	14	2.08	3.46	0.92	1.38	2.77			
G	58	1.21	3.09	1.05	1.35	1.95			
AVERAGE	222	*2.09*	*3.36*	*1.88*	*2.09*	*2.78*			

Table 7.2: Culture of Innovation Survey Results by staff type (n=222)

Staff type	n=	Risk1	Risk2	Risk3	Risk4	Resource1	Resource2	Resource3	Resource4
Direct care	42	2.00	2.35	1.53	1.55	1.10	.087	1.11	0.45
Staff supervisor	106	2.78	2.51	2.34	2.36	1.83	1.87	1.72	1.37
Management	73	**3.57**	**3.51**	**3.00**	**2.94**	**2.26**	**2.00**	**2.49**	**1.89**
Unknown	1	1.00	0.00	-3.00	-3.00	-5.00	-3.00	-5.00	-4.00
AVERAGE	*222*	*3.22*	*2.97*	*2.61*	*2.62*	*2.18*	*2.08*	*2.19*	*1.67*

Staff type	n=	Knowledge1	Knowledge2	Knowledge3	Knowledge4	Goals1	Goals2	Goals3	Goals4
Direct care	42	3.30	**2.19**	0.68	1.76	2.65	1.41	1.46	1.27
Staff supervisor	106	3.00	1.72	0.83	1.84	3.13	2.26	1.54	2.27
Management	73	**4.31**	2.14	**1.14**	**2.56**	**3.67**	**3.56**	**2.98**	**3.18**
Unknown	1	5.00	-3.00	-5.00	-5.00	5.00	0.00	-5.00	-5.00
AVERAGE	*222*	*3.78*	*2.20*	*1.18*	*2.35*	*3.47*	*2.92*	*2.22*	*2.69*

Staff type	n=	Rewards1	Rewards2	Rewards3	Rewards4	Tools1	Tools2	Tools3	Tools4
Direct care	42	1.97	1.62	1.38	0.95	1.41	1.24	3.03	1.22
Staff supervisor	106	2.44	1.83	1.66	1.89	1.38	1.65	3.01	2.05
Management	73	**3.67**	**2.58**	**2.40**	**2.88**	**1.88**	**1.98**	**3.42**	**2.95**
Unknown	1	-3.00	-5.00	-5.00	-5.00	-5.00	-5.00	5.00	-5.00
AVERAGE	*222*	*3.09*	*2.46*	*2.13*	*2.33*	*1.80*	*1.94*	*3.24*	*2.42*

Staff type	n=	Relationships1	Relationships2	Relationships3	Relationships4	Overall1
Direct care	42	1.70	2.97	1.35	1.32	1.76
Staff supervisor	106	1.57	3.14	1.60	1.66	2.13
Management	73	**2.41**	**3.59**	**2.14**	**2.68**	**3.46**
Unknown	1	-3.00	4.00	-3.00	-4.00	-3.00
AVERAGE	*222*	*2.09*	*3.36*	*1.88*	*2.09*	*2.73*

Table 7.3: Factor Analysis Table for Characteristics of Highly Innovative Organisations

Characteristics	***Factors***			
	1: Senior leadership	2: Support	3: Individual skills	Communality
Senior leadership makes sure that there is both the availability and time and of money to support innovation (Resources 4)	**.769**	.405		.77
Senior leadership openly shares information that is important to me and the work I do. (Knowledge 4)	**.761**	.280		.68
Senior leadership actively seeks out and recognises innovative thinking (Rewards 4)	**.847**	.307		.83
Senior leadership actively demonstrates innovative new thinking in its own right. (Tools 4)	**.841**	.182	.233	.79
Senior leadership models high levels of cooperation and trust among colleagues. (Relationships 4)	**.847**	.242		.81
My organisation has trained me in methods to support creative new ways of thinking. (Tools 1)	**.711**	.304	.352	.72
In my organisation, people who think differently are respected for their point of view. (Relationships 1)	**.721**	.348	.240	.70
In general, there is a high degree of honest and open communication between departments. (Relationships 3)	**.755**	.261	.222	.69
My direct supervisor supports me if I want to try something new. (Risk 1)	.319	**.850**		.83
If I suggest a new idea and it fails, I know that I will not be made to feel humiliated. (Risk 2)	.226	**.725**		.61
I am capable of generating creative ideas. (Tools 3)			**.83**	.72
Eigenvalues	10.507	7.458	2.820	
% of Total Variance	36.232	25.717	9.723	
Total Variance			***71.672***	

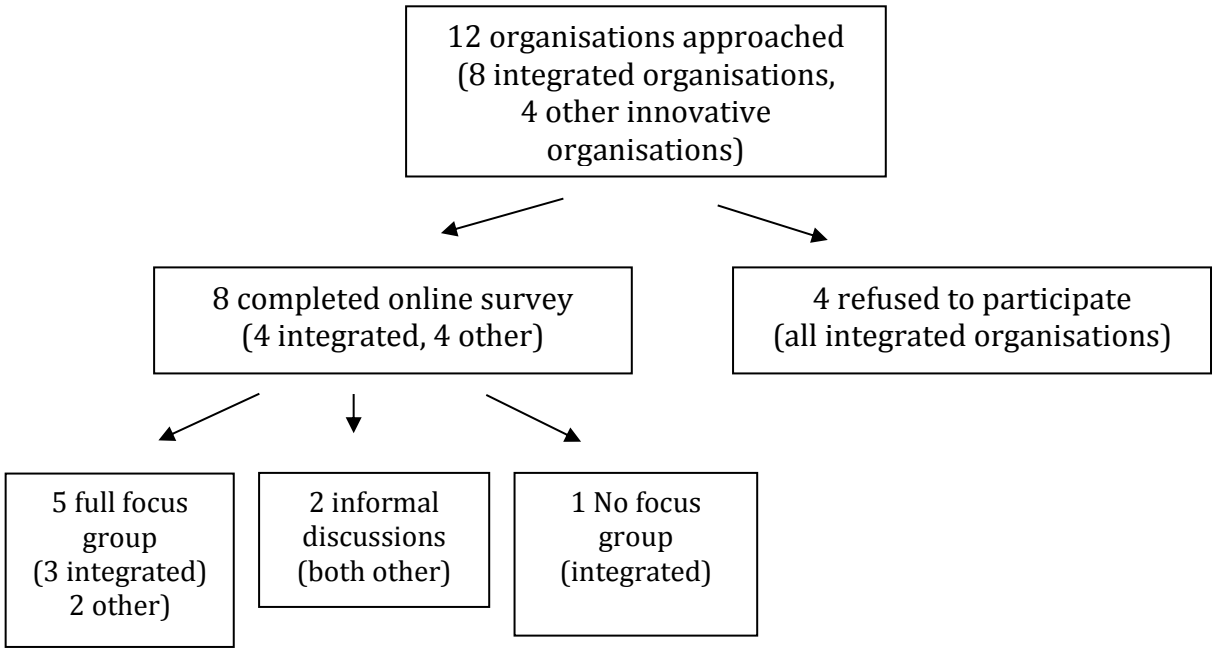
Bold type indicates primary factor loading for each item; factor loadings < .20 not shown.
Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser normalization

CHAPTER 8—PROVIDER FOCUS GROUPS AND STAKEHOLDER INTERVIEW RESULTS

8.1 Overview.

The staff of eight aged care provider organisations that participated in the online survey described in Chapter 7 were invited to contribute to the qualitative aspect of the study, through formal focus group discussions and/or informal discussions. Each of these discussions aimed to further explore, explain and clarify aspects of the survey and the secondary data results that were reported earlier. Some of these participants were senior administrative staff of four aged care service providers that offered the fullest complement of aged care services under a shared management structure and four organisations were nominated by experts as being innovative in the way they delivered or organized their aged care services (see figure 8.1 below). In the first part of this chapter, the data obtained through focus groups and less formal discussions with seven of these aged care provider organisations about integrated aged care and innovation more broadly are

Figure 8.1 Provider focus groups.



presented. In the second part, the data obtained from interviews conducted with other aged care stakeholders are reported.

8.2 Provider focus groups.

Focus groups were conducted with fifty-eight senior management staff of five separate organisations which had agreed to participate. Results from the survey and logit models were presented and discussed during these focus groups. The results were also presented to only the CEO of a sixth organisation, and with a small (3) group of staff from a seventh aged care provider. No focus group was conducted with the eighth organisation for two reasons: 1) only two staff filled out the online survey so there was little feedback that could be shared with them, and 2) they were unresponsive to requests to schedule the focus group.

The goal of the provider focus groups was to enrich and extend, or in some instances challenge aspects of the survey and other results reported earlier. Focus group responses, therefore, are organized to reflect six areas of interest in the earlier analyses: 1) differences between non-profit and for-profit providers, 2) the influence of size on integration and innovation, 3) community care capacity, 4) how to think about integrated structures as innovations, 5) contracting with New South Wales (NSW) State and Australian Federal Governments and 6) leadership.

Focus group members were asked to provide insight into what factors might be influential in the formation of integrated structures and, more broadly, how these factors impact on innovation.

8.2.1. Perceived differences in non-profit and for-profit providers.

Discussions with providers illuminated reasons why non-profit tax status had a significant positive effect on whether an organisation had an integrated aged care structure and the specific dynamics at play around this issue. Essentially, the

members advised that it wasn't that for-profit providers were uninterested in building integrated aged care structures per se; it was that they are uninterested in participating in the HACC program because "*the HACC model defeats innovation and competition*" (F1) . Because the definition of integrated aged care structure used in this research focused on the provision of three services types (residential, community care packages and HACC), then, by definition, there would likely be fewer for-profit providers possessing integrated structures due to their reluctance to participate in the non-profit HACC program.

Providers revealed there were fundamental differences between the two community care programs--HACC and aged care packages. Notable among these differences were the ability to generate a surplus, determine what specifications are written into contracts, and being in a better position to compete for contracts. One participant described the differences in how surplus is treated in the two programs.

> *"The financial models are quite different between HACC and packaged care. So with packaged care you're able to generate a surplus that doesn't need to be returned to [Federal] Government. With HACC, you can't do that; you must return any money to [State] Government that you don't spend" (B2).*[1]

Participants B3, B6, and G1 also explained that the contract the NSW State Government writes with the provider under HACC is more prescriptive and specifies the number of units of service to be provided and the unit cost, and DADHC (the administering department) carefully tracked this. In practice if fewer units of service are delivered, then the provider must return the excess funds, or somehow renegotiate the excess into the next funding cycle. Consequently, the

[1] All participant quotes have a non-identifiable code allocated to them signifying the organisation where they work ("A" through "L") and a unique respondent number.

participants identified there was no financial reward for operating efficiently under the HACC program and certain providers would not participate in the program, either because they could not make a profit, or they could not use the saving from one client to subsidize the services for another, as stated below.

> *"There are some providers that won't do HACC because there simply isn't enough money in it, so they choose to do residential aged care and packages but they won't touch HACC" (B4).*

> *"We had to be careful that we weren't moving money between people" (B4).*

> *"The HACC model defeats innovation because there is no dividend for efficiency under HACC because the money has to be given back" (F1).*

On the other hand, participants such as F1 revealed that the Australian Federal Government paid a daily rate (at the time, between $A37 for CACP and $A138 for EACH-D) for a package of services that was expected to keep recipients at home and out of residential care. Flexibility was allowed within that rate in terms of how much of which services they delivered.

> *[The Australian Federal Government] "is interested only in outcomes" (F1)*—i.e., keeping clients out of residential care, not in keeping count of the units of service delivered.

From the providers' perspectives, this flexibility allowed for a certain amount of moving money between clients and, of interest to for-profit providers, for profit making. Because of these things, it was widely agreed among participants that there was a broader interest among both for-profit and not-for-profit providers in the community package programs and this generated more competition. This perception was confirmed by participant C3,

> *"The competition out there [for packages] is huge" (C3).*

Participants speculated about whether the Australian Federal Government had purposefully created more choice and competition (perhaps at the cost of efficiency) by awarding some smaller contracts to new providers. Competition for packages also appeared fiercer because the package contracts had explicit end dates and renewal was not always guaranteed. In contrast, the impression given by the participants was that, with HACC, contract renewal was more certain and there was more selective tendering and direct allocation done, as stated below.

"Once you received a contract you were pretty much always renewed" (C1).

"Direct allocation or selective tender is much more common with the State than with the [Federal] Government" (D1).

It is worth noting that one of the organisations in this sample had been identified as for-profit but they also had a separate charitable (non-profit) tax identification number. So the non-profit/for-profit dichotomy was not so straightforward in this instance. What may actually have been the more important factor were differences in organisational ethos. Several organisations either directly identified, or indirectly alluded to, the challenges associated with competing with other organisations for aged care packages when their competition operated within a business ethos. The following statements tend to condemn that focus.

"It's actually quite hard for a group of managers to sit around and to see that wonderful client be turned into a commodity" (C4).

"None of us want to play that game, but survival depends, to a certain extent, on that kind of [behavior]" (C3).

8.2.2. Size matters – the importance of being part of a larger organisation.

The most significant factor in predicting membership in the integrated

structure category was perceived to be having common sponsorship. With common sponsorship, an organisation's probability of being integrated increased four-fold. There were several aspects of common sponsorship that emerged from the provider focus groups as being supportive of integrated service structures. The first is the benefit of size, confirmed by participant A2.

> *"They don't have the structure and the scale to support [new initiatives]; whereas, we do"(A2).*

While not all providers with common sponsorship or organisations with integrated structures were big, the largest organisations (in terms of services and funding) in NSW all had common sponsorship. Typically, these were religious or other charitable organisations that were statewide and, in some instances, had a market that was national in scope.

Among other things, the participants identified that size allowed for the distribution of risk.

> *"We are sort of big enough and can handle wearing a loss on something to gain a future benefit" (A2).*

> *"We subsidized those packages [in a new region] to a certain extent in the beginning until that local site built up its own suite of services to make it sustainable and viable and that's how you sometimes grow into regions" (B5).*

Opinions about what influence size had on innovation and the ability to move into new areas of business, however, were varied. The smallest of the organisations also thought their smaller size gave them an advantage, as stated below.

> *"The size of the organisation makes us quite opportunistic"….. [When you are small,] "you don't have the luxury to fail. You make it work and I think you've got to have that attitude"(D1).*

In participant DI's statement it is not clear whether the ability to be "opportunistic" reflects the fact that this was a smaller organisation, or that its services were offered in a brokerage model.

> *"[The Federal Government is] looking for more creativity around a range of providers so the brokerage model that we have may well be a competitive edge in that environment" (D1).*

Another advantage of common sponsorship, also related to size, was the availability of shared infrastructure and resources that supported innovation—especially shared learning and shared strategic thinking—as indicated below.

> *"We have size as an advantage to us in many respects….it helps [one region] to take on [a new program] faster because there's actually somewhere else in the organisation where that model exists"(A1).*

> *"The ability to allocate extra resources to get new projects started is something that really helps us with innovation" (B4).*

> *"It's incredibly hard trying to write a tender on top of trying to manage a service; it's a real juggling act. So, having a team to support tender writing to seek out new funding and to look at evaluation is really important" (B2).*

From an organisation that tripled in size over the past five years it was suggested by participant E1 that increased size gave the provider an advantage.

> *"Growth is not easy," [now we have the opportunity to] "get some infrastructure in place" (E1).*

8.2.3. Community care capacity.

A slightly different perspective was offered by focus group participants on the impact of size on three variables. These have been analysed separately. The variables were number of packages, number of HACC services offered and number of residential beds. The two community care measures of capacity (packages and HACC services) positively related to integrated care structures while the number of

residential beds did not. The focus groups' findings offer some limited explanation as to why this may be the case. For some organisations, their successful experience delivering a wider array of HACC services, particularly under the "community options" model of HACC which requires case management as part of its offering, facilitated their expansion into community package programs. Participant DI explains this decision.

> *"We tend to only have HACC services where they are in coordinating case management mode; so we don't have single service types…all the services are reported through 'Community Options'" (D1).*

Yet, it was considered that there was no experiential advantage for a provider with a large residential care presence to move into the community care market. Indeed, the participants argued that the more invested an organisation is in residential care, the less interest they will have in providing community care and vice versa. This view is aptly stated by participant D1.

> *"The reason we aren't in residential care is because we really are committed to maintaining people living within the community" (D1).*

8.2.4. Integrated service structures as an innovation.

One of the most interesting insights gleaned from the focus group data is that organisations identified as possessing integrated structures were divided on whether they considered this to be a particularly innovative characteristic. Indeed, it was noted that while these providers considered themselves "innovative," some of the participants such as C1 and E1 said it was not by virtue of their structure,.

> *"I don't think it's terribly innovative to have the lot [community and residential services], because I don't think that necessarily on the ground that having different levels of care necessarily means that they work together" (C1).*

> *"We wanted to look at all types of funding sources so we can have a greater continuity of care. But, more importantly, [we wanted] options for seniors so that when they come in our door we've got some options that might suit them depending on their needs" (E1).*

Movement into community care, especially packaged care, was not considered to be necessarily a purposeful move towards integration, as B3 confirmed.

> *"It was more like an opportunity for growth rather than a planned position towards integrated community services" (B3).*

8.2.5. Contracting with the NSW State and Australian Federal Governments.

Because Australian aged care organisations are particularly dependent on the needs of what Zinn and colleagues (1998) call "key resource-providing constituents," it was important to understand how government policy in areas, such as contracting, effected the providers' decisions. In particular, an area of interest was in knowing whether government used its contracting authority to move provider structures in a specific direction. Since the focus groups occurred in the months near to a significant change in the government arrangements for aged care programs in Australia, providers were examining their current operations and thinking about their own futures with particular clarity and purpose.

The participants discussed how the Australian Federal Government took over from the state government responsibility for the HACC program on July 1, 2012, resulting in all major aged care programs (those under investigation in this research) coming under their control. This became a lively topic of conversation in focus groups. In addition, other large aged care reforms were announced by the Australian Federal Government in 2012. There were no clear conclusions drawn from discussions with participants on these initiatives, since their experiences

varied considerably with regard to their relationships with the NSW State and with the Australian Governments. Some of those experiences are reflected below.

The guidelines for the Aged Care Approvals at the time of the study (the Australian Federal Government's process for awarding packaged care and residential care places) specifically mentioned an applicant's ability "to provide both continuity of care and appropriate levels of care." (DOHA, 2012b). Yet, when this issue was raised in the focus groups, the participants offered differing opinions about how important these features really were in awarding contracts. Participants A2 and B4 believed that offering a continuum of care was important to getting government contracts and said that this was part of their "selling point."

> *"Ability to offer a continuum of care, which means that the client can stay with the same organisation as their needs progress, has been a very strong theme in a lot of the tendering that we have submitted" (A2).*

> *"Sometimes there might be some questions in the application that allow us to touch on [continuum of care or integrated care] like, for example 'explain what services you provide and how the range of services will help people'" (B4).*

In contrast, participants B3 and B2 did not see evidence that either the NSW State or Australian Federal Government was looking for this characteristic when awarding contracts.

> *"The decision about who gets the [HACC] tender is not based on [offering a continuum of care] but based on things like the unit cost" (B3).*

> *"Clearly, the Department [of Health and Ageing] wasn't looking for someone who also did residential care [when awarding contracts for community packages]" (B2).*

This ambivalence about whether government contractors influenced movement towards integrated care echoes the quantitative findings.

Another dominant issue related to contracting involved whether the process was perceived as transparent or fair. Several participants, including D1, raised a concern about the fairness of direct allocation and selective tendering (whereby aged care organisations were invited to tender based on their proven record rather than there being an open tender process) by the NSW State Government when awarding HACC contracts.

> *"Direct allocation or selective tender is much more common with the State than with the Federal (Australian) Government" (*D1).

Selective tendering, in combination with the "first mover advantage theory"[2], had helped some providers to take the lead in community care especially when there was a new program to trial, as stated by participants A1, A2 and D4.

> *"If the [Australian Government] put out a pilot, we would be the first to be involved….and when it became more than a pilot, then we would get the [contracts]" (A1).*
>
> *"There was certainly the view that this [stepping up early with consumer directed care] would help us in the long run" (A2).*
>
> *"[We have] been working with [The State Government] and have the opportunity to source new ideas and develop pilots…..so, we were a pilot site and that's grown now into $770,000 project" (D4).*

While these varied perspectives were authentic participant experiences and perceptions, the conclusion generally drawn by the participants was that the NSW State Government's tendering process was "not very transparent" (E1) and several of the provider groups were anticipating a more fair process once the Australian Federal Government takes over all of aged care. The Australian Federal

[2] The first mover advantage theory states that the first company entering a certain market will gain massive market share and, thanks to the competitive advantages developed, it will also be able to defend its leadership position from new entrants.

Government was said to use its contracting authority for a number of different objectives, as advised by participant D1.

> *"There is some feeling with [Australian Federal Government] competitive tendering processes that…. they both support getting some level of economy of scale…. [and], when well-established providers aren't doing a good job….to introduce a new player" (D1).*

For more insight into the NSW State Government's contracting priorities, the discussions with HACC officials below are informative.

8.2.6. Leadership and support for innovation.

The focus groups were also useful in painting a more detailed picture of the factors identified in the factor analysis. From Chapter 7, the data on "senior leadership" and a general sense of "support" were strongly associated with the variance in survey results. Similarly, several focus group participants attributed innovation to the leadership culture, as participant A1 explained.

> *"We had a CEO who was very interested in entrepreneurial innovation, and I think that permeated throughout and, therefore, gave permission to a lot of people who were interested to put their hand up for involvement in packaged care programs and see how they go" (A1).*

In addition to leadership creating the right culture, in the view of participant E3, tangible support for innovation may also have come from more formalized systems.

> *"….any staff member who comes up with an idea can fill out a form and then they get an allocation and mentors…." (E3).*

One focus group participant said "if we want to know something, we know who to go to within the organisation....if you want to walk across the hall to pick somebody's brain" (D2). Similarly, one participant said "It's a culture where people

are sort of empowered and encouraged to have opinions and to fight the status quo and say what they think" (D1).

8.3 Discussion with government policy and planning officials.

To understand further the dynamics around adoption of integrated aged care structures in the context of major policy reforms, discussions with NSW State Government officials were held on two occasions: in a one-on-one semi-structured interview with and as part of a regional shared services meeting that a HACC development officer organized with representatives from eight provider organisations. The summary below draws insights from both meetings. Australian Federal Government officials were unable to participate in discussions because of the recently announced reforms in aged care, but sent various documents to read on the topics of interest. As participant K1 advised:

> "*These events make it difficult for us to be able to respond directly to you as a number of policy issues are still to be determined*" (K1).

A meeting was held with the Central Office official of the Department of Ageing Disability and Home Care (DADHC) only a couple weeks before the Australian Government was set to take over responsibility for the aged care parts of the HACC program. So, in addition to discussing the mechanisms for integrating aged care through the state programs, the discussion focused on the relationship between the NSW State and Australian Federal Governments during this transition. The official indicated there had been no meetings to discuss differences in philosophy or rules and no policy alignment for the different funding arrangements. By the time a meeting was held with the HACC development officer and the group of providers she works with, the Australian Federal Government was offering a bit more clarity around the direction they wanted to take in

contracting for the HACC aged care services. Among other things, the Australian Federal Government indicated it wanted to create a third kind of packaged care that was aimed at serving people needing less intensive care than the recipients of CACP, EACH and EACH-D packages at that time.

In discussions about HACC contracting with the HACC contracting officer, where creating a continuum of care was considered by this participant to be one of the desired outcomes, the tension between "*efficiency and community*" (L1) was aired. In the officer's words "*it may be more administratively efficient*" (L1) to contract with one big organisation, instead of with lots of little community organisations for the range of services needed in a community. However, the officer considered that when contracts were made with smaller community organisations, the advantages included "*greater cultural sensitivity*" (L1) and the ability to leverage the volunteer networks created by these community organisations to extend formal paid services.

An example of the way in which services could be extended was given by the HACC officer: Meals on Wheels staff may be delivering food to someone in their home, and they notice that the person's lawn needs to be mowed. The Meals on Wheels delivery person subsequently asks the next door neighbor, or someone else in their community of volunteers, to mow the lawn instead of bringing in a formal lawn service. The formal service (Meals on Wheels) was used to leverage informal services for the client. The notion was that a bigger organisation does not have access to the same volunteer network and would not be able to make this kind of informal arrangement. In this participant's experience the resulting outcome of becoming larger is that all services become formalized. The community of volunteers in New South Wales is sizable. For example, the Meals on

Wheels provider for one planning region advised that they had 700 volunteers at that time.

Concern was voiced by the HACC officer over whether the Australian Federal Government, when focused on efficiency in their contracting, appreciated the contribution made by these sorts of smaller community-based organisations with their more limited set of services, but large volunteer rolls. Recalling the secondary data, almost one third of the providers reported being single-service HACC providers, and many of these were small community-based organisations. The meeting with the shared services group participants identified several of these kinds of organisations and the participants strongly felt that their own service configurations were under threat.

In the two meetings with government officials, the other integrating mechanisms were discussed (specifically case management and information systems) that were built into HACC services, or developed by the State in other programs. The programs mainly discussed were the Community Options Program (COP) (DADHC, 2012) and the Access Points demonstration (DOHA, undated). With regards to case management, participants advised that some portion of the caseload, probably a sizable portion, for HACC did not have care needs complex enough to warrant the inclusion of case management. However, when the clients' needs were such that they needed multiple services that required some coordination, there were a couple programs available. The Community Options Program (COP) provided screening and assessment, case management and then access to brokered services for frail elders and younger people with disabilities. At the time these discussions took place, only about $A25 million (of the total HACC budget of $A680 million) went to the COP program Participants also advised that

there was also the High Needs Pool that ran through the Home Care Service of New South Wales (HCS).

The High Needs Pool remains one aspect of the role that the HCS plays in the HACC program. In 2013, HCS received $A177 million of the $A460 million (or 38%) for HACC aged care services funding. Considerable discussion arose about the special role that HCS played as provider of last resort for populations and regions that were hard to serve in NSW (NSW Parliament, 2007; NSW Parliament, 2010). Their intent was to provide care where there was market failure (e.g., in rural and remote areas where non-government providers are unwilling to provide services because there isn't the volume to make it financially viable) and for populations that were hard to serve (like the high needs pool). The discussions moved to whether the HCS's costs, which were higher than other providers, were justified and whether they were providing services in some areas where market failure did not actually exist. A representative from HCS who attended the shared services meeting said HCS was "*fighting for its life*" (H1) and was interested in working together with other providers. As this participant commented: "*The only way to survive is to be more flexible*" (H1).

The group of provider participants, who regularly met to discuss shared services, advised that they had participated in a beta test of a commercially-developed electronic waiting list for domestic assistance and other smaller-scale activities. While the electronic waiting list was viewed positively by the participants, the trial ended once the software developer required a financial commitment from the providers to continue it. Coming from the public sector were a couple of other information sharing initiatives (Human Service Network or "HSNet" and the Access Points demonstration) that participant I1 viewed as "*just*

another layer" (I1), rather than being tools that really assisted providers. There were specific recommendations by participants about what sort of information system would help providers offer care integrated across services rather than "*interrupt integration*" (I1). Among other things, the participant I1 suggested that system would need to track referrals, share client assessment and other information commonly used for care planning and delivery. Otherwise, it was felt that, for these things, "*informal networks are very efficient*" (I1).

At the shared services meeting, the talk of integrated care and the Federal Government 's takeover of HACC and desire to bundle HACC services, led to a serious discussion by the participants of "*looking at ways of being sustainable*" (J1), by forming a consortium (including the HCS). The participants hoped that this would improve their chances of survival in the new environment where "*small providers are being put out of business by government or market pressures*" (J1). This was a group of providers who wanted to stop short of the kind of merger found in other regions, but saw the benefits of starting discussions about potentially sharing some "*back office functions*" (J1, I1) and finding other ways of reducing costs. The meeting concluded with a serious commitment to continue this exploration at a future date.

8.4. Conclusions

The changing policy environment at the time these discussions were taking place made recruitment of community aged care organisations into the study group difficult and talking with government policy officials almost impossible. Provider organisations also suggested that research fatigue kept them from participating. Altogether, only 47 people from five provider organisations were able to participate in formal focus group discussions and another 11 people,

representing nine other organisations, participated in less formal discussions. It was only possible to meet with only two government officials: both from the NSW State Government, one from the central office and another from a regional office. That said, the purpose of the focus groups and semi-structured interviews was to add depth and richness to the quantitative analysis and, in this, they were only somewhat successful.

A couple of factors may have kept the focus groups from yielding as much insight as hoped for. First, the agendas for these meetings were quite full and the attendance was quite large: ranging from 8 to 15 and averaging about 12 (see Appendix 5 for a description of focus group demographics). Consequently, we had a wide-variety of topics to cover including results from the surveys on the culture of innovation, reviewing the profiles of each organisation and their insights into their own "innovations," as well as putting integration and innovation in the context of major changes in the structure and provision of aged care in Australia. If these wide-ranging topics were discussed separately or by smaller groups, it may have been more fruitful.

Second, I asked each organisation's point of contact to invite to the focus groups the staff that they thought were most appropriate to be involved. Attendance included most of the senior management (CEO to service directors) from these organisations. As the meetings often ran upwards of one and one-half to two hours, this was a large commitment of resources to this task. Although the discussions never became superficial and most participants stayed lively and engaged, they became more rushed as the time went on. Third, the CEO or general manager was in attendance at three of the five full focus groups. When the CEO was present, I noticed that staff frequently deferred to that person and this may

have influenced their level of engagement. These three factors point to the need for future research to be done in a somewhat different way. Certainly, an additional set of qualitative interviews should be conducted to delve more deeply into the three other integrating mechanisms (care management, information systems and financing). These interviews would be more targeted to the appropriate staff which understand these topics and work with them at the "coal face".

There are at least three interesting conclusions that can be drawn from this part of the research. First, while an organisation offering the full array of HACC services, packages and residential care under a shared management structure certainly had the capacity to offer integrated care, without the other integrating mechanisms, the innovativeness associated with this capacity was perceived to be limited. The advantages of shared management structures were less obvious to providers than the advantages associated with the other three integrating mechanisms.

Second, different kinds of providers attributed their successes to different things. Non-profit providers perceived the ability to keep excess funds from certain programs (especially packaged care) as a way to subsidize clients' care, or offset losses in other program areas. The opportunities for this distribution of risk grew with the size of the organisation and contributed, in part, to the organisations' successes. Shared infrastructure and learning also characterized larger organisations. In contrast, smaller organisations attributed their success to being nimble and responsive to their community.

The following Chapter 9 discusses the research findings in relation to Evashwick's (2005) model of integrated care systems and compares the

quantitative and qualitative findings obtained in the study to help clarify and explain some of the complex issues that impact on integrated aged care models in New South Wales. Chapter 9 also offers policy recommendations on how the Australian Federal Government can act on the evidence and seize the new opportunities available to it to create integrated care systems and to do so at scale.

CHAPTER 9—Discussion and Policy Recommendations

9.1. Discussion

There is widespread interest by providers, policy-makers, researchers and other stakeholders in strategies to provide more integrated care so as to improve the quality of services and make more effective and efficient service delivery. Most of the interest in integration has been where both acute and long-term care services are considered and often for a targeted population. However, given the well-known challenges associated with integrating these two different, yet overlapping, systems of care (Leutz, 2005), there is logic in approaching integration in a more incremental fashion. This approach was taken by the Myer Foundation (2003) which, in its "2020: A Vision for Aged Care in Australia," articulated a future in which the lack of coherence and integration within aged care sector was tackled first. The Myer "vision" takes separately the aged care system with its rigid boundaries between residential and community care from the acute and medical care system.

The specific aim of this thesis is to contribute to this ongoing interest in integrated care by describing which providers have adopted integrated aged care structures and investigating both the factors associated with these delivery structures and, more generally, the mechanisms that have been adopted by aged care providers to integrate aged care services across community and residential settings. This research adds to the evidence needed to inform decisions about how to develop integrated aged care systems to suit different contexts, settings and circumstances. Specifically, it answers the following questions:

1. What are the characteristics of community aged care service providers in NSW that have adopted various delivery structures?

2. What are the internal factors that influence community aged care service providers in NSW to adopt, or not adopt, formally integrated aged care structures?
3. What are the external factors that influence community aged care service providers in NSW to adopt formally integrated aged care structures?
4. What is the status of the uptake of other integrating mechanisms (care coordination, information systems, financing) as well as informal integration structures in NSW?
5. What can be done to promote more effective adoption of integrated aged care systems?

These questions are answered using a variety of methodological approaches: 1) descriptive and multivariate regression analysis on secondary data from several State of New South Wales and federal government sources; 2) descriptive and factor analysis on a "Culture of Innovation" survey completed by individuals from provider organisations and 3) focus groups and semi-structured interviews with provider organisations and government officials. Frequently, the data analysis raised issues that were expanded upon in the focus groups and semi-structured interviews. Several of these issues are discussed below.

9.1.1. Rural/urban differences and the role of government provision of care.

First, the role of government, not just as funders and regulators, but as providers of care will continue to be particularly important in rural and remote areas. This was shown in the secondary data analysis. Non-government providers find it difficult to efficiently extend services to these hard-to-serve areas. Interestingly, this sort of market segmentation has actually led to models of more-fully integrated care through vehicles such as the Multi-Purpose Service (MPS) Program. The MPS program delivers a mix of aged care, health and community services in rural and remote communities where separate services would not

otherwise be viable (AIHW, 2013). There should be lessons from MSPs that can inform other less geographically-challenged service areas.

However, in focus group and other discussions, some non-government providers raised concerns about government provision moving into areas where market failure does not exist. In their view, care should be taken not to inhibit development of aged care markets at the margins between rural/remote and other service areas.

9.1.2. Market dominance by a few provider organisations.

The descriptive analyses also showed that there are several state-wide and regional providers that have considerable market dominance: from 30 to 66 per cent of total funding went to the biggest three aged care providers in every local planning area in the State of New South Wales. This dynamic may or may not inhibit new entrants into the market and restrict the ability to create new models and care arrangements. That said, some of the smaller providers involved in the study indicated that their size makes them more "nimble" and they are willing to entertain less formal arrangements (coordination and collaboration rather than consolidation) for integrating care.

As the Australian Federal Government takes over aged care responsibilities and implements its strategy to provide more services through "packaged" vehicles, it will be those HACC single service providers who rethink their way of doing business and enter into some form of relationship with other provider organisations that increase their chances of survival. On the other end of the spectrum, it's not clear if there are any similar threats to those who remain residential care-only providers. Certainly, as government policy moves towards paying for aged care services across the continuum in provider risk-bearing

arrangements (Wiener and Stevenson, 1998), residential care-only providers will see their opportunities diminished.

9.1.3. Limitation of defining management structure as an innovation.

We see that integrated age care structures—that is, where the range of community and residential care are offered under shared management and ownership—represent only six per cent of the aged care providers[1] in New South Wales. At the most fundamental level, the provider participants questioned whether having an integrated service structure alone was, indeed, innovative. Partly, this reflects a common misunderstanding about the definition of innovation, but it also indicates that these providers did not perceive shared management structures as particularly innovative. So, while they understood that only a small group of aged care service providers in New South Wales offered the full array of aged care services under a shared management structure, they struggled with the idea that integrated service structure means more than just a "collection of services", but also includes the practical and strategic advantages of these structures.

Instead these providers suggested that the real innovation lies in what is done with the services, how they are coordinated to meet the needs of clients and the demands of payers. What is missing from the study findings, therefore, is an explicit recognition of a range of potential benefits that come from centralized policy and operational management including economies of scale, greater bargaining power, wider distribution of risk, automatic referrals and improved customer satisfaction. There were only oblique references to a subset of these

[1] This figure includes only non-government aged care providers and excludes the 302 residential care only providers.

topics, particularly distribution of risk (which was attributed to larger size) and customer satisfaction.

This is consistent with suggestions by Ham and Curry at The King's Fund (2011, p. 6) who point out, "organization integration appears to be neither necessary nor sufficient to deliver the benefits of integrated care. Alternative approaches based on virtual or contractual integration hold just as much promise because the benefits of integration arise primarily when clinical teams and services are brought together and incentives are aligned to support service improvement."

9.1.4. Care management and information systems.

Although there were ample opportunities to more fully explore the other three integrating mechanisms (care coordination, information systems, and to a lesser extent, integrated finance) with providers and other stakeholders, these areas did not generate the same dynamic discussion that areas such as current reform and practice did. That said, the clearest message drawn with regards to the providers' perceptions of the three other mechanisms is that there is an appropriate and needed role for the Australian Federal Government to help aged care facilitate and invest in the development of these.

As it takes responsibility for all aged care programs, the Australian Federal Government has signaled its desire to bring a broader range of community care services, particularly at the less-intensive end of the service spectrum, under a "packaged" arrangement similar to CACP and EACH. Because the goals of the existing packaged care programs are to delay or substitute for residential care placement, they necessarily have care management built into them. It remains to be seen what need there is, if any, for care management within the context of

packaging together the less intensive services. It was clear that the providers recognized that not every older person needs their care managed and that there must be some tipping point where the availability of care management is both necessary and cost effective.

Similarly, the investment in formalized systems of information gathering and sharing is both more suitable and cost effective at the high end of the care need spectrum than at the low end. The providers suggested that informal referrals and other similar activities are quite efficient at the less-intensive service needs end. As information technology investments can be costly, and there is some logic in the argument that standardization with regards to data elements and protocols is needed, continued government investment in this area is sensible.

9.1.5. The critical role of integrated financing.

Integrated financing, as the fourth integrating mechanism, needs closer examination than was undertaken in the context of the focus groups and other stakeholder interviews. It is important to understand that without the appropriate alignment of financial incentives, merging budgets has a limited, or perhaps even negative, impact on achieving certain public policy goals such as providing care in the least restrictive, yet still appropriate, setting. There are two distinct avenues of examination related to integrated financing that are called for. The first involves examining the advantages and disadvantages of merging budgets across community and residential care and, perhaps later, across supportive and acute care. Here, I was able to glean some insight from providers which is echoed in the literature.

Discussions revealed that there were significant benefits to separating community care and residential care budgets, because the building stock and

renovations aspects of residential care require large influxes of money and the community care side often cross-subsidizes this when budgets are merged. In other words, the resource requirements associated with residential care may limit the resources allocated to community care. With separate budgets, innovations in community care are easier to fund. Pooling acute and long-term care budgets could parallel this sort of dynamic. Here, acute care systems tend to dominate the health budget and drive the care philosophy unless care is taken to create the right financial incentives.

The second avenue of examination involves how financial incentives could be aligned through the payment system to reward efficiency and to encourage such desirable outcomes as the downward substitution of care mentioned above. Two payment strategies were discussed: 1) capitation over fee-for-service, and 2) patient need-based rather than setting-based. So, for example, one way of aligning incentives is to move away from fee-for-service payment, where providers are paid for a specific quantity of services at a specific price (and rewarded for increased volume), toward capitated budgets that specify outcomes but allow flexibility in how those outcomes are achieved and, consequently, to reward efficiency.

Flexible financing is seen as one of the easiest ways to encourage innovation. The providers considered that to help an older person move from residential care back into the community after a period of convalescence, an intensive set of services (such as rehabilitation) needs to be offered up front. When compared to the money that the rehabilitation facility would receive for this person's care, community care funding would not be sufficient for that intensity of services to be delivered. The government would have to change their funding model so that providers have greater resources up front to draw on, so that they

can transition the person back into their home. The motivation is there for providers but, they suggest, it isn't financially viable under the current funding arrangements. If a provider is paid according to client care demands or needs, instead of according to the setting in which they are being provided with care, an incentive is created to care for that patient in the least costly setting.

9.1.6. Current policy environment.

This investigation of integrated aged care systems in New South Wales came at a time of great pressure for aged care providers in the state. Reform was coming from a number of different directions and providers were in the process of trying to determine how to best meet the future demands of payers as well as the older person and other stakeholders. The dynamic aged care policy environment had two effects on the research. The positive effect was that it made for some very interesting conversations with providers, in that they were not only able to speak to their past decisions around service integration, but were thinking strategically about how they were positioned for the future and what role integration played in that. The negative effect was that this changing environment made recruitment of aged care organisations into my study group difficult and being able to discuss integration policy with government policy officials almost impossible. Provider organisations also suggested that "research fatigue" kept them from participating.

The Australian Federal Government continues to be engaged in a major re-direction and re-prioritisation of funds towards community aged care. Undergirding this policy shift is more focus on packaged care rather than on single service provision, and embedding consumer-directed care in all home care programs (DOHA, 2012a). That the Australian Federal Government has signaled it wants to create an additional level of packaged care aimed at people with less

intensive care needs has implications for all community care providers, but especially for current HACC providers that offer single services or a narrow range of services. (It is worth remembering there are certain HACC providers that do have some experience in offering bundled services. Both the service packages called "High Needs Pool" for people needing 15 to 35 hours of services each week, as well as the Community Options Program, offer such arrangements.)

Offering community care in packages not only suggests a movement away from contracting with single service providers—about one-third of the market before Australian Federal Government takeover of the HACC program—but also away from providing clients with anything less than a "package" of services, however that package might be defined. The real and potential results of these two changes in policy are that single service HACC providers are feeling most under threat; actively pursuing relationships with other such providers in order to offer integrated services without formally merging ownership.

The implication from the perspective of HACC clients is that clients may not enter the formal service system until they have higher or more complex needs. With respect to consumer-directed care, it is not clear whether this means a shift towards "real" consumer-directed care—i.e., the establishment of personal health budgets that the consumer has significant control over—or just a shift towards involving the consumer more openly about how its budget is spent and how case management and administrative costs are handled. In the former case, personal health budgets can be used as a vehicle to promote better integration, which may lead to additional changes in the balance of services used by individuals (Grasser, Young and Wosti, 2013).

There are other important implications for the Australian Federal Government's further control of aged care services. Providers have been operating under two different systems, the Australian Federal Government for residential care and packages and the State Government for HACC, with somewhat different policy approaches and contracting rules. There has been an almost philosophical difference between the State and Australian Federal Governments with regards to their emphasis on encouraging efficiency and competition versus supporting communities of need. Another difference is with the contracting rules—i.e., the ability to keep hold of operating surpluses and the reliability with which contracts are renewed from year to year. It is particularly striking that, in the context of the handover from the New South Wales Government to the Australian Federal Government of the HACC program, at the time the study was conducted there had been no meetings between government representatives to discuss these differences.

9.2. Policy recommendations

The study findings indicate that integrated age care will play an increasingly important part in the future delivery of aged care in Australia. The challenge now is to act on the evidence and to do so at scale. There appears to be no one "best" way of delivering integrated care. The government should avoid prescribing what should be done; rather it should encourage a range of different approaches that meet local needs. There are a couple of examples from Australia and the UK that illustrate this point.

First, a lesson from the Australia's Team Care Arrangement (TCA) is appropriate. In 2005, the Australian Federal Government introduced a series of additional financial payments for health care professionals if they created TCAs for

chronically ill people who required on-going care from at least three health care providers. Under this scheme, health professionals were paid for performing activities related to an individual's care plan. While a comprehensive evaluation of this initiative has not been conducted, critics point out that the rigid requirements placed on health care professionals, as well as the emphasis on the process of planning rather than implementing real behavior change, diminished the impact that this TCA stream of money has had (Young, 2013).

Instead, there is value in allowing active experimentation with a range of new ways of integrating care. For example, in the U.K., the Department of Health and national partners saw an ongoing need for robust, high-quality evidence to inform decisions about how to develop integrated care to suit different contexts, settings and circumstances. In 2013, "The Integration Pioneers" program was launched to support a variety of different strategies to break down barriers to integrated care and support and to deliver better joined-up care. It is intended that learning from this process will be shared nationally (Department of Health, 2013).

The research findings of the current study suggest that the UK approach to integrated aged care systems is sensible, because it explicitly recognizes the importance of leadership and communication channels in uptake of innovations. Results from the "Culture of Innovation" survey and factor analysis reported in this thesis echoes the significant role that leadership plays in supporting innovation. The Integration Pioneers program allows selected organisations to take leadership roles in testing and then promoting various models of integration. Built into the program, as well, is a process for communicating lessons to the broader provider domain.

A challenge is to get the right balance between government and market influences. Although used in the context of information technology, Inglehart's phrase "the delicate dance of government and the market" (2005, p. 1100), captures quite elegantly the importance of getting this right in the broader integrated care discussion. Returning to Evashwick's (2006) four integrating processes, it seems that the appropriate role of government could be different for each of these processes. So, while aged care providers might consider any range of relationships, from integration to coordination or linkage with others in the continuum of care without the involvement of government, a more active role for government might be appropriate in some areas. These could include designing information systems, supporting care management processes and developing a system of finance that creates the appropriate incentives to promote changes to the balance, or mix, of services and behavior change that are needed for successful integration of care.

9.3. Points of reflection

There are a number of points of reflection about the research process, the study limitations and so forth that I would like to make in concluding this work. They are largely organised by the three studies.

9.3.1. Descriptive and multivariate regression analysis on secondary data.

The core of this research is the descriptive and multivariate regression analysis conducted on financial and administrative data. As with much similar analysis, using secondary data is often limited because it is not designed to answer the specific research question. As I wanted to describe the characteristics associated with varying levels of formal structural integration in aged care providers and then what factors were associated with these structures, a

significant amount of time was spent getting the data in a format that I could use to answer these questions. From the steps outlined in Appendix 1, it should be clear that this was an arduous task. Moreover, I undertook this as a part-time student while working full-time. Consequently, the gap is considerable between data collection (2007/08) and, ultimately, the focus groups (2011/12) where results from the data analysis were presented. In the unlikely event that there were large fundamental shifts in the characteristics of providers during this time, the results would be less relevant.

Because of limits in the data and the dependent variables (a range of formal, integrated structures) defined as they were, the analysis was unable to inform the important other integrating mechanisms--case management, information systems, and financing--or less formal organisational arrangements (collaborations, networks, etc.) between providers. It would have been interesting to systematically examine how service provider characteristics influence decisions around those things, but this was not possible. The hope, then, was to cover these areas in the provider focus groups and semi-structured interviews.

9.3.2. Descriptive and factor analysis on a "Culture of Innovation" survey.

Even before major policy reforms emerged in the research context, providers spoke of "research fatigue" when approached to participate in the survey and subsequent focus groups. I had identified eight provider organisations who met my criteria of "innovative" and only four of them agreed to fully participate. Because of this, I was sensitive to time commitments and provided significant useful self and comparative feedback to participating providers from their surveys. I also provided management tools so that they could work through their surveys in a quality improvement context.

There is scope for future work to be done around the interesting finding that direct care staff report poorer organisational cultures than managers. Does it perhaps suggest that managers are overly positive, perhaps biased, in their reports about their organisation? Direct care staff may have more of an impact on whether clients are satisfied with care than whether the manager thinks/reports that the culture and communication are positive.

9.3.3. Provider focus groups and semi-structured interviews.

The major goals of the focus groups and semi-structured interview were to both paint a richer picture of what I discovered in the data analyses and also to explore areas of information technology and care management with providers. As suggested in Chapter 8, the ambitious agenda and large composition of the focus groups impeded my ability to explore these areas with the thoroughness I wanted. This, however, does create elements for a future research agenda.

It would have been interesting if I had a comparison ("non-innovator") group to compare. Ethical considerations ruled out this strategy as approaching organisations that were not considered innovative might be offensive. Similarly, the research does not examine consumers' views and experiences of integration. Certainly, there is a future research agenda in exploring this issue from the perspective of the consumer comparing views from less integrated organisations' consumers to get a better picture of the benefits of integrated organisations for consumers. The consumer, we should remember, is at the heart of this topic.

APPENDIX 1: Process and decisions in creating the NSW Community Aged Care Provider Capacity Database

Five sources of data were used to construct the NSW Community Aged Care Provider Capacity database. Below are descriptions of each of these sources, as well as what variables were extracted from each. This is followed by the process and decision rules used to combine the sources into one.

I. DATA SOURCES: OVERVIEW

A. Aged and Community Care Management Information System (ACCMIS)

For the three Commonwealth-funded community care programs, Community Aged Care Packages (CACP), Extended Aged Care at Home (EACH) and Extended Aged Care at Home Dementia (EACH-D), as well as for residential aged care and multi-service providers, information was extracted from the administrative data that is stored in the Aged and Community Care Management Information System (ACCMIS). The Commonwealth Department of Health and Ageing (DOHA) Policy and Evaluation branch owns the ACCMIS. The variables extracted from the ACCMIS are:

1) service name,
2) approved provider name, (relabled "service provider name"),
3) town (later converted to local government area—see step 4 under II.A.)
4) care type (CACP, EACH, EACH-D, residential high, residential low, MSP),
5) remoteness classification (according to the Australian Standard Geographical Classification, Australian Bureau of Statistics) and
6) Australian Government recurrent funding 2006-07

The ACCMIS, an excel spreadsheet, is publicly available on the DOHA website. The 2006-07 version used was downloaded on December 11, 2007, at the following address:
http://www.health.gov.au/internet/wcms/publishing.nsf/Content/ageing-rescare-servlist-download.htm
and is current as of June 30, 2006. This excel file is updated annually around September or October. The latest update (2012-13) can be found at the following address:
http://www.health.gov.au/internet/main/publishing.nsf/Content/ageing-rescare-servlist-download.htm
(Note: this address is slightly different from the 2006-07 version)

B. HACC Data

Most of the HACC provider data came from a special spreadsheet provided by the Department of Ageing Disability and Home Care (DADHC) called 'Version 2 HACC service provider funding and outlet information report for researcher." It was extracted from DADHC Grants Database for purposes of creating this database. The specific information that was pulled from that spreadsheet and combined with the ACCMIS data was:

1) Service name

2) Service provider name
3) Service provider type (nongovernment, local government, state government)
4) Payment schedule service type (This was chosen over "service service type" because it provides more differentiated data; i.e., it breaks down the individual services for multi-service outlets.)
5) Service LGA (local government area)
6) Outlet rec (recorded) funding

This data included information on HACC funding that went to the Department of Health/Area Health Service (DoH/AHS), as well as funding provided through the Ministry of Transportation. It was later suggested that there were different and better sources for these two funding strategies. The data from the new sources (described below) replaced what was in the original data. In addition, nothing on the Home Care Block Grants (HCBG) was included in the original data source but considered by DADHC important to include. Consequently, altogether, DADHC provided three supplemental sets of information that are described below.

C. Home Care Block Grant

An excel spreadsheet entitled "Final Block Grants for SDS 12 October 2007" was provided by DADHC for inclusion into the database. This data comes from SDS database. The variables extracted from the SDS tables were:

1) Proposed service name (relabelled "service name")
2) Service type (relabelled "HACC service type") and
3) Proposed grants (relabelled as "service funding").

Limitations: The data on the Home Care Block Grant is provided only at the Local Planning Area level which is more aggregated level than the rest of the data and so, while important when getting an overall picture of the Local Planning Area, is not valuable in analysis at a more disaggregated level (i.e. local government area).

Moreover, the data on Aboriginal and Torres Strait Islander (ATSI) block grants is organized using different local planning areas that are not consistent with the HACC general block grant local planning areas. Therefore, the data had to be manipulated to make consistent (see II.C. Step 3 for details).

D. Department of Health/AHS

Spreadsheets were provided by NSW Department of Health showing block grants received by NSW Health and then paid to the Area Health Services for HACC services. The spreadsheets contain 2008/09 funding. The variables extracted from these were:

1) Service name
2) Service type funding (broken into "service type" and then "service funding")
3) Service address (later converted to local government area in the same way as found in step 4 section II.A. below

E. Department of Transportation

A spreadsheet was provided by DADHC entitled "SDS Data for Bulk Upload – MoT update 2 october 2008" to be included in final database. The variables that were extracted were:

1) Service name
2) Local government area
3) Recurrent funding 2007/08

II. THE PROCESS AND DECISION RULES

A. ACCMIS

The process for organizing the Commonwealth-funded aged care provider component of the data base had six steps. They are as follows:

Step 1. Sort into 16 "aged care planning regions" (Commonwealth defined). These are almost identical to the DADHC "local planning areas" that are used in the final data base. Only a few providers had to be moved from one region to another.

Step 2. Sort by "approved provider name," and then "service name."

Step 3. Extract data for community services providers and for residential care when part of an vertically integrated service provider (i.e. with community services).

Step 4. Assign "Local Government Area" designations to services.

Decision rule for assigning LGAs: the town name is used in the NSW Department of Local Government's Council search tool.
http://www.dlg.nsw.gov.au/dlg/dlghome/dlg_SuburbLookup.asp?ba=b&mi=&ml=&
When more than one LGA comes up, the address is used to assign only one LGA.

Step 5. Adjust "remoteness" designation from town-based to LGA-based.

Decision rule: the ACCMIS assigns remoteness to providers based on town, not LGA. When recoding towns into LGA, sometimes LGAs include more than one remoteness category (i.e., major cities, inner regional, outer regional etc.). In those instances, the new category "mixed" is assigned.

Step 6. Exclude residential aged care only providers and transitional care providers. Note: because our focus is on community care, residential care (high and low) is only included in database when part of an integrated service provider system.

Limitations. Some community care services are delivered in a differing region or state from that in which they are based and that some Multi-purpose services serve more than one location. Consequently, the assignment of LGA is not equivalent to defining the service area but is a rough approximation of the service area for Commonwealth program providers.

B. HACC

The process for organizing the first and largest component of the HACC data had three steps. The first two are as follows:

Step 1. Sort into 16 DADHC designated LPA (local planning area). Column is titled "Service cost center." Some providers delivered services across LPAs.

Decision rule for recording when providers delivered services across LPAs: A duplicate entry will be made in each LPA for each these instances and the "service local government area" indicates that they cross regions.

Decision rule for funding associated with providers in more than one LPA: to avoid double counting, funding is recorded in the LPA where the largest number of LGAs are counted and left blank in any others.

Step 2. Sort by "Service provider name" and then "service name."

In descending order of aggregation, the HACC data is broken down into "service provider" to "service" to "outlet." As the middle level ("service") is the level of aggregation DADHC and the advisory group chose for data to be presented, the HACC data had to be aggregated from "outlet" up to "service." The steps for doing this are as follows:

Step 3. Combine outlet service types (23 different types of service e.g. domestic assistance, nursing, transport, etc. coded 1-25 excluding numbers 7, 22 and 24) and funding to "service" level.

Decision rule for aggregation: service provider name, service name and service LGA must be the same to combine outlet service types and funding into one entry.

Step 4. Assign remoteness codes using LGA-specific codes from ACCMIS data.

C. Home Care Block Grant

The process for organizing the home care block grant data had one simple step.

Step 1. Service provider entered as Home care block grant and service entered as LPA "General HACC" or "ATSI"

Decision rule: because block grant data was only available at more-aggregated LPA level, each "service type" and related funding was reported as a separate entry to provided more useful analysis.

Step 2. Both "proposed grants $" and "grants system recurrent grants 2007/08" data were available from the spreadsheet. Recurrent might have been preferable as it represents actual spending. However, proposed grants was used because there was a significant (7 fold) increase in ATSI proposed spending and this increase seemed important to capture.

Step 3. Convert state-wide ATSI spending into DADHC defined LPA. In the original data, ATSI and HACC general LPAs are defined differently.

Decision rule: use statewide spending information from "Final Block Grants for SDS 12 October 2007" spreadsheet. Use a second spreadsheet entitled "HACC 07-08_ATSI Home Care Service Provision by Postcode and LPA" to proportion statewide spending across DADHC LPAs and service types.

D. Department of Health/Area Health Services

The process for including the Department of Health and Area Health Services data into the database included the following steps:

Step 1. Split Area Health Service-level data into the appropriate LPAs. Note: there are 2-3 LPAs within each AHS.

Step 2. Aggregate service names when appropriate.

Decision rule for aggregating: all or part of the service name must be same and address must be same. E.g. if 2 centre-based day care services are co-located at a community health centre at the same address but with different names, they are

aggregated in terms of funding and reported as one entry with the various types of services that make up the HACC package reported.

Step 3. Separating column that shows "service type funding by project" into "service type" and "service funding."

E. Ministry of Transportation

Because none of the data had to be manipulated in any way (i.e. all was provided in the format used for the final database, there were only two simple steps in including the data.

Step 1. Service provider coded as Ministry of Transportation.

Step 2. Code the "service types" for all providers from MoT as "transport" or "19."

F. Creating new "integration" variables

The process for creating the new integration variables is as follows.

Step 1. Create categories for Commonwealth programs (Community only "C", Residential only "R", Community + Residential "CR")

Decision rule for creating integrated service provider categories <u>within</u> Commonwealth-funded aged care providers : 1) services must have <u>same</u> approved provider name and <u>same</u> address (town, postcode, not street) to be reported together. Note: it is possible for a single service provider to have services that are defined with different integration categories when that service provider has services in different locations within the local planning area.

Step 2. Combine HACC with Commonwealth programs

Decision rule for creating HACC + Residential (HR) and HACC+Community+Residential (HCR) categories: 1) services must have <u>same</u> approved provider name and <u>same</u> address (town, postcode, not street) to be reported together.

Step 3. All remaining service providers are classified as HACC only (H)

G. Missing data

There were two important variables ("service provider type" and "remoteness") that were only available directly from the ACCMIS Commonwealth programs spreadsheet ("remoteness") and from the original HACC spreadsheet ("service provider type") and that needed to be included for all services. The steps for filling in the missing data are as follows.

Step 1. If not available, service provider type was inferred by service provider name.

Decision rules: Service providers with "Council" or "Town of" etc. in name, were coded as local government. Ministry of Transportation, Home Care Block Grant, and Department of Health/Area health Services were all coded as state government and all others were coded as non government.

Step 2. A list of remoteness codes associated with LGAs were used from ACCMIS data base.

Decision rule if, more than one LGA is listed and the remoteness codes for different LGAs are different: Remoteness is coded as "mixed."

APPENDIX 2—Provider recruitment materials

a. Letter of introduction
b. Study description
c. Consent form
d. Revocation of consent form

a. Letter of introduction

May 21, 2012

As part of my doctoral research, I have identified your organisation as an "innovator" among aged care providers in New South Wales. Now, I would like to better understand your organisation's culture for innovation and how decisions regarding service structure, among other things, are made.

In order to do so, I would like to assess some of the known conditions for innovation (e.g. risk taking, knowledge, resources) in your organisation by asking you and some of your staff to complete a brief online questionnaire and then conducting a focus group with a subset of you. The expectation is that the brief questionnaire will provide useful information both to me and to your organisation as systematic feedback will be provided regarding your organisation's perceived strengths and weaknesses in the area of innovation. This should be useful in facilitating your own future internal management discussions.

With this letter, you will find a couple of enclosures: a brief information sheet outlining in more detail the research project, a consent form for you to sign and return, and a revocation of consent form should you decide to withdraw from the study after joining. If you happy to participate in the study, please return the consent form in self-addressed and stamped envelope. If you have any questions about the study, please feel free to contact myself at (02) [redacted] or my thesis advisor Dr. Lynn Chenoweth at (02) [redacted].

Regards,

Laurel Hixon, PhD Candidate
University of Technology Sydney

Enclosures: 3

b. Study description

INFORMATION SHEET – AGED CARE PROVIDERS

Research Project: The Structural Determinants and Process of Adopting Innovations in Community Aged Care: The Case for Integrated Care Delivery in New South Wales

This research study is being conducted by Ms. Laurel Hixon, a doctoral student of the Faculty of Nursing, Midwifery and Health, University of technology Sydney. The Study aims to:

1. Understand the characteristics of community aged care providers in NSW who have adopted certain delivery structures
2. Identify the internal factors (e.g. strategic planning direction. organizational values, capacity to implement) that influence community aged care providers in NSW to adopt or not adopt certain delivery structures
3. Identify the external factors (e.g. policy influences, economics, relationships with others) that influence those decisions
4. Develop strategies to facilitate future adoption of new innovations in community care.

The researcher has identified, through a variety of data sources, 16 community aged care providers in New South Wales who represent an array of community and residential services mixes ranging from single service Home and Community Care (HACC) only providers to those offering HACC-funded as well as aged care packages care and residential care. Now, she would like to better understand how decisions are made by collecting assessment data to depict organisational culture and conducting structured narrative interviews with providers.

Participation in the project requires your involvement in the following ways:

1. Consenting to a brief (15-20 minute) online data collection exercise with members of your organisation
2. Consenting to a focus group being conducted with members of your organisation
3. Identifying the appropriate staff to be involved in the focus group
4. Dedicating approximately 15-20 minutes/person to the data collection exercise
5. Dedicating approximately 1 hour to the focus group and being available for follow-up if necessary.
6. Keeping in confidence any information arising from the study, until the researcher is ready to present the research findings.

If you are happy to agree to these conditions and to participate in this study, please sign the Consent Form and return it to Laurel Hixon, Australian Institute for Population Ageing Research, UNSW, Sydney, NSW 2052. If you need further information about this study you can contact Dr. Lynn Chenoweth, Professor of Aged & Extended Care Nursing, University of Technology Sydney (02) [redacted].

c. Consent form

CONSENT FORM—PROVIDER ORGANIZATION

Research Project: The Structural Determinants and Process of Adopting Innovations in Community Aged Care: The Case for Integrated Care Delivery in New South Wales

Researcher: Laurel Hixon, Doctoral student, Faculty of Nursing, Midwifery & Health, University of Technology, Sydney.

I.....(*Name of Person authorizing consent and title*)

Of.....(*Name of Organization*)

1. Acknowledge that the study has been explained full to me by the researcher and that I am free to ask for further clarification throughout the project as required
2. Voluntarily give my consent for this study to be conducted in the above named Organization
3. Agree to communicate periodically with the researcher throughout this study as required
4. Provide the researcher with access to the necessary information and staff within the aged care service to conduct the study.
5. Acknowledge that I may withdraw my consent to participate in the project at any time and that this will not affect my status or my relationship with other management and the proprietors of the aged care service, UTS or the researcher.
6. Understand that neither the organization nor I will be identified in any research findings and that all information I give to the researcher will be maintained in a secure and confidential manner during the project and will be retained 7 years in a locked filing cabinet under the supervision of the Chief Supervisor Professor Lynn Chenoweth at the premises of the University of Technology Sydney.

7. Have been advised that the project has been approved by the University of Technology, Sydney
8. Understand that if I have an inquiries during the course of the study I may contact the Chief Supervisor Dr. Lynn Chenoweth, Professor of Aged & Extended Care Nursing, University of Technology Sydney (02) [redacted]

_____ _____/_____/_____
Signature (participant)

_____ _____/_____/_____
Signature (witness)

NOTE:

This study has been approved by the University of Technology, Sydney Human Research Ethics Committee. If you have any complaints or reservation bout any aspect of your participation in this research which you cannot resolve with the researcher, you may contact the Ethics Committee through the Research Ethics Office (ph: 02 9514 9615, Research.Ethics@uts.edu.au), and quote the UTS HREC reference number. 2010-004A. Any complaint you make with be treated in confidence and investigated fully and you will be informed of the outcome.

d. Revocation of consent form

PROVIDER ORGANIZATION---REVOCATION OF CONSENT

Research Project: The Structural Determinants and Process of Adopting Innovations in Community Aged Care: The Case for Integrated Care Delivery in New South Wales

I thereby wish to WITHDRAW my consent to participate in the research project and understand that withdrawal from participating in this study WILL NOT make any difference to my current employment status or my relationship with the researcher.

_____ _____/_____/_____
Signature (participant)

_____ _____/_____/_____
Signature (witness)

Each statement given a score from +5 (strongly agrees) to -5 (strongly disagrees)

Risk Taking

1. My direct supervisor supports me if I want to try something new.
2. If I suggest a new idea and it fails, I know that I will not be made to feel humiliated.
3. In my department, the general tendency is to try new things rather than hold on to the status quo (or to keep things the way they already are).
4. Senior leadership is willing to take a risk on new ideas that might make things better

Resources

1. My direct supervisor provides me the time to work on a promising new idea.
2. In my organisation, we seem to find the resources we need to fund innovative ideas.
3. I feel that I have reasonable authority to try out an innovative new idea.
4. Senior leadership makes sure that there is both the availability and time and of money to support innovation.

Knowledge

1. If I don't have the information I need, I feel comfortable asking my direct supervisor for it.
2. We are generally kept informed of activities in other departments that affect our work.

3. There is a lot of information available to me about what other organisations are doing to meet the same sorts of challenges we face.
4. Senior leadership opening shares information that is important to me and the work I do.

Goals

1. I know what the priorities or goals are in my department.
2. My direct supervisor makes it clear that innovative new ideas are highly desirable.
3. Priorities come down to me without pre-determined solutions, leaving me plenty of room to contribute my own ideas.
4. Senior leadership has made it clear that innovative new thinking is required to meet some of our organisational goals.

Rewards

1. I am certain that I would receive recognition or praise from my direct supervisor if I put an innovative idea forward.
2. The recognition that we get here for coming up with new ideas does motivate me personally to be more innovative.
3. We celebrate and say thanks when someone tries out a new idea, even when it is not successful in the traditional sense.
4. Senior leadership actively seeks out and recognises innovative thinking.

Tools

1. My organisation has trained me in methods to support creative, new ways of thinking
2. My department uses specific methods to generate creative ideas around the challenges we face.
3. I am capable of generating creative ideas.
4. Senior leadership actively demonstrates innovative new thinking in its own work.

Relationships

1. In my organisation, people who think differently are respected for their point of view.
2. The teams that I work on tend to have people with a diverse mix of skills and styles.
3. In general, there is a high degree of honest and open communication between departments.
4. Senior leadership models high levels of cooperation and trust among colleagues.

Overall

1. My organisation has an underlying culture that supports innovation.

APPENDIX 4—Interview protocols

A. Provider organisations with survey results (August 2011 – July 2012)

1. Background/introduction
    a. Purpose of the study:
        i. to understand how organisations decide to take up innovations
        ii. I've defined innovation as integrated aged care service delivery (HACC + Packages + Residential care)
        iii. Only 6% of non-government providers in NSW offer the full array of services (1/5 are [provider organisation])
    b. Verify information—Note information is a few years old, and for $$$ is aged care services only
    c. Why is this an important question? Because many government entities, researchers, etc. Understand that the system is difficult to navigate, your needs change over time, and it is more efficient to access services from integrated delivery systems
2. Decision making process
    a. How decision are made in the organisation (General)
        i. For analytical purposes, I've assumed that the HACC planning region is the level of decision making.
            1. At what level are decisions made at [provider organisation]
            2. Does the level vary depending on what the issue is?
            3. Examples
        ii. Collectively, individually, by authority
    b. How the decision about integrated services was made
3. Internal or organisational factors that constrain or facilitate the adoption of innovation
    a. My research found: Non-profit, common sponsorship, and bed, package and HACC services size matters
        i. Is there something about [provider organisation] being non-profit that explains offering innovative care?
        ii. What are [provider organisation's] interests/values and influence on response to innovations
    b. How much did/do these issues matter
        i. economic
        ii. social prestige
        iii. convenience
        iv. customer satisfaction
    c. Capacity to adopt innovations

4. External system level factors that constrain or facilitate the adoption of innovation
    a. My research found that being in the metro north and metro south increased the chances that
    b. Politics, economics, ideology, values
    c. Perceived role of state/regional planning officials in encouraging innovation/integration through implicit or explicit methods (e.g. funding, education)
    d. Provider networks/epistemic communities
5. Results from the survey (handout)
    a. If there are areas that [provider organisation] wants to work on, I can provide tools

<u>B. HACC regional development meeting with providers (July 2012)</u>

1. Overview of research
Continuum of care /integrated aged care
    a. Range of services – basic first step
    b. Integrating mechanisms – case management, information systems
    c. Integrated financing

2. Range of services
Non-government providers (n=921)
Ignored 302 residential only
Investigated
2/3 HACC only either single or multiple
1/6 have HACC + packages + residential (**under shared ownership**)

3. What I discovered:
What factors are associated with providing a range of services under
shared ownership
Internal factors: non-profit, part of a larger organization (few free standing), capacity (bigger bed size, bigger package size, more HACC services)

4. What isn't so clear
External factors: contractors (ADHC, DoHA)??
How much do ADHC and DoHA influence these sorts of decisions about continuum of care?

5. Other models.
    a. Brokerage/Community options
    b. There is VIRTUAL integration too
    c. Shared services without shared ownership

i. How does these work?
ii. Examples?
iii. What would make it work better?

6. Integrating mechanisms
   a. Case management
      - When does case management get put in place?
      - HACC case management (n=45)
      - Packages have case management (n=200+ with HACC and/or residential
   b. Information systems
      - ONI (Ongoing needs identification)
      - CIARR (Client information and referral record) or equivalent electronic tool if there is need for a referral to other community care services
   c. How does this work with shared services?

7. Integrated financing – new COAG agreement
   a. Single funder as C'w takes over all aged care funding
   b. Will this help?

<u>C. HACC central office manager</u>, semi-structured interview protocols

1. Overview of my research
2. Integrated aged care
   a. Range of services – basic first step, but not enough
   b. Integrating mechanisms—case management and information systems
   c. Integrated financing

3. Range of services

   Non-government providers (n=620)
   2/3 HACC only either single or multiple services
   1/6 have community and residential (under shared ownership, others have informal relationships)
3. Integrating mechanisms
   Providing HACC case management (n=45)
   Packages have case management (n=200+ with HACC and/or residential)
4. Integrating financing—new COAG agreement
   Single funder – rules of HACC vs. rules of packages?
5. Understand what factors are associated with providing the range of services

Internal factors: non-profit, being part of a larger organisation (few free standing), capacity (bed size, package size, HACC services)

External factors: contractors (ADHC and DoHA)?

6. New role for ADHC under new COAG agreement (tell me about this?)

Administration versus funding?

7. Contracting
   Single source
   Selected competition
   Open tenders

8. How much independence is given to planning regions/planning areas?

9. Larger number of providers offering wider range of services in Metro North and Metro South – why?

10. What are you looking for when it is single source or selected tender?

How much does ADHC look for: 1) continuum of care/offering a fuller range of services?

11. Funding rules: HACC (return unspent $$) vs. packages (measure outcomes, not $$$)

What will rules be like under new COAG agreement?

APPENDIX 5—Provider organization and other interviewee demographics

Organisation	Nature of meeting	Composition of interviewees
Providers organisations (Total: n=70)*		
1	Full focus group (n=15)	Research/development director + 14 service directors/other senior management
2	Full focus group (n=12)	Strategic innovation/ research director + 11 service directors
3	Full focus group (n=12)	General manager ageing + 11 service directors/other senior management
4	Full focus group (n=8)	CEO + Strategy director + 6 service directors/other senior management
5	Full focus group (n=11)	CEO + 10 service directors/other senior management
6	Meeting with CEO only	CEO
7	Meeting with management staff Informal discussion with regional managers	8 service directors/other senior management 3 regional managers
*Policy/planning officials***		
	Semi-structured interview	Executive Director, Community Care (NSW)
	Provider focus group (shared services)	Regional development director (NSW) + Senior management from 9 regional provider organisations

* Four other provider organisations were approached but refused to participate in the study. Another organization completed the culture of innovation survey but did not participate in a focus group.
**Five Department of Health and Ageing (Australian federal government) officials were contacted about being interviewed, two from the local office, three from the central office, all refused to participate but did sent written information.

APPENDIX 6 – Ethics Approval

17 February 2010

Professor Lynn Chenoweth
Nursing, Midwifery and Health
CB10.07.207
UNIVERSITY OF TECHNOLOGY, SYDNEY

Dear Lynn,

UTS HREC 2010-004 –CHENOWETH, Professor Lynnette, DUFFIELD, Professor Christine, SAVAGE, Associate Professor Elizabeth (for HIXON, Ms Laurel, Phd student) –" Modelling provider service structure decision in the community aged care sector in New South Wales"

At its meeting held on Tuesday 9 February, the UTS Human Research Ethics Committee reviewed your application, and approved it, noting that:

1. Access would be negotiated with individual institutions;
2. Every effort would be made to preserve confidentiality in reporting the findings; and
3. A copy of the questionnaire would be provided, when finalised.

Your clearance number is UTS REF NO. 2010-004A

Please note that the ethics conduct of research is an ongoing process. The National Statement on Ethical Conduct in Research involving Humans requires us to obtain a report about the progress of the research, and in particular about any changes to the research which may have ethical implications. This report form must be completed at least annually, and at the end of the project (if it takes more than a year). The Ethics Secretariat will contact you when it is time to complete your first report.

I also refer you to the AVCC guidelines relating to the storage of data, which require that data be kept for a minimum of 5 years after publication of research. However, in NSW, longer retention requirements are required for research on human subjects with potential long-term effects, research with long-term environmental effects, or research considered of national or international significance, importance, or controversy. If the data form this research project falls into one of these categories, contact University Records for advice on long-term retention.

If you have any queries about your ethics clearance, or require any amendments to your research in the future, please do not hesitate to contact the Ethics Secretariat at the Research and Innovation Office, on 02 9514 9772.

Yours Sincerely,

Professor Jane Stein-Parbury
Chairperson
UTS Human Research Ethics Committee

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