Strategic Thinking in Telehealthcare: A Possible Solution to Easing the Financial Strain on Ireland's Overburdened Health Service

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MBA (Executive Leadership) **August 2013**

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Submitted in partial fulfillment of the requirement of the degree of MBA in Executive Leadership, Liverpool John Moore's University

Dublin Business School **August 2013**

Declaration

I the undersigned declare that all the work within this dissertation is entirely my own (with the exception of specific sources that are referenced in the text and bibliography).

No part of this work has been previously submitted for assessment, in any form, either at Dublin Business School or any other institution.

Signed: _____

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Acknowledgements

I would like to acknowledge and thank a number of people who helped and supported me throughout the MBA journey and the thesis. Firstly, I would like to thank my dissertation supervisor Enda Murphy for his guidance, encouragement and support. His vast experience and knowledge has contributed greatly to my understanding of the business environment. I would also like to acknowledge and thank Shay Lynch for encouraging me to undertake this particular course.

I would like to thank the representatives of the various organizations who assisted in this research, the Health Service Executive, Muintir Na Tire, TASK Community Care, Robert BOSCH Healthcare and the Northern Ireland Ambulance Service.

I would like to acknowledge the clients of TASK Community Care's sample for allowing me to include them in my research investigation. A big thank you to my friend Eamon McGuire who had the confidence and belief in me, especially during those times I doubted my own determination.

I would like to acknowledge and thank my parents, Gerry and Joan Bunting for their encouragement and support throughout my MBA. I couldn't have done it without you both! To my sister Suzanne for her support and guidance along the MBA journey. Last but not least, I would like to thank my girlfriend Dovile for sticking with me throughout the process.

Without inspiration the best power of the mind remain dormant. There is a fuel in us which needs to be ignited with sparks (Johann Gottfried Von Herder)

"The Essence of Strategy is choosing what not to do"

(Michael Porter, 2010)

Abstract

The purpose of this study is to examine the potential problems facing the Irish health service going forward as a result of two key factors, Firstly, as a result of the current economic climate the ability to operate the service is becoming significantly more difficult as a result of greatly diminishing budgets. Secondly, the problem is being exasperated by Ireland's rapidly aging population which is set to double in the next decade.

Chapter One illustrates the current position of the health service and overview of the research topic generally. A possible scenario could be that the health service will no longer be in a position to provide a suitable level of care to its patients. The research topic looks at feasible alternatives to traditional care practices by embracing technologies such as *Telehealthcare*. However, there is clear resistance to the application of these technologies from various quarters within the health service.

In order to examine this issue, Chapter two illustrates the literature around the area of research. The investigation has applied an extension of McKinsey's 7'S model of strategy. The objective for testing this model is aimed at highlighting the various issues health professionals have with the technology and leading to a favorable outcome.

Chapter three looks at the various methods applied to satisfy the requirement of a thorough investigation. The researcher adapted a pluralistic approach, the use of qualitative and quantitative data analysis to deliver reliable outcomes. The qualitative element of this research involved seven individuals within the health field. A total sample size of 106 existing users of telehealthcare agreed to take part, and enrich the research with their experience of *Telehealthcare* technologies.

Chapter four addresses the researcher's findings from the collection of primary data. The findings highlight the general feelings of the research proposal from an industry and patient perspective. Finally, Chapter five explores various conclusions and recommendations as a direct result of primary data collection within the research. The research also proposes various ways in which the health service can save millions of euro annually through effective strategic thinking and planning.

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Glossary of Terms

Telecare

Telecare is the remote monitoring and care provision for elderly and physically less able individuals, providing reassurance and peace of mind 24 hours a day. Basic Telecare involves the provision of a socially monitored alarm system that is connected to a landline telephone or mobile telephone network allowing the system to connect to a 24hr-monitoring center. Simply pressing the remote panic button worn on the person is sufficient to summon help in an emergency situation. More advanced Telecare packages involves the use of sensors which detect potential risks to individuals. Such sensors include automatic Fall Detectors Smoke, Carbon Monoxide and Flood Detectors etc.

Telehealth

Telehealth involves the transmission and analysis of physiological data from a patient to clinician who are in separate locations. Telehealth assists in the autonomy for individuals allowing them to monitor various vital signs from the convenience of their own homes through the use of various devices such as blood pressure cuffs, glucometers for diabetes, and home spirometers for testing patients with asthma or COPD. The readings are then transmitted remotely to a care professional or a Telehealth service provider. According to Irish Telehealth provider TASK Community Care " remotely monitoring patients' vital signs on a daily basis, allows more timely care decisions to be made".

Telemedicine

Telemedicine is the system used to transmit real time audio and video image between a patient and doctor or clinical professional. Telemedicine can assist individuals in the management of their conditions without the need to travel or hospitals or GP surgeries. Telemedicine also allows the transmission of patient's medical data between health workers in different locations. This assists in a more efficient and effective service for the patient as an expert in a particular medical area can assist from a wide geographical area.

Telehealthcare

The term Telehealthcare refers to the convergence of Telecare, Telehealth and Telemedicine to provide a complete package to assist and promote independence, health and peace of mind to individuals from the home environment.

Muintir Na Tire

Muintir Na Tire is a national voluntary organization dedicated to promoting the process of community development. The organization aims to enhance the capacities of people in communities, rural and urban.

An Garda Síochána

An Garda Síochána is the national police service of Ireland.

The Health Service Executive (HSE)

The Health Service Executive is responsible for the provision of healthcare, providing health and personal social services for Irish citizens with public funds.

The National Health Service (NHS)

Is responsible for the provision of healthcare in the United Kingdom.

Chronic Obstructive Pulmonary Disease (COPD)

This is a common disease that affects the airflow of the lungs as a result of the breakdown of lung tissue (Known also as emphysema).

Congestive Heart Failure (CHF)

CHF is a condition that affects the heart. Here the heart is unable to perform effectively, resulting in inadequate blood flow being pumped around the body.

Chapter 1: Introduction to the study

1.1 Research Problem

Research Problem: *Leadership and Strategic Thinking to assist in effective decision-making when considering Telehealthcare as a solution to easing the financial constraints within the Irish Health Care system.* A possible scenario could highlight the consequences of a Health Service unable to provide adequate care for individuals as a result of limited Public finances. At present, Ireland has an aging population currently standing at 541,404 or 11% of the population. This figure is set to increase to 25% by the year 2024 as highlighted by St. Vincent's Hospital Dublin. Additional pressure will restrict the performance for the Health Service in the coming years as a result of reduced funding. The Health Budget allocation in 2013 currently stands at €13.6 Billion, down €1.75 Billion on 2007 levels.

With a rapidly aging population, combined with a bleak economic forecast in the coming years drastic action is needed to address the pending crisis within the health service. Effective leadership and strategic thinking at senior government level and within the Health Service Executive (HSE) will need to be embraced in order to avoid operational difficulties in Irish hospitals within the coming years.

According to Campbell et.al (2012) 'twenty nine percent of hospital beds (In the UK) are occupied by patients who were admitted to hospital unnecessarily and could have been treated elsewhere. For instance, asthmatics, diabetics and those with high blood pressure take up 11.9% of beds. The bill for the 669,319 patients who were admitted with vague symptoms cost the National Health Service (NHS) £410million in 2011'.

1.2 Research Proposal

Research Proposal: To investigate the suitability, feasibility and acceptability of cost effective alternatives of Healthcare practices and institutionalization through *Telehealthcare* technologies. *Telehealthcare* is the convergence of two well-known remote monitoring services, Telehealth and Telecare that provides a broad home care package covering medical and personal monitoring, assisting the management of risk associated with independent living. *Telehealthcare* is a possible cost effective method

of providing care to individuals from the home environment, significantly reducing hospital admissions, thus saving the Health Service tens of millions of euro's annually.

In addition to Health Service Cutbacks, over 100 Garda stations are set to close nationally as part of the Irish Governments Garda District and Station Consolidation Program. This decision further creates a feeling of isolation among our aging citizens; especially those living in rural isolated communities. In reality, for rural isolated individuals, the community Garda may be the only person whom they meet and communicate with on a daily basis. Through *Telehealthcare*, with the provision of Socially Monitored Alarm systems (Telecare) older people feel less isolated and many indicate a feeling of reassurance attained from the systems. Please see *section 4.3* for quantitative data findings relating to the end user satisfaction of *Telehealthcare*.

Telecare is widely recognized as a proven cost effective viable alternative to institutionalization thus saving the public finances.

1.3 Barriers to Telehealthcare

The area of Telehealthcare would appear to be a viable method of improving the efficiency of the Health Service. It is important to note that *Telehealthcare* is not a suitable option for everyone. There are a considerable number of people who need long term care in a health environment and Telehealthcare alone would not suffice. According to University College Dublin there were 22,967 long-term stay beds available in Ireland in 2008, 68.7% of occupants were classed as High or Maximum dependent. However, it is believed that telehealthcare can make a significant contribution to improving the standard of service provided.

Proposing such alternatives to Health Care practices would suggest that such technologies would be embraced and implemented. However, the area is littered with complexity and mixed evidence appears to be hindering its implementation. According to the University of Hull a major barrier to *Telehealthcare* implementation in the UK health service lies with senior management and clinicians who reject change and an unwillingness to embrace technical advancements. Johnson, Scholes and Wittington (2011) support the concept that without strategic leadership in organizations strategic objective may be ineffective 'strategic leaders may influence

in organizations strategy: individuals (or perhaps a small group of individuals) whose personality, position or reputation gives them dominance over the strategy development processes'. The schools of medicine at the University of Missouri have identified similar barriers to *Telehealthcare* implementation as the Hull findings. They note physician's resistance to change and adverse to new technologies, Telehealth systems are not user friendly enough and clinicians/ management need firm evidence of its value. The aim of this study is to address these concerns and highlight the benefits to Health professionals and patients alike from the embracement of such technologies.

1.4 Justification of the Research

The area of strategic thinking is of particular interest to the researcher for two reasons. Firstly, the researcher's employment within a fast growing family business in the area of *Telehealthcare* is one motivator. As mentioned, Telecare is an established industry in Ireland, providing systems to over 130,000 people nationally according to Muintir Na Tire. However, Telehealth implementation is struggling to be adapted across the board. From previous studies, such as that of the University of Hull a number of barriers appear to lie with health professionals resistance to embrace such technologies. The aim of this research is intended to highlight the benefits of *Telehealthcare*, firstly to the patient through empowerment, secondly, to the Health Service through cost saving measures and finally to the Health professionals who currently resist such technologies. It is intended to identify and address these concerns and disprove their misconceptions of *Telehealthcare* by highlighting to health professionals the merits of adopting such technologies and the employment opportunities that can be created both publically and privately in the field.

Secondly, experienced lecturers who provided vast experience and academic insight in the area encouraged the researchers interest in Strategic Management. As a result, the researcher has the opportunity to identify a real issue surrounding the Irish Health Service and potential solutions that may not otherwise be considered. From this standpoint, the researcher is now in a strong position to reflect on the process as a whole, as an objective observer.

1.5 Research Questions

The aim of the study will be achieved through addressing the following:

1. What are the key obstacles to *Telehealthcare* implementation?

2. Can Telehealthcare deliver and enhance business benefits to the Health Service, Ambulance Service, An Garda Síochána and community organizations.

3. What are the health benefits to the end user as a result of *Telehealthcare* implementation?

1.6 Outline of Methods

The research study essentially consisted of two separate stages. The first stage consisted of the literature review. The process was conducted in order to support the second stage of the study. The second stage involved collecting and analyzing the primary research data. The two stages and summary are outlined below.

Stage 1. Literature Review

The first stage involved an extensive search of academic literature to determine the issues relating to strategic thinking through an extension of McKinsey's 7's model (Please refer to Chapter two). The prediction of the model is that through strategic direction, style, staff, skills, subordinate goals and change management will lead to favorable outcomes, for example in this investigation, health service buy-in of Telehealthcare and widespread rollout of the technologies.

Stage 2. Primary research data and Methodology

The second stage involved contacting and interviewing representatives from high-ranking Pubic Sector bodies (key informants) involved with, or effected by

Telehealthcare. This was conducted specifically for the purpose of determining general feeling and obstacles to successful implementation. The method used for this stage of the study was face-to-face interview.

Working with key players in the field such as TASK Community Care who have a sizeable *Telehealthcare* clientele satisfaction surveys were conducted to obtain general feeling from individuals already using *Telehealthcare* technologies in one form or another.

1.7 Recipients for Research

The recipients for the research will include key personnel from all the necessary agencies who work with older people including representatives from the Health Service Executive (HSE), Muintir Na Tire, An Garda Síochána, NIAS (Northern Ireland Ambulance Service), Robert Bosch Healthcare and TASK Community Care. In addition, the researchers (McKinsey) who produced the original model and measurements that the research aims to test on a healthcare setting will also be recipients of this research. My dissertation supervisor, Mr. Enda Murphy and the awarding body of Liverpool John Moore University will also be recipients of this research.

1.8 Research Problem/Objective

The aim of this research is to investigate the factors associated with strategic thinking, through change management and McKinsey's 7s Model. In this regard, the research objectives are to:

1. Identify the barriers to *Telehealthcare* implementation
2. Address the barriers to *Telehealthcare* implementation through change management and appropriate strategic management models,
3. Establish if resistance to change exists, and if so how can it be overcome,
4. Highlight the merits of implementation through the identification of existing operational *Telehealthcare* examples in other jurisdictions, and
5. Determine the measurements for success and if they can be achieved.

Chapter 2: Literature Review

2.1 Introduction

This section comprises the review of the literature on (Four) core topics from McKinsey's 7's framework, i.e. Strategic Management, Skills (Change Management), Style (Leadership and Management) and Staff (Motivation and Engagement).

The researcher's motivation behind this approach is based upon various barriers to Telehealth as identified by various institutions globally. One such institution is the University of Hull who has identified four key barriers to Telehealth implementation, all of which will be addressed by this research in some form. The barriers identified by Hull University are a) Behavioral Barriers and the fear of change when dealing with health professionals b) Managerial Factors, including the lack of support from senior management in health organizations c) Economic Factors d) and finally Technical Factors, and issues relating to reliability of equipment.

A key function of this section is to explore areas of focus within academic journals on the relevant topics. From this an insight and understanding of the main areas considered in the academic literature can be gained.

2.2 Strategic Management

"Strategy without tactics is the slowest route to victory, tactics without strategy is the noise before defeat" (Kaplan & Norton 2004)

Strategic management literature focuses on one constant that is the fact that, for organizations to maintain success they must plan for the future. Strategy is the determination of the long-run goals and objectives of an enterprise and the adaption of courses of action and the allocation of resources necessary for carrying out these goals Chandler (1963). Strategy is about being different. It means deliberately choosing a

different set of activities to create a unique set of values (Porter 1996). However, it is a pattern in a stream of decisions (Mintzberg 2007).

A good strategy is a strategy that actually generates such advantages (Barney, Hesterly 2006). Grant (2010) however, states that strategy is concerned with how the firm competes within a particular industry or market. Our emphasis on strategy analysis encourages the view that strategy is the result of managers engaging in deliberate, rational analysis (Grant, 2010). All organizations now need to be proactive, responsive and responsible to survive in today's market (Manikandan, 2010). Mintzberg (1978) states that every organization is guided by its strategy, by a design or plan for achieving an organization's policy goals and objectives, however inequity between intended and implemented strategies exist.

Strategy is an integrated, overarching concept of how the business will achieve its implemented by all employees (Hambrick and Fredrickson, 2001). However, Poister (2010) states that strategy/ strategic planning will have to play a more critical role in the public sector if they are to manage change adeptly and effectively anticipate rapidly emergent issues. The current economic conditions are posing great constraints on the Irish Health system and the landscape for public organizations are changing as a result. McInerney and Barrows (2000) state that market dynamics have created challenges for public organizations, with the emergence of the global economy, advances in technology, increased societal demands and the need to provide more social services with fewer resources. Strategy is the long-term direction of an organization (Johnson, Scholes and Wittington 2011).

The Irish health system must engage in strategic planning in the short term and deal efficiently with forces such as social, economic and political factors whilst, maintaining a health service who embrace the interest of citizens. This is effectively the health service engaging in strategic planning to embrace change within the service for the overall good. Keeping people out of hospital, by reducing the time they're there when they have to be and by being far more targeted and efficient with the use of NHS resources, we estimate the widespread use of *Telehealthcare* could save the NHS up to £1.2 billion over two years (Burstow 2012). On the contrary, Kling (2009) states that for *Telehealthcare* to have an significant effect on the community's health care, it must obviously go beyond a few special applications and must be suitable for

many of the tasks involved in everyday clinical work, furthermore in projects delivered in typical U.S civilian health care settings, physicians were not very enthusiastic about telemedicine (*Telehealthcare*) and utilization was low. However, *Telehealthcare* currently plays a major role in the department of Veterans Affairs in the United States where healthcare is provided to approximately 23million veterans. The veterans health budget in 2010 cost approximately $48bn (£30bn/€35bn) roughly a quarter of the National Health Service's Budget (Cruickshank 2012). Supporting this, Telehealth can enhance quality of care by better supporting chronic disease management, application of best practices, and improvements of knowledge and skill development in local care providers and improvement of care coordination. Telehealth demonstrated improvements in timelines of care, leading to improved outcomes (Gill 2011). On the contrary, the literature identifies four different categories of barriers to the implementation of telemedicine and wireless technologies in healthcare delivery. These barriers are crucial in the understanding the difficulties involved with the application of government policies that favour and encourage implementation of telemedicine (Bush 2004). The first barrier relates to the technical aspects of telemedicine (Telehealth) and the challenges in utilizing organizations and professional groups in the healthcare industry (Parker, 2006). The second category of barriers is the set of behavioral factors that tend to impede the successful implementation of telemedicine and wireless technologies. Clinicians tend to show aversion to change in their mode of practice and technical changes in particular are not readily accepted unless they can clearly demonstrate improved performance (Deutscher, 2008).

Economic and financial factors compose the third category of barriers. The cost of implementing telemedicine includes the equipment, software and training of caregivers. Healthcare providers carefully assess the cost effectiveness of these technologies, but there are still difficulties in precise evaluations of outcomes and benefits from telemedicine (Krizner & Povich, 2008). Finally, the fourth identified barrier relates to managerial and organizational factors, which include lack of support from senior management to the implementation of telemedicine. Partly because of their inability to clearly assess benefits in new technologies, senior managers in healthcare delivery organizations tend to delay or withhold support for the implementation of telemedicine (Paavola, 2006).

Alternatives to traditional health care practices are urgently required, however the economic downturn and the fear of change may be hindering health professionals desire to embrace new strategic directions. At present, a major trigger of change within public sector organizations is the turbulence of the recession and the need to anticipate and embrace change constructively and creatively (Baker, 2007). For optimum results and effectively dealing with the pending health service issues, it is imperative to embrace proposals to improve operational capabilities of the health service. The *Telehealthcare* concept is a feasible strategy proven to work at various points of the UK health service. This is a great example of how austerity can be a virtue. Being focused on cost-effectiveness allows us to work creatively and innovatively to really improve the quality of services. We are enabling people to look after themselves and live more independently which is given them a better quality of life. We are also seeing other benefits, including reductions in unplanned consultations and hospital admissions (Prosser, 2012). As stated by Hill (1987) structure should always follow strategy. Considering this, many nurses around the world provide expert nursing through distant technologies but few undergraduate programs expose nursing students to the full range of technologies available. Nursing education in Telehealth needs to reflect the roles, responsibilities and capacity for knowledge building and innovation of the various constituencies within the profession (Shea 2013). Therefore indicating, a clear strategic direction for *Telehealthcare* is currently not being embraced by nursing agencies. In health care, stakeholders have myriad, often conflicting goals, including access to services, profitability, high quality, cost containment, safety, convenience, patient-centeredness, and satisfaction. The lack of goals has led to divergent approaches, gaming of the system, and slow progress in performance improvement (Porter 2010). In contrast, Heide, Gronhaug and Johannessen (2002) argue that fruitful strategy formulation and effective strategy implementation require the coordination of multiple actors and their activities. Top management is responsible for the strategic and organizational decisions that effect the organization as a whole (Helfat, Harris and Wolfson, 2006). Line managers operate as an intermediary between strategic and operational organizational activities, the interaction between these two key actors in order to minimize the gap between strategies is essential (McCarthy, Darcy and Grady, 2010).

As a result of the global recession and the aging population in many developed countries, public health services are becoming increasingly inefficient. Such changes anywhere in the system reverberate unpredictably and often chaotically and dangerously- throughout the society. Strategic planning can help leaders and managers of public and non-profit organizations think, learn and act strategically (Bryson, 2008). However, the strategic process may vary with the sector or organizational type under consideration (Mintzberg, 1998). Successful enduring companies have visions that are "built to last" and demonstrate how they will advance and remain steadfast concerning the values and purposes they will stand for. The two main components of any lasting vision are core ideology and an envisioned future (Collins and Porras, 1996). Interestingly, from an Irish Health Service perspective, Collins and Porras (1996) continue and state that an organizations strategy and practice should constantly change whilst the core ideology should not.

2.3 Change Management - Skills

Resistance has been cast as adversarial, the enemy of change that must be defeated if change is to be successful (Weddell, 1998)

Innovation is change that creates a new dimension of performance. All nonprofit organizations must be governed by performance, not merely good intentions (Drucker, 2003). Innovation can be regarded as the successful implementation of new ideas, commonly divided into three stages: identification (invention), growth (including adaption, testing and evaluation), and diffusion (or spread). Without innovation, public sector costs tend to rise faster than the rest of the economy – the inevitable pressure to contain costs can only be met by forcing already stretched staff to work harder (Clarke & Goodwin, 2010). Krause (2006) defined change as a coordinated program, in companies or business units, which typically involves fundamental changes to the organization's strategy, structure, operating systems, capabilities and culture.

Garvin & Roberto (2005) identify the question, why is change so hard? Firstly, most people are reluctant to alter their habits, what worked in the past is good enough; in the absence of a dire threat, employees will keep doing what they've always done. However, managing change requires consideration of the individual (employee), the group in which the individual belongs (team or department) and the organization as a whole, if it is to be effective (Lewin, 1947). Despite the huge investments companies have made in tools, training, and thousands of books, most studies show that 60-70% failure rate of organizational change projects, a statistic that has stayed constant from the 1970's to the present (Ashkenas, 2013).

To achieve the staffing and logistical efficiencies seen in the Veterans Health Administration, the NHS needs to find ways to deliver a step-change increase in the scale of Telehealth implementation (Cruickshank, 2012). Supporting this, everything is in a state of constant change, the business environment especially. The adoption of *Telehealthcare* to date had been hampered by a number of factors, including a lack of robust benefit, organizations resistance to change, and a lack of skills and technology issues (buildingbetterhealthcare.co.uk). On the contrary, Clarke and Ellis (2011) state

the leadership response to the inability or unwillingness to change existing work practices is not clear. Most leaders say that after initial resistance, clinicians see the value of *Telehealthcare*, that is, exposure to the service raises awareness, competence and acceptance. There is furthermore a clear link between strategic planning and change management as identified by Clarke and Ellis (2011). They state that there are some good examples of strategies to change or influence clinical practice, particularly between GP's. The most powerful strategy was to include clinicians who would make good use of telecommunications technologies at the earliest stages of planning, and to encourage them to be actively engaged at the design stage of the project (Clarke and Ellis, 2011).

Management's greatest challenge is to ensure that the enterprise adapts to the changes occurring within its environment (Grant, 2010). Considering this, *Telehealthcare* inevitably brings change. Hospitals are hierarchical organizations. They are typically resistant to change, and Telehealth is only one of the many changes they face at the moment. Working to develop health services using Telehealth involves camaraderie (Darkins & Cary, 2000). The current economic uncertain climate for health care delivery, acute care general hospitals are often caught up in crisis management and lack the management capacity and resources required for adequately developing Telehealth services. Hospitals can feel a sense of threat, even paranoia, associated with Telehealth (Barkins & Cary 2000). Grant (2010) continues and states the forces of technology drive change in an industry environment, consumer needs, politics, economic growth and a host of other influences. Supporting this, Prehalad and Hamel (1990) state that, the greatest source of advantage is found in management's ability to merge technologies and organizational skills into competencies that empower organizations to adapt quickly to changing opportunities.

Change Management often comes with miss-steps, and poor communication is usually the reason behind those failures (Babcock, 2006). It is clearly recognized that in order for organizations such as the HSE to change its opinions on *Telehealthcare* implementation the involvement and dialogue with employees at all levels will be required to assist buy-in. This concept is supported by Morgan & Zeffane (2003) who state that the best way to avoid the negative consequences of change is to involve employees in the organizational decision making in order to increase buy-in with change incentives from the beginning. This concept has not been the case with

Telehealthcare and considerable levels of resistance to change now exist. However, as every manager is aware staying competitive now more than ever depends on achieving higher levels of performance for customers whilst reducing costs (Rayport and Sviokla, 1996). However, as a result of the current economic downturn, knowledge management in coordination with the harnessing of information technology will ultimately drive and ensure that organizations respond quickly to customers, markets trends and demands on certain sectors (Nonaka, 2007).

Interestingly, Albright (2004) believes that environmental scanning, the gathering of external information and its communication internally regarding issues that may influence the organization and its strategic planning, could identify emergent issues, situations and pitfalls that can impede the organization in the future if ignored.

The basic premise regarding change is, that unless the underlying assumptions of culture are changed, 'the way we do things around here' will not change (Carnall, 2003). Culture is the acquired knowledge that people use to interpret experience and generate social behavior. This knowledge forms values, creates attitudes, and influences behavior (Luthans & Doh, 2012). Supporting this, Grant (2010) states that we view the culture of the organization as a mechanism for achieving coordination and control. One could argue, the context, culture or environment in which a decision is made makes a huge difference (Handy, 1993). Culture is the basic or hidden assumptions, interest practices, or values within an organization (Meyerson, 2011). Interestingly, Johnson, Scholes and Wittington (2008) state that organizational culture is the basic assumptions and beliefs that are shared by members of an organization, that operate unconsciously and define in a basic taken for granted fashion an organization's view of itself and its environment.

Considering the situation within the Irish health service and clinicians intransigence to change any movement towards *Telehealthcare* implementation may be a slow process. Carnell (2003) supports this and states that because of deeply ingrained manner of organizational culture which is often developed over a number of years, changing it is easier said than done and often takes a very long time. Goodwin (2011) states that a significant number of cultural and organizational barriers remain, the technology itself is only a small part of making Telehealth a success; some wider

service design is needed. The overall collaboration within and across organizations, a shared vision and strong leadership and engagement at every level will be required. Supporting the barriers to Telehealth, one such challenge is a complex of human and cultural factors. Some patients and health care workers resist adopting service models that differ from traditional approaches or indigenous practices (World Health Organization, 2010). Carter (2008) argues that a strategic approach to communication is one of the most important elements in the change process to reduce resistance, minimize uncertainty, and increase stakeholder involvement and commitment.
In contrast, Drucker (1997) states that 'culture must transcend community' and organizations such as the Health Service Executive should continually challenge itself to perform to a high standard to ensure a greater good for Irish society as a whole.

In order to assist the understanding of organizational culture Johnson, Scholes and Wittington (2008) devised a 'cultural web' comprising:

- *Routines* ('the way we do things around here') Usually involving a long history within the organization,
- *Rituals* (activities that highlight what is important in the organizations culture),
- *Stories* (the carriers of the organizations culture from existing to new recruits within the organization),
- *Symbols* (organizational logo's, offices, job titles),
- *Power (*the ability of individuals or groups to persuade induce or coerce others into following certain courses of action – Johnson, Scholes and Wittington, 2011)
- *Organizational Structure* (the roles and responsibilities of individuals within the organization)
- *Control System* (the ways and means of monitoring and supporting those internally and externally around the organization)

On the contrary, Meyerson (2001) has identified four incremental approaches that managers can use to adapt lasting cultural change. This approach comprises disruptive expression, verbal jujitsu, variable-term opportunists and strategic alliance building:

- *Disruptive Self-Expression* (dress, office decor and behavior's of individuals),
- *Verbal Jujitsu* (where individuals can calm situations easily),
- *Verbal-term opportunists* (individuals that avail of opportunities to embrace change),
- *Strategic Alliance building* (involves the coming together of individuals to promote change with force)

Success cannot be gained through fundamental changes to the structures and operations, but rather, through the balancing of implementing cultural changes whilst simultaneously protecting the identity of the organization and self-esteem of the employees (Ghosn, 2002). However, when there is a perception that these obligations are breached, people are likely to perceive that and injustice exists (Cropanzano and Prehar, 2001).

2.4 Organizational Style: Importance of Clear Leadership and Management to assist in organizational change

Strategic leadership is the ability to shape the organization's decisions and deliver high value over time, not only personally but also by inspiring and managing others in the organization (Lynch et.al 2012)

Leadership is a seductive word that has a multitude of meanings (Nicholls, 1990). In this regard, Leavy (1995) notes that few areas in management and the wider purview of society and social organization are more engaging and intriguing than leadership. Furthermore, Kotter (1982) defines leadership noting that it is required to set the agenda for the organization and create the network to achieve it. House (2004) argues that leadership is the ability of an individual to influence, motivate and enable others to contribute toward the effectiveness and success of the organization of which they are members.

The essence of clear leadership is that part of the management sphere concerned with getting results through people, and all that entails and implies – the organization of the staff into productive teams, groups, departments; the creation of human structures; their motivation and direction; the creation of resolution of conflicts at the workplace; creating vision and direction for the whole undertaking; and providing resources in support of this (Pettinger, 1994). Distinguishing leadership from management is critical for organizational success and should be clearly understood. Nicholls (1993) explains the difference and states that leadership is an essential and integral part of good management. Contrary to popular belief, leadership is not an optional extra. Managers who do not lead are failing to fulfill their function as managers. Nicholls (1993) continues, when lacking its leadership dimensions, management is reduced to more administration. Generally organizations that are managed without leadership perform poorly – they are bureaucratic, unresponsive and inefficient. Management is the process in which managers engage to achieve organizational goals (Tiernan, Morley and Foley, 2006). Management has been described as the process of optimizing human, material and financial contributions for the achievement of organizational goals (Pearce and Robinson, 1989). Furthermore, strategic management can be described as the identification of the purpose of the organization

and the plans and actions to achieve that purpose (lynch 2006). Strategic management has also been defined as the achievement of a fit across different activities so that coherent positioning is achieved (Porter, 1996).

Finally, the variances between leadership and management again are highlighted. Kotter (2001) argues that leadership and management are two distinct and complementary systems of action. Each has its own function and characteristic activities. Both are necessary for success in an increasingly complex and volatile business environment.

Highlighting the challenges currently facing the Irish Health service Cullen (2012) states that every day over the next 10 years, an additional seven older people in the Republic, and two in the North of Ireland, will require long-term residential care or home help. There are serious questions about who will provide this care. Supporting this theory, Trinity College Dublin (2012) states that older people are living longer and in better health, Ireland will face substantial extra demands for care of older people every year as the population ages. If care in the community and residential care are not developed appropriately, the pressures on the acute hospital system will be unsustainable. Clearly, effective leadership and management within the public health service are urgently required to adopt feasible alternatives to current healthcare practices, and with this increased pressure come the need for organizational performance.

There is a clear need for strategic leadership and new public management within the Irish health Service. According to Power (1997) the transition to new public management is associated with a demand for public sector performance and productivity. Within the managerial sphere, there is greater use of efficiency targets, market testing, performance indicators and expanding audit systems. Moore (1995) states however, that there is increased interest in assessing performance, developing performance management systems and indeed in how to create high performance public sector organizations. On the contrary, the Irish Health Service has been ranked the worst performing service in the developed world according to Thornhill (2012). A major barrier to *Telehealthcare* implementation lies with the lack of leadership and management decisions being made by health service professionals. The University of Hull identified clinicians and GP's intransigence to embrace such technologies, as they believe this poses a threat to themselves and their roles.

2.5 Leadership Theories

In order to understand leadership, one must look to the various approaches derived and understand the differences between leadership and management. Kotter (1990) suggests that managers do the planning and budgeting whereas leaders establish direction, managers organize staff and leaders align people, managers control and solve problems whereas leaders motivate and inspire and finally leaders are concerned with adaptive change.

2.5.1 The Trait Approach

Traits refer to relatively stable dispositions to behave in a particular way (Butler and Rose, 2011). Butler and Rose (2011) continue and state that the trait approaches also suggests that leaders are more skilled than non-leaders. Supporting the trait approach to leadership, Judge and Colleagues (2002) suggest that leaders are more open, conscientious, extraverted and less neurotic than non-leaders. On the contrary Hannagan (2008) states that despite all the studies on the physical characteristics of individuals, no physical traits clearly distinguish leaders from non-leaders. Some studies have shown that leaders as a group have brighter, more extraverted and self-confident than non-leaders. Hannigan (2008) continues and states that, however, although millions of people have these traits, few of them will attain positions of leadership.

Butler and Rose (2011) believe that the trait approach to leadership is straightforward. They suggest that leaders are born and there is little organizations can do to develop effective leaders. From this, organizations like the Irish Health Service and related bodies need to effectively embrace individuals with such characteristics in order to attain their strategic objective. Many researchers have investigated the area of leadership personality traits and identified various outcomes. Ghiselli (1971) believed that the ability to supervise other people was important, in conjunction with intelligence and decisiveness. On the contrary, Fielder (1971) identified that successful leaders were more perceptive than their subordinates and were psychologically distant.

Many academics have identified shortcomings with the trait theories of leadership. Hannagan (2008) identifies the question of cultural bias. If there is a bias towards tall leaders then most leaders will be tall because they are the ones who will be chosen. Furthermore, Hannagan (2008) continues, in the same way, the so-called 'glass ceiling' prevents women from becoming senior managers in some companies and therefore they do not emerge as leaders. Butler and Rose (2011) believe that the trait approach fails to take situational variables into account. The cultural context in which leadership takes place determines which characteristics are essential for effective leadership. In conclusion, the research into personality traits, or set of qualities that can be used to discriminate leaders from non-leaders, has failed to produce any consistent position. It appears that no trait or combination of traits guarantees that a leader will be successful (Wood, 2005).

2.5.2 The Style Approach

The Ohio State University and Michigan State University derived a mechanism to cope with the sheer number of possible styles. According to Butler and Rose (2011) both Ohio and Michigan State Universities came up with a two-fold taxonomy on the basis of which leadership could be described: a people-orientated leadership style and a task orientated leadership style, ultimately referred to the style approach.

The Ohio State University studies, according to Tiernan, Morley and Foley (2006) sought to identify and classify independent dimensions of leader behavior. Fleishman (1953) identified people orientated style as consideration and the task orientated style as initiating structure. Butler and Rose (2011) state that consideration behaviors concerned with the social aspect of leadership and are focused on the leader-follower relationship. Tiernan, Morley and Foley (2006) explains that initiating structure style reflects the extent to which the leader defines and structures his/her role and the roles of the followers in achieving established organizational goals. The consideration style reflects the extent to which the leader focuses on establishing trust, mutual respect and rapport between his/herself and the followers and among the group of followers.

The Michigan University conducted studies at the same period as the Ohio University. Katz, Maccoby and Morse (1950) investigated the effect of managerial leadership behaviors on group processes and group performance. Butler and Rose (2011) identify employee orientation as being similar to the consideration concept, in the fact that it reflects a strong emphasis on interpersonal relationships, including helpful, supportive and appreciative behaviors. Production orientation on the other hand reflects behaviors that aim to increase work efficiency.

Differing from the trait approach, the style approach suggests that effective leadership can be learned (Butler and Rose, 2011). Continuing Butler and Rose (2011) identified that the style approach marked a major shift in the focus of leadership. Unlike the trait approach, that suggests that leaders are born, the style approach implicates that leaders can be made. It also helps us understand that if we want to develop effective leaders, we need to train them how to be both people and task orientated.

Stogdill and Coons (1957) state that there are two principle dimensions to leaders behavior, ultimately the concern for people and a concern for production.

- *A Concern for people*, this behavior is based on a managers concern for mutual trusts with those they are associated. This is known as the employee orientated approach. This behavior encourages two way behavior and mutual trust.
- *A Concern for the task* involves managers concern for directing subordinates to achieve production targets. This is a task orientated approach, managers are directive and believe in completing a task according to plan.

2.5.3 The Contingency Theories

The contingency theories are based on the premise that the predicting of leadership success and effectiveness is more complex than a simple isolation of traits or behaviors (Tiernan, Morley and Foley, 2006). There are three theory approaches which when combined are known as the contingency approaches.

2.5.3.1 Fiedler's contingency approach

Fielder asked the question, what is it about leadership behavior that leads to effective group working? (Tiernan, Morley and Foley, 2006). Continuing, Butler and Rose (2011) suggested that Fielders orientations represent stable dispositions rather than actual behaviors; accordingly, Fielder proposed that people could be either people-orientated or task-orientated, but not both.

Fielder developed the least preferred Co-Worker (LPC) questionnaire in order to measure a person's particular leadership style. The questionnaire identifies questions aimed at describing co-workers on a scale from 1 to 8. According to Butler and Rose (2011) the questionnaire is based on a set of 16 bipolar objectives (e.g. nice (8) – nasty (1) – interesting (8) – boring (1) – trustworthy (8) – untrustworthy (1). Butler and Rose (2011) continue and state that leaders with a people orientated leadership style tend to describe their least preferred co-workers rather positively because for them good relationships are more important than high performance and productivity. In contrast, according to Butler and Rose (2011) leaders with a task orientated style tend to describe their last preferred rather negatively, because they are less interested in good relationships and more in high performance and productivity.

In conclusion, research evidence yields mixed support for Fielder's model, specifically questioning its real world validity (Peters, 1985). Butler and Rose (2011) identify a further shortcoming of the model stating that it is merely prescriptive and does not explain why task orientated and people orientated people are effective in different situations.

2.5.3.2 Situational Leadership

Situational leadership is another theory of leadership. It builds on the same premises as the style approach and suggests that there are two dimensions underlying any leadership behavior (Hersey and Blanchard, 1969). Butler and Rose (2011) continue, directive behavior, which is similar to task orientated leadership behaviors, and supportive behavior, which reflects people orientated leadership behaviors. According to Graffe (1981) highlights the popularity of the situational leadership model. The unobtrusive measure of its sustained popularity in industry is its ability to support

three full pages of advertising extolling its virtues in the center of a leading practitioners journal of training and development (training and development journal 1981). When an employee is not currently performing at a sustained and acceptable level that the leader should appropriately exhibit high task behavior (Hersey, 2001). Continuing Hersey, (2001) states that if the person is unwilling or resisting performance of the task they should only receive very low amounts of leadership behavior from the leader and only in response to steps taken by the follower in the right direction. Butler and Rose (2011) state that the situational leadership theory shifts attention on the follower characteristics and suggests that leaders will only be able to motivate and influence their followers when they match their style to the followers' level of willingness and ability to accomplish their given job assignments.

2.5.3.3 The Path Goal Theory

Finally, the path goal theory (House, 1971) was developed as an approach to understanding and predicting leadership effectiveness in various situations. Butler and Rose (2011) suggests that the theory identifies that the leaders job is to show subordinates how they can achieve their work objective, leaders should remove any obstacles that may obstruct subordinate goal attainment and support followers with the information and resources necessary to achieve these goals. Hannagan (2008) supports Butler and Rose (2011) and identifies that this theory focuses on the leader as a source of rewards and attempts to predict how different types of rewards and different leadership styles affect the performance of subordinates, based on the view that an individual's motivation depends both on expectation and the attractiveness of the rewards available. Filley and House (1971) indicated that leaders who initiate structure for subordinates are generally highly rated by superiors and have higher producing work groups than leaders who are low on initiating structure, and leaders who are considerate of subordinates have more satisfied employees.
The manager identifies rewards and goals that are open for investigation and 'paths' that can be taken to achieve them through effective leadership:

- Assisting subordinates chose the path that they should follow to achieve personal and organizational objectives.

- Through effective leadership assists subordinates along the chosen path.
- Assists the removal of obstacles which could effectively hinder the objective attainment

According to Butler (2011) the strength of the path goal theory lies in its academic rigor. Building on a well-grounded theory of human psychological functioning (*Expectancy Theory See Section 2.6.8*) it tries to explain what leaders should do to motivate their followers. However, Vroom and Jago (1988) have criticized the path-goal theory as incomplete because it fails to take into account the characteristics of the type of decision with which they are faced and the situations in which decisions are made.

2.6 Organizational Staff

"Employees need the will, the sense of mission, the passion and the pride that motivates them to give the all-important discretionary effort. They need the way, the resources, support and tools from the organization to act on their sense of mission and passion" (Watson, 2013)

Employees play a major role in shaping an organizations strategy and therefore they must be motivated and engaged to assist in organizational success. Having identified several key barriers to Telehealth implementation through the University of Hull findings (2012) one can look to overcoming such barriers by motivating and engaging employees to embrace such technologies going forward.

2.6.1 Motivation

The motivation theory, rooted in psychological thought, mirrors the growth in a more humanistic approach to workplace behavior, replacing the 'carrot and stick' with a focus on rewards and participation (Marcum, 2000). Butler and Rose (2011) state that motivation is the cause of movement, the inspiration behind activity, the feeling within an individual that makes them want to achieve personal need or expectation. Vroom (1964) conceptualizes motivation as a process governing choices made by

persons or lower organisms among alternative forms of voluntary activity. Furthermore, Arnold (1995) suggests that the motive force gets a machine started and keeps it going, motivation concerns the factors that push or pull us to behave in certain ways. Finally, Forrest (2000) defines motivation as consistently putting effort, energy and commitment into desired results.

In order to understand what motivates employees in organizations it is necessary to identify the applicable theories that can apply to the Irish health service. There are two broad categories that the theories apply, namely content theories and process theories.

Content theories of motivation focus on the question: what initiates or stimulates behavior? And content theorists implicitly assume that needs are the most important determination of individual levels of motivation (Tiernan, Morley and Foley, 2006). Underpinning all the theories is the view that human beings have a set of needs that have to be met. These 'need theories' have been extensively explored because they are perceived as 'the most enduring ways to understand motivation' (Aram and Piraino, 1978).

2.6.2 Content Theories

2.6.3 David McClelland

David McClelland (1960) developed the achievement theory as a method of identifying motivational differences between individuals. According to Medcof and Hausdorf, (1995) McClelland argued that managers possess three basic motivational needs – achievement, affiliation and power – each of which is linked to job satisfaction and competence in a number of occupations, particularly management. This theory shows how an individual need can be directly related to peoples work preferences. Furthermore, the theory of achievement motivation argues that the main factor in willingness to perform is the intensity of an individual's actual need for achievement (Tiernan, Morley and Foley, 2006). As mentioned, McClelland proposed that organizations offer to satisfy three sets of needs:

- *Need for Achievement* (nAch) – the desire for responsibility and challenging tasks
- *Need for Affiliation* (nAff) – the need for personal and social relations
- *Need for Power* (nPow) – the need for an individual to have dominance over others.

McClelland suggests the above experiences are learned through life experiences, and individuals will tend to be driven more or less by any one of the three needs identified (Hannagan, 2008). Hill (1989) states however that people are often motivated by tasks that give them a feeling of competence. The theory developed by McClelland clearly identifies that individuals possess different needs. However, Hannagan (2008) states that McClelland does not specify the motivational links between individual's needs and actual performance. In conclusion, Naylor (2004) confirmed the above and stated, some important needs are not inherited but are learned. Most frequently studied are the need for achievement, affiliation and power. People with strong needs in these categories are often found in roles of entrepreneur, team coordinators and top managers in large organizations. Naylor (2004) continues and states that compared with other theories, McClelland's work looks more towards senior managers' development. Rather than focus on management skill, he argues that attention should be given to developing the drive for achievement.

2.6.4 Herzberg's Two Factor Theory

Herzberg's (1959) asked people various questions about the various factors that led to either satisfaction or dissatisfaction with their jobs, environment and workplace (Tiernan, Morley and Foley, 2006). The original study involved intensive interviews with 200 accountants and engineers. According to Tiernan, Morley and Foley (2006) the factors that resulted in satisfaction were labeled as *Motivators*, while those that resulted in dissatisfaction were labeled as *Hygiene* factors. Naylor (2004) explains that the two different factors affect motivation at work. Hygiene factors prevent dissatisfaction but do not promote more satisfaction even if provided in abundance. Motivators, or growth factors, push the individual to greater performance. Butler and Rose (2011) believe that both are treated separately because Herzberg believed that the two constituted two different sets of needs. One set of needs, stemming from

innate human nature such as the need for sleep. Secondly, stems from the human desire to grow and develop. The factors that lead to satisfaction or dissatisfaction are therefore different. Herzberg's findings indicate that satisfaction and dissatisfaction are not at opposite ends of the same spectrum, rather, they are on two separate spectra (Tiernan, Morley and Foley, 2006). On the contrary, Arnolds and Boshoff (2002) suggest that the theory does not apply equally to lower-level and higher-level staff. They found that top managers are primarily motivated by growth needs and that front line employees are motivated by relationships with peers, and pay had to be satisfactory in order to maintain motivation.

2.6.5 McGregor's Theory X, Theory Y

McGregor (1960) examined managerial assumptions about employees and the resultant implications of such assumptions for managerial assumptions about employees and the resultant implications of such assumptions for managerial approaches to issues like control, job design and remuneration (Gunnigle, Heraty and Morley, 2006). Arguably, McGregor's theory X is considered a content theoretical approach and theory Y resides in the process theoretical approach.

Theory X

- Employees inherently dislike work and where ever possible will attempt to avoid it
- Consequently, employees need to be corrected, controlled and directed to exert adequate effort
- Most employees dislike responsibility and prefer direction
- Such employees only desire material and security rewards

Theory Y

- Employees like work and exert the desire to undertake challenging tasks
- If the surroundings are appropriate, employees will work willingly without the need for coercion or control
- Employees are motivated by respect, esteem, recognition and self-fulfillment
- Employees enjoy and seek responsibility, the majority of workers are imaginative and creative and possess ingenuity thinking.

The theory X style of management generally represents a hostile working atmosphere, an atmosphere where autocratic leadership styles are present. Theory Y however, shows that with the right environment employees can perform their jobs well.
Although (Gunnigle, Hearty & Morley 2006) argue that despite considerable academic and practical support it would seem that theory Y does not have the whole-hearted backing of many senior managers.

2.6.6 Process Theories

2.6.7 The Equity Theory

Adams (1963) suggests that when a person becomes aware of inequity it causes a reaction in them, potentially some form of tension that is 'proportional to the magnitude of inequity present'. Naylor (2004) states that the equity theory matches notions of fair day's work for fair day's pay. It focuses on perceptions of inequity in the input/output ratio whose effect may be similar to the hygiene factors of Herzberg. Inequity leads to tensions and motivation restores the balance. Adams identifies several possible responses for an individual to feel inequity:

- Change inputs: individuals will reduce effort if they believe that they are underpaid
- Attempt to change their outcomes by requesting promotion or pay increase
- Distort perceptions by rationalizing in differences and outcomes
- Alter the group which the individual belongs as an attempt to restore equity

2.6.8 The Expectancy Theory

Vroom (1964) identifies the important expectations that individuals bring to the workplace and focuses on the relationship between the effort put into the completion of particular activities by the individual and the expectations concerning the actual reward that will accrue as a result of expanding effort. Butler and Rose (2011) state that the expectancy theory is driven by individual's expectancy of the preferred outcome and the strength of the attractiveness of the outcome of the individual. Similarly, Gunnigle, Heraty and Morley (2006) state that the expectancy theory attempts to combine individual and organizational factors that impact the casual/reward relationship. The theory argues that individuals base decisions about their behavior on the expectation that one or another alternative behavior and particular desired outcomes such as personality, perception, motives, skills and abilities, and by organizational factors such as culture, structure and managerial style.

According to Mabey and Salaman (1995) the expectancy theory has been developed from Vroom's early specifications to be expressed very clearly as a combination of three factors namely, expectancy, instrumentality and valence.

- Expectancy is the probability that a given level of achieved performance will follow an individual's work effort. It is the perceived probability that a particular level of effort will lead to a desired performance.
- Instrumentality, the probability assigned by individuals that their level of task achieved task performance would guide to different rewards. Employee performance can be measured by various outcomes.
- Valence addresses the value that an individual attains from various work outcomes.

In summary, the expectancy theory does not attempt to identify a universal set of motivational factors. Rather it highlights the importance of a range of potential motivational factors that may be intrinsic or extrinsic (Gunnigle, Heraty and Morley, 2006). Naylor (2004) states that the expectancy theory focuses on the individuals perceptions of the situation. It explains the changing motivation in the light of

circumstances. The theory is supported by common sense and empirical results. According to the Hay Group (2012) motivation is only potential energy until it is harnessed. Getting the most from motivated employees requires that organizations support them in being successful and increased focus on employee engagement is a factor required to produce optimal effectiveness.

2.7 Employee Engagement

Many organizations today are focused on enhancing levels of employee engagement – with good reason. In a knowledge-based economy, where people are the primary determinant of organizational success, the extra effort of engaged employees is a vital asset, especially for lean organization's needing to more with less. (Hay Group, 2012)

A positive attitude held by the employees towards the organization and its values. An engaged employee is aware of business context, and works with colleagues to improve performance within the job for the benefit of the organization. The organization must work to develop and nurture engagement, which requires a two-way relationship between employer and employee (Robinson, 2004). Hannagan (2008) states that employee engagement s more than job satisfaction; it describes the involvement that can be developed between an employee's values and commitment to the organizations goals. Kahn (1990) defines employee engagement as the harnessing of organizations members, selves to their work roles. Through engagement people employ and express themselves physically, cognitively and emotionally during role performances.

Frequently, employee engagement has been defined as emotional and intellectual commitment to the organization (Baumruk 2004, Richman 2006 and Shaw 2005) or the amount of discretionary effort exhibited by employees in their job (Frank, 2004). Royal and Yoon (2012) state that through frameworks for understanding engagement vary, the concept is commonly understood to capture levels of commitment and discretionary effort exhibited by employees. Engaged employees can be expected to display high levels of attachment to an organization and a strong desire to remain part of it. Watson (2013) suggests that employees need both the will and the way in which

to actually demonstrate engagement. Specifically, employees need the will, the sense of mission, passion and pride that motivates them to give the all-important discretionary effort. Secondly the way, the resources, support and tools from the organization to on their sense of mission and passion.

In summary, employee engagement is the result organizations achieve when they stimulate employees' enthusiasm for their work and direct it towards organizational success (Hay Group, 2011). Hay include:

- Commitment. Generally employees are proud to work for an organization, and would recommend it as a place to work and have an intention to stay.
- Discretionary Effort. Employees generally do the extra mile to help the organization succeed, unless they are theory x individuals as highlighted by McGregor (Section 2.5.1).

Unless employee engagement can be universally defined and measure it cannot be managed, nor can it be known if efforts to improve it are working (Ferguson, 2007). Robinson (2004) however defined engagement as one step from commitment. Saks (2006) states that it would appear that there are sufficient grounds for arguing that engagement is related to, but distinct from, other constructs of organizational behavior. Robinson (2004) argues however, engagement contains many of the elements of both commitment and OCB but is by no means a perfect match with either. In addition, neither commitment nor OCB reflects sufficiently the aspects of engagement- its two-way nature, and the extent to which engaged employees are expected to have an element of business awareness.

2.8 Summary

The biggest risk is not taking any risk, in a world that's changing really quickly, the only strategy that is guaranteed to fail is not taking any risks (Mark Zuckerberg, 2011)

It would appear that public health institutions fear change, and bureaucracy and resistance is a way of life for such organizations. However, McKinsey's model became a concept of strategic planning that builds on the premise that strategy is only effective when there is employee buy-in and cooperation. As stated by Taylor (2004) "the remedy for inefficiency lies in systematic management, rather than in searching for some unusual or extraordinary man".

Furthermore, identifying strategic errors, planning and adjusting them accordingly (Davenport, 1996;Henderson, 1998; Teece, 1998; and Venkatraman, 1998) through new technologies and management approaches (Quinn, 1996; Davenport, 1996) will enable the Irish Civil Service to provide the physical, social and resource allocation structure to sharpen knowledge into its core competency (Teece, 1998). Furthermore, in a shrinking world in which the wheels of change are turning faster all the time calls for new responses. In an increasingly competitive environment, a flexible, efficient and effective Civil Service is essential. It is vital that we have an Irish Civil Service geared to meet the challenges this county faces (Bruton, 1996).

The current NHS approach to the delivery of care to people with long-term conditions is widely recognized as unsustainable both in terms of cost and quality of care. The NHS already spends 70% of its budget on the 15m people who have one or more of these conditions. With an aging population, patient numbers are expected to grow by 23% over the next 20 years (Cruickshank, 2010). In Ireland, an estimated 3 – 5,000 people die each year from sudden cardiac events some of which might not have been fatal if they were treated in time. But more of those lives could be saved if all GP's are equipped and trained to intervene rapidly (Connolly, 2012).

In conclusion, the key reason strategic execution fails is because the organization doesn't get behind it. If you're staff and critical stakeholders don't understand the strategy and fail to engage, then the strategy has failed (Berg, 2012). However, successful change efforts are messy, unpredictable and full of revelations (Kotter, 1995). There are no guarantees that the outcomes of strategic planning process will be entirely successful or that all change will be positive for everyone. Strategic planning is as much art as science (Russell, 2005). However, executives in an organization must believe that its mission and duty is society's most important (Drucker, 1997).

The aim of this dissertation is to investigate the research question; what are the key obstacles to *Telehealthcare* implementation, can *Telehealthcare* deliver enhanced business benefits and what are the health benefits to the end user as a result of *Telehealthcare* implementation?

Chapter 3: Research Methodology

3.1 Background

The objective of this research is to address the question posed in Chapter 1.
What are the key obstacles to Telehealthcare implementation, Can Telehealthcare deliver and enhance business benefits to the Health Service, Ambulance Service, An Garda Síochána and community organizations. What are the health benefits to the end user as a result of Telehealthcare implementation?

The research question aims to assist in the transformation within the Irish Health Service. This chapter aims to detail precisely how the researcher, using the appropriate knowledge, skills, tools and techniques, intends to achieve the research objectives (Saunders, 2009).

3.2 Research Methodology

Research methodology is a way to systematically solve the research problem (Kothari, 2006). Furthermore, the research methodology establishes the different designs or techniques applicable to the researcher when conducting the study (Maylor and Blackmon, 2005). In academic research, methodology is a body of knowledge that allows a researcher to underpin the research questions through the use of various types or evidence that can be gathered (Clarke, 1984). Furthermore, a methodology is a collection of procedures, techniques, tools and documentation aids, but a methodology is more than merely a collection of these things. It is usually based on some philosophical paradigm; otherwise it is merely a method, like a recipe (Avison and Fitzgerald, 1995)

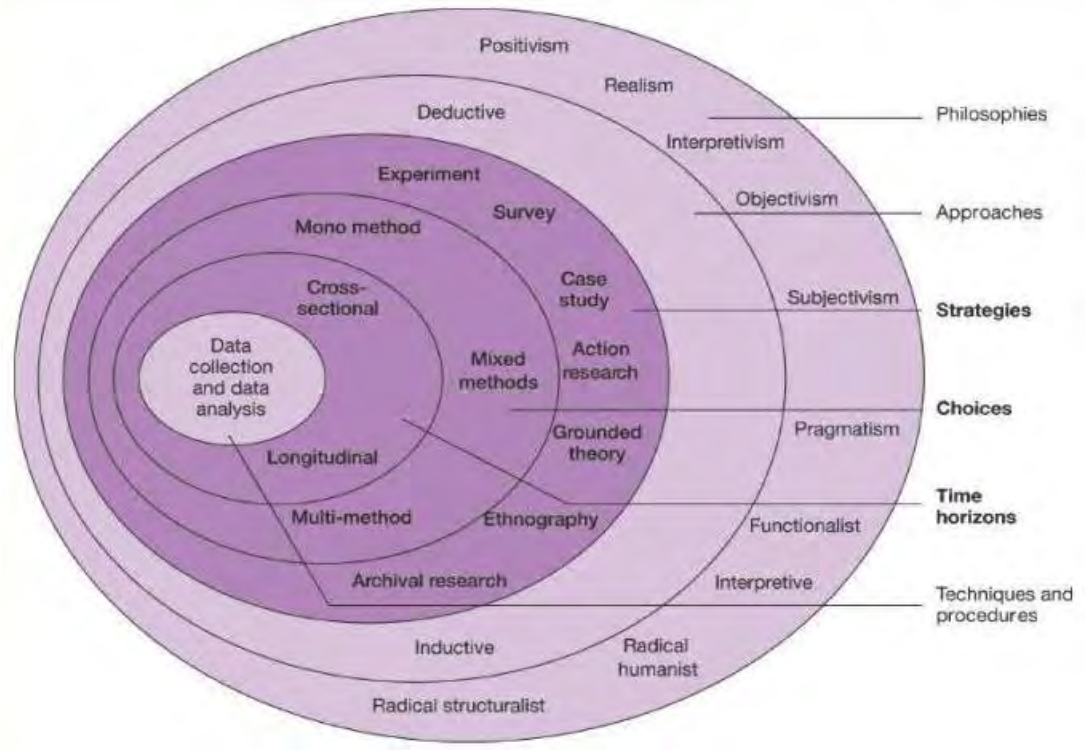
The aim of the research is to collect and analyze the theory relating to strategic thinking in *Telehealthcare*, using McKinsey's 7's model and applying it to the Irish Health Service. To ascertain a clear comprehension of the appropriate designs and techniques utilized in conducting this research, it is essential for the researcher to have an in-depth knowledge of the research methods, philosophies and approaches

and their application to primary and secondary data collection (Bryman and Bell, 2007; Saunders, 2009).

Saunders (2009), through the use of the research onion classified research into six categories. The Research onion identifies various issues surrounding data collection techniques and analysis procedures that, resemble the layers of an onion and must be peeled away layer by layer to expose the core objectives. Saunders (2007), divided the research onion into six layers of research; philosophies (positivism, realism and interpretivism), approaches (deductive and inductive), strategies (experiment, survey, case study, grounded theory, ethnography and action research), choices (mono, multi and mixed methods), and finally techniques and procedures (data collection and analysis).

The research will explore the research onion as a step-by-step approach allowing the researcher to argue the motivation behind each philosophical choice compared to alternatives.

Figure 3.1 The Research Onion



As adapted by Saunders (2007)

3.3 Research Philosophy

The term ‘research philosophy’ relates to the development and nature of knowledge (Collins, 2010). Saunders (2009), supports Collins (2010) and states that the research philosophy relates to the development and the nature of knowledge, i.e. answering a specific problem in a particular organization.

Saunders (2009) state that, developing an in-depth knowledge of a researchers philosophical viewpoint can inadvertently unearth the ‘taken-for-granted’ assumptions that enable the researcher to examine these beliefs, challenge them if appropriate and conduct oneself in a different way. Furthermore, (Saunders, 2009) indicates that research processes are influenced by three main thought processes, ontology, epistemology and axiology which, assist in the researchers comprehension of particular approaches in a specific field. In contrast, the axiom of “knowledge’, driven by research paradigms, can be explained by branches of philosophy known as ontology, epistemology and methodology (Guba and Lincoln, 2005). Interestingly, Maylor and Blackmon (2005) identify only two major thought processes that apply to business management research ultimately, ontology and epistemology.

Axiology as referred to by Fidtk (2009) as the reflection of our values is tied to our relationship with nature and the way we language in our culture, and brings to mind the difference between facts and values as evidenced in the modern paradigm. Saunders (2009) refers to axiology as a philosophy that studies judgments about values.

Ontology is a body of formally represented knowledge that is based on a conceptualization, the objects, concepts and other entities that are assumed to exist in some area of interest and the relationships that hold among them (Genesereth & Nilsson, 1987). Gruber (1992) states that ontology is an explicit specification of conceptualization. The term is borrowed from philosophy, where ontology is a systematic account of existence. The subjectivist approach considers the business and management trends and human behavior, either at an individual level or social system level, reality is shaped by patterns, however the objectivist approach focuses on what

is physically real and therefor does not consider anything that does not ‘fit with this reality’ (Saunders 2009, Maylor and Blackmon, 2005).

Epistomology is a branch of philosophy that addresses issues that concerns the question of what is acceptable knowledge (Bryman & Bell, 2007). Saunders (2009) identifies epistemology as assumptions that concern what constitutes acceptable knowledge in the researcher’s specific field of study. Maylor and Blackmon (2005) identify two epistemological perspectives namely positivism (Scientific approach) and subjectivism (Social science approach). Blumberg & Cooper (2008) identify three key epistemological research philosophies of positivism, interpretivism and realism.

Bryman and Bell (2007) has described positivism as the position that is associated with imitating the natural sciences to the study of social reality and knowledge is arrived at through the gathering of facts, should be value free, objective and independent of social factors. Saunders (2009) explains that positivism is the epistemological position that works with an observable social reality with the emphasis on highly structured methodology to facilitate replication. In contrast, interpretivism, which is also referred to as social constructionism is a research philosophy that views the social world as being socially constructed. Saunders (2009) states that the social world is a pattern of symbolic relationships and meanings sustained through a process of human action and interaction. Bryman and Bell (2007) explain that interpretivism is a term given to a contrasting epistemology to positivism. Finally, realism has been defined by Saunders (2009) as the most important determinant of the research philosophy because the essence of realism is what the senses show us is reality, the truth and that objects have an existence independent of the human mind. Supporting this, (Johnson and Christensen, 2010) believe that humans are not the objects for the study in the style of natural science, but how individuals react towards a real world situation.

The research undertaken addresses the relevant methods from a pluralistic approach. This is effectively a mixed method of both quantitative and qualitative analysis. The qualitative analysis for the benefit of this research is the primary source of knowledge, with the quantitative aspect playing a supportive role to the findings.

The researcher believes that the mentioned approach will ultimately add value and provide a rich picture of the benefits/pitfalls of *Telehealthcare* in Ireland going forward.

The qualitative research focuses on the areas identified within McKinsey's 7s model as seen within the literature review as seen in chapter two. Individuals earmarked for interview through this research form their own distinct opinions of the current situation as highlighted in section two. As a result of this, one could argue that the research falls within the interpretivism research philosophy area. Gummisson (2003) argues that all information is interpretive in some way. Due to the interpretivist nature of the research, semi structured interviews will be conducted with the aim of providing a richer picture for the study. The interviewer has a keen interest in the opinions and views of the interviewees and believes the *Telehealthcare* industry will benefit from such valuable knowledge. This method (interpretivist) will be conducted, rather than loosely determined methods. The researcher's intention is to embrace new ideas during the conducted interviews allowing knowledge to be shared openly and therefore will be subjective in nature. The researcher aims to interpret the behaviors of the interviewees as personal self-interests or motives may play a role in determined answers. This is supported by Hudson and Ozanne et.al (1988) "interpretivist researchers must understand the motives, meanings, reasons and other subjective experiences which are time and context bound'. The research will further undertake a phenomenology approach to gain from the experience of the interviewees, how they see the research area and opinions from their own experiences.

The research from a quantitative approach will be interpretive by nature supporting the argument by Gummesson (2003) that all information and research is interpretive in some way. This research approach adapts the research philosophy of positivism and therefore, the assumption will be objectivity is obtainable when conducting this research. Crossman et.al (2013) states 'that it is possible to observe social life and establish reliable, valid knowledge about how it works'. The sample population used in the research will embrace older citizens and their opinions. Frailer clients however may not be able to assist in this research that could hinder the findings. The research will also look to the post-positivism approach, as other research methods embrace objectivity. The 5-point Likert questionnaire may highlight the subjective thoughts of *Telehealthcare* users and may not demonstrate a true reality of the situation.

3.4 Research Approach

The second layer of the research onion addresses two methods known as deductive and inductive methods. According to Gill and Johnson (2002) the deductive method entails the development of a conceptual and theoretical prior to its testing through empirical observation. The deductive approach, presents a structured process for assessing a common rule or theory by deducting a hypothesis that ought to be the subject of empirical analysis (Bryman and Bell, 2007). Alternatively, Saunders (2009) state that the inductive approach involves the development of a theory based on an examination of the empirical data. Maylor and Blackmon, (2005) state that the researcher collects and analysis data to generate theories based on the findings. In summary, inductive reasoning uses the data to generate ideas, which are hypothesis generating, whereas deductive reasoning begins with the idea and uses the data to confirm or negate the data (Holloway, 1997). Saunders (2009) states that it is possible to combine deductive and inductive research approaches. However, as the researcher is adapting a pluralistic or mixed method approach, the inductive approach will be adapted as a technique for collecting and analyzing data.

3.5 Research Strategy

The research strategy is used to enable the researcher to respond to specific research questions and accomplish specific objectives (Saunders, 2009). The research strategy as illustrated in the research onion includes experiments, surveys, case studies, grounded theories, ethnography and action research (Saunders, 2009).

The qualitative research is semi structured and therefore an exploratory research design will be used. The strategic objective is to develop theories from the comments from the interviewees with relation to *Telehealthcare*. These are grounded theories and were inductively derived, as was a speculative process. The primary objective of the research is to establish the general feeling about *Telehealthcare* technologies, which will ultimately result in final conclusions and recommendations in Chapter four. This research is classed as ethnographic as it aims to gain relevant knowledge from individuals in, and associated with the healthcare industry. Ethnographic

research has been defined by Hoey (2013) as research where the intent is to provide a detailed, in depth description of everyday life in practice.

The research is Holistic in nature as the testing of the McKinsey 7s model aims to summarize the importance of the whole model and the interdependency of its parts relating to the highlighted issue. The outcome will lead to the development of specific theories. Due to the inductive nature of this research these grounded theories will be derived from a speculative process. The Grounded theory concept has been defined by Glaser and Strauss et.al (1967) as 'the discovery of theory from data systematically obtained from social research'. In summary, the researcher will not enforce any preconceived conditions when conducting the research and should assist in transparency throughout.

The quantitative research analysis consists of a 5-point Likert style self-reporting questionnaire. The questionnaire survey strategy was used to examine the general feeling of existing *Telehealthcare* users in the Irish market. Working in conjunction with TASK Community Care, an organization that provide such services to individuals, made a sample population available for the purpose of this research.

3.6 Research Choices

Research choices are methods or techniques for collecting data, involving specific instruments such as self-completion questionnaires, structured interviews, or participant observation. Quantitative research document social variation in terms of numerical categories and rely on statistics to summarize large amounts of data (Ruane, 2005). On the contrary, qualitative research is defined as an inquiry process of understanding a social or human problem, based on building a complex, holistic picture, formed with words, reporting detailed views of informants, and conducted in a natural setting (Cresswell, 1994). Saunders (2009) refers to three specific research designs as illustrated in the research onion namely, mono, mixed and multi methods. Firstly, the mono method combines either a single quantitative data collection (Questionnaires), or a single qualitative data collection technique. Secondly, mixed method research uses quantitative and qualitative collection techniques simultaneously but does not converge them. Finally, mixed method research

combines more than one data collection technique and analysis to answer the research question.

3.7 Time Horizons

Ireland has an aging population and current reductions in public health budgets are set to continue in the coming years. According to Saunders (2009) research constituting a 'snapshot' at a certain period of time is referred to as a cross sectional study. Due to the nature of this cross sectional study, the researcher will look at a snap shot of the Irish health service ultimately January to July 2013. The aim and objective of this research is to highlight the impending crisis within the Irish health service and possible solutions to avert such a crisis. According to Bryman and Bell (2007) the methods associated with cross sectional design can include questionnaires, structured or semi-structured interviews, structured observation, content analysis, official statistics and diaries.

3.8 Data Collection and Data Analysis

According to Muintir Na Tire, approximately 130,000 people in Ireland currently avail of Telecare technologies. TASK Community Care, Irelands largest Telecare provider has kindly allowed the researcher to randomly sample a population of their 35,000 clients throughout Ireland. Because of the large sample population and the general age of the clients, and in order to gain as much statistical power as possible there was only one viable option available to the researcher. The option was to use a predetermined structured self-report questionnaire. This was achieved through the collection of data from a 5-point Likert style questionnaire (responses coded from 1 to 5). This method of data collection will facilitate the statistical measurements in the quantitative research and will assist in the analysis of individual responses. The measurements have been identified through the frequency, mean, median and mode by percentages and variability. The self-report questionnaire contains 19 questions and is coded by nominal, ordinal and scale methods. The researcher will illustrate the findings through bar charts, pie charts, graphs, excel and SPSS.

There have been many criticisms of self-report questionnaires over the years by various academics. Wright, Aquilino & Supple (1998) identified that data collection errors and non-response are usually higher in self-report questionnaires in comparison with interview – administered formats. They also highlight other shortcomings with this method such respondents failing to answer appropriate questions, or answering questions inaccurately. The self-report questionnaire in conjunction with a guarantee of respondent anonymity, plus competent presentation to the target sample, assisted in the self-report questionnaire method as being the most cost-effective and efficient way of measuring the highlighted issue. Wright (1998) and Kraus & Augustin (2001) found that sensitive issues are more easily reported in self-report questionnaires compared to face-to-face interviews, including one could argue, assessment of *Telehealthcare* service from individuals using such services. Factor analysis procedures (Factor Validity) are used to measure psychometric properties and Cronbach's alpha measures internal consistency within the individual population of the qualitative research areas. The researcher would like to clarify that Cronbach's alpha is not a statistical test, but is a method of insuring consistency and reliability. The qualitative research interviews have been recorded and transcribed. The population who participated in this area of the research are all senior knowledgeable individuals who are connected with *Telehealthcare* in some form.

In this study, the researcher has conducted more than one data collection technique and analysis procedure by adapting a pluralistic approach. This is the use of both quantitative and qualitative research and is sometimes known as a mixed method approach. According to Saunders (2009) this may lead to an increase in unanticipated outcomes.

3.9 Sample and Population

When addressing the issues around sampling it is imperative to address such restrictive barriers such as time, financial commitments and access Saunders (2009), Blumberg (2008) states that improved accuracy of results and availability of population elements.

The overall quantitative population, the clients of TASK Community Care, from which the customer survey sample was drawn, was relatively small, 108 clients randomly chosen from the company database. In order to support the use of Structural Equation Modeling (SEM) statistical analysis, and provide a representative sample of clients, the well-known probability sampling method of stratified sampling was used. In essence, clients were randomly chosen from TASK Community Care's client database to control for stratified variations in age, location and gender. According to Saunders (2009) for all research questions where it would be impracticable to collect data from the entire population, you need to select a sample. The population selected for the research is *Telehealthcare* users throughout Ireland and senior personnel associated with the Healthcare industry. *Telehealthcare* users answered the quantitative self-report questionnaire over the telephone. The researcher was required to telephone the individuals from TASK Community Care's 24hr monitoring center and verbally ask the individuals to answer the questions. Due to the nature and age category of the client base this step was extremely time consuming and realistically a random sample of 108 clients was the best-case scenario. According to Maylor and Blackmon (2005) it is vitally important to comprehend the population you intend to sample and the characteristics you wish to measure.

The qualitative population selected high profile individuals in the *Telehealthcare*/healthcare industries. This aspect of the research was exploratory in nature; there was no need to generalize the overall population, as each individual perspective was value adding.

3.10 Ethical Issues and Procedures

The research was conducted used the pluralistic approach to its design, testing both qualitative (Interviews) and quantitative (Questionnaires) techniques. The outcome is intended to demonstrate the general feeling of all stakeholders who are affected by Telehealthcare technologies. A research module leader was furnished with a copy of the interviews and questionnaires along with a research proposal before giving ethical permission for the study. This area was conducted with respect and dignity as clients depend upon the services provided, many of who have chronic conditions and

sensitivity is required. The quantitative questionnaire focused on existing clients of *Telehealthcare* who were randomly chosen from TASK Community Care's call handling database, the Chubb Saturn system. The questionnaire focused on nominal data such as an approximate gender ratio of 50:50 to highlight transparency. All individuals invited to take part in the research were assured that their responses will be treated anonymously and there is no obligation to take part in the research if they did not wish to.

In conclusion, the researcher must ensure that the analysis and findings must adhere to a number of key ethical issues,

1. Ensure confidentiality to participants, i.e. data protection and related issues
2. Take responsibility for research findings, outcomes may be controversial, and
3. Ensure a high level of accuracy and true representation of data collected.

The conducted research encompasses the above ethical issues and bearing in mind the importance of individual confidentiality and sensitivity.

Chapter 4: Data Findings and Analysis

4.1 Overview

The current financial situation and the impact on the Irish health service has been interesting and an educational study. The study is based upon the following hypothesis; strategic thinking in *Telehealthcare*, a possible solution to easing the strain on Ireland's overburdened health service. The research methodology employed in-depth interviews with seven senior executives in organizations associated or affected by *Telehealthcare*. Furthermore, a Likert style questionnaire was completed by 106 of 108 random sampled users of existing *Telehealthcare* services. A synopsis of the collected data is divided into two sections: qualitative and quantitative data findings and analysis as seen in Chapter 4.

4.2 Qualitative Data Findings and Analysis

The researcher based the research study on the barriers to Telehealth as identified by the University of Hull through a report commissioned by the IBM center for business of government. The assumptions were made that the lack of Telehealthcare implementation in Ireland lay with similar issues as identified in the IBM report. The key barriers identified by the report were as follows:

- *Behavioral Factors,* including clinician aversion to change, and unwillingness to accept technical changes without proof of performance
- *Managerial and organizational factors,* especially a lack of support from senior management, stemming from the inability to clearly assess benefits, and a lack of resources for investments in new technologies.
- *Economic and financial factors,* including costs of implementation (equipment, software and training) and difficulties in establishing precise outcomes, costs and benefits
- *Technical Factors,* including clinical limitations and data security.

However, the consensus of 7 interviewed industry analysts had conflicting and sometimes-supportive feeling towards the above findings and *Telehealthcare* as a whole.

In relation to the Irish health service a number of key issues were addressed and confirmed, which included the threats facing the health service from an aging population perspective, and the problem being aggravated by the economic downturn. No clear strategic direction on the part of senior health service management, and resistance to embracing new developments. Furthermore, general consensus from the interviewed population identified the lack of accountability at senior and management level. Strategy without tactics is the slowest route to victory; tactics without strategy is the noise before defeat (Kaplan & Norton 2004).

Furthermore, the researcher established that all parties involved with the health service and necessary stakeholders identify the importance and immeasurable benefits of keeping people out of hospitals.

The researcher established that there needs to be greater co-operation across the spectrum within the health service and associated bodies. This would involve Administrators, General Practitioners, Public health nurses etc. coming together to develop new strategies and develop a health service that delivers efficiently and effectively for all citizens. The extra effort of engaged employees is a vital asset, especially for lean organization's needing to more with less (Hay Group, 2012). A major problem identified throughout the course of the research addresses the large numbers of hospital admissions, many of which are unnecessary.

When addressing the area of *Telehealthcare* all interviewees were overwhelmingly positive towards the concept and principle of the technology. This came as a surprise to the researcher as the assumption was made that the lack of *Telehealthcare* implementation in Ireland was linked closely with the University of Hull findings. As seen in the interview transcripts (*See Appendix 3 to 8*) the various health professionals echoed and embraced the proposals that were forthcoming.

Feedback from interviewees concluded that through clear communication, engagement and involvement with all health professionals when addressing *Telehealthcare* would result in a "Win -Win" scenario for the health service. There is also clear evidence from the research that a fear of change exists within some quarters

of the health service. Resistance has been cast as adversarial, the enemy of change that must be defeated if change is to be successful (Weddell, 1998). Vested interests appear to pose some barriers to any change in the status quo but through education and training these barriers can be overcome. The interviews revealed that strategic thinking in *Telehealthcare* within the health service is imperative for the future success of the system as a whole.

On the contrary, the research revealed a need to ensure greater levels of regulation, as *Telehealthcare* is aligned predominantly with private sector organizations. Furthermore, slight risks to patient welfare could arise if individuals fail to use the technologies as directed, however due to the simplicity and functionality of the technology from an end user point of view, these risks are low.
Analysis of the qualitative data revealed that feedback towards the proposed technologies was very encouraging. According to the interviewees strategic thinking in *Telehealthcare* would assist in the following:

- Assisting individuals to remain within the home for longer
- Assists greatly in the reduction of overcrowding of hospitals
- Helps improve patients spirits as they can remain in a familiar environment
- A superior system than what currently exists
- Technology allows physicians to work smarter
- Allows immediate intervention for patients with chronic conditions

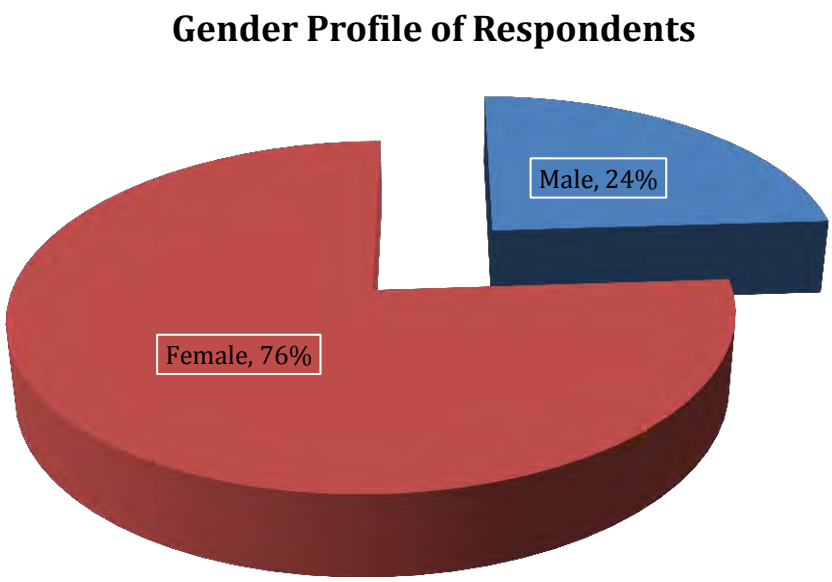
In conclusion, strategic thinking in *Telehealthcare* will assist in transforming the level of service provided by the health service, making the delivery of care more efficient and effective in a better faster and cheaper manner. The researcher has established through extensive interviews with high-ranking health professionals, that a crisis is impending upon the Irish health system and decisions on the systems future need to be made as a matter of grave urgency. By this, those in authority need to take leadership on future strategic direction of the service going forward. House (2004) definition of leadership can be linked to this argument and concluded that leadership is the ability of an individual to influence, motivate and enable others to contribute toward the effectiveness and success of the organization of which they are members.

4.3 Quantitative Data Findings and Analysis

The quantitative 5-point Likert style questionnaire was answered by 106 of 108 existing users of *Telehealthcare* in the Irish market. Quantitative data in a raw form, that is, before the data have been processed and analyzed, convey very little meaning to people. Quantitative analysis techniques such as graphs allow us to do this, helping us explore, present and describe and examine relationships and trends within our data (Saunders, 2009). The objective of this data collection is to obtain general feeling of the service from existing users of the technology.

Q1. Gender?

Figure 4.1 Responses to Question 1



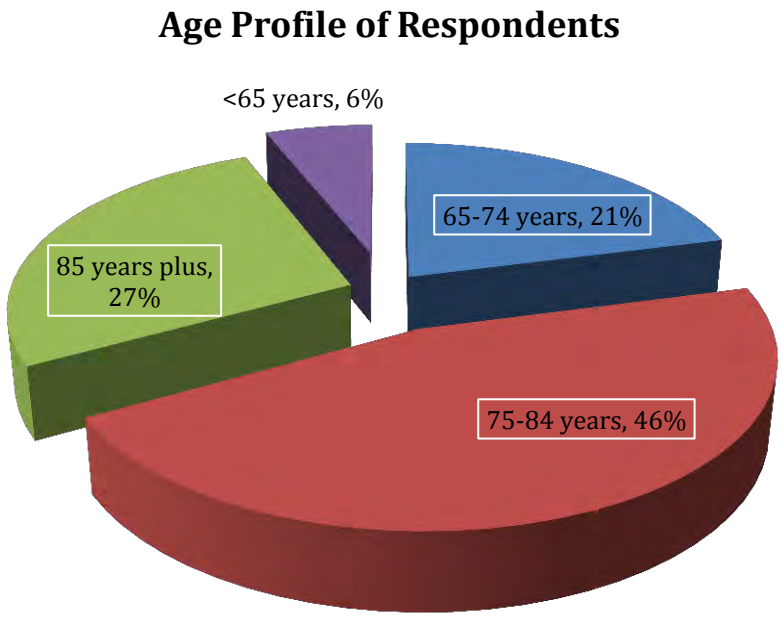
Gender Profile

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	25	23.6	24.0	24.0
	Female	79	74.5	76.0	100.0
	Total	104	98.1	100.0	
Missing	System	2	1.9		
Total		106	100.0		

The questionnaire filtered the respondents into male/female genders. Overall 23.6% or 25 respondents were male, and 74.5% or 79 respondents were female. There were two missing or null answers for this question.

Q2. Age Group?

Figure 4.2 Responses to Question 2



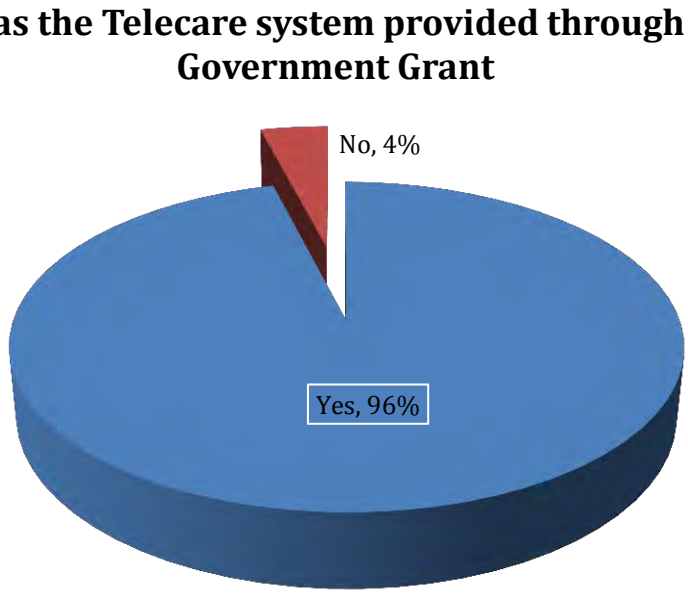
Age Profile

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<65 years	6	5.7	5.7	5.7
	65-74 years	22	20.8	20.8	26.4
	75-84 years	49	46.2	46.2	72.6
	85+ years	29	27.4	27.4	100.0
	Total	106	100.0	100.0	

Of the 106 respondents 5.7% or 6 individuals were under the age of 65 years. 20.8% or 22 individuals were aged between 65-74 years. 46.2% or 29 individuals were aged between 75-84 years. The last group accounted for 27.4% or 29 individuals in the 85+ categories. Overall there is a good balance between the ages spectrums associated with *Telehealthcare*.

Q3. Provision of System

Figure 4.3 Responses to Question 3.



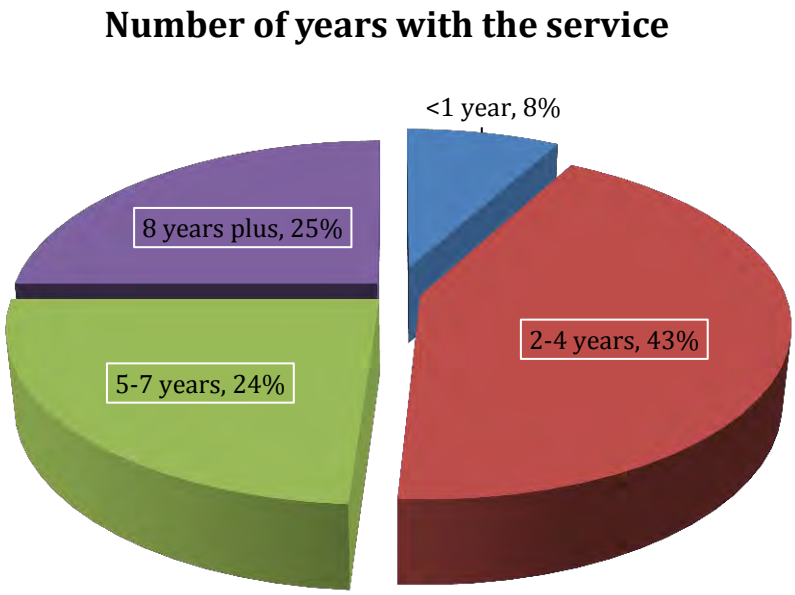
Was the Telecare System Provided Through a Government Grant

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	102	96.2	96.2	96.2
	No	4	3.8	3.8	100.0
	Total	106	100.0	100.0	

The questionnaire identified that 96.2% or 102 respondents obtained their *Telehealthcare* system through an existing government grant.

Q4. Duration with Telehealthcare system

Figure 4.4 Responses to Question 4



Number of years with the Service

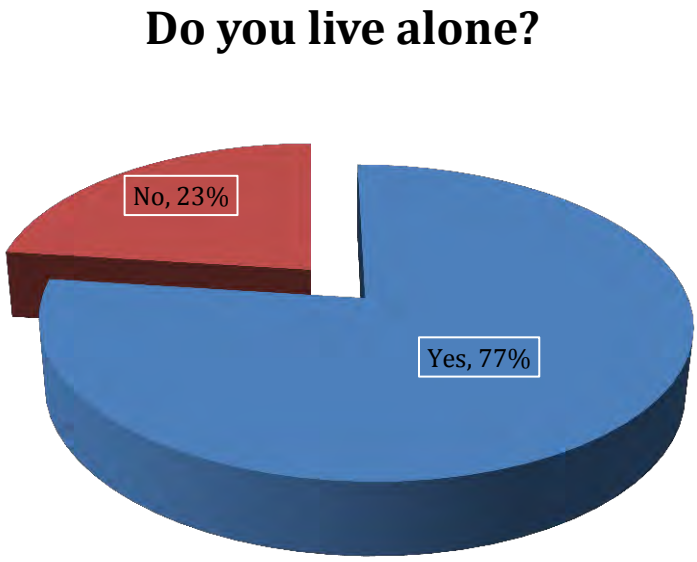
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<1 year	8	7.5	7.8	7.8
	2-4 years	44	41.5	42.7	50.5
	5-7 years	25	23.6	24.3	74.8
	8+ years	26	24.5	25.2	100.0
	Total	103	97.2	100.0	
Missing	System	3	2.8		
Total		106	100.0		

Analysis illustrates that 7.5% or 8 individuals have availed of a *Telehealthcare* system for less than one year. This number represents new uptake of clients in the period June 2012 to June 2013. 41.5% or 44 individuals have had their systems for between 2-4 years. 23.6% of respondents have had a system for 5-7 years while 24.5% or 26 individuals are availing of the service for 8+ years. This represents good value for money for government as many individuals have relied on these systems rather than residential care facilities and highlights the positive benefits of how *Telehealthcare*

can deliver improved efficiencies to the Irish health service as identified in Question two in Chapter One. This is a great example of how austerity can be a virtue. Being focused on cost-effectiveness allows us to work creatively and innovatively to really improve service quality (Prosser, 2012).

Q5. Living Arrangements

Figure 4.5 Responses to Question 5



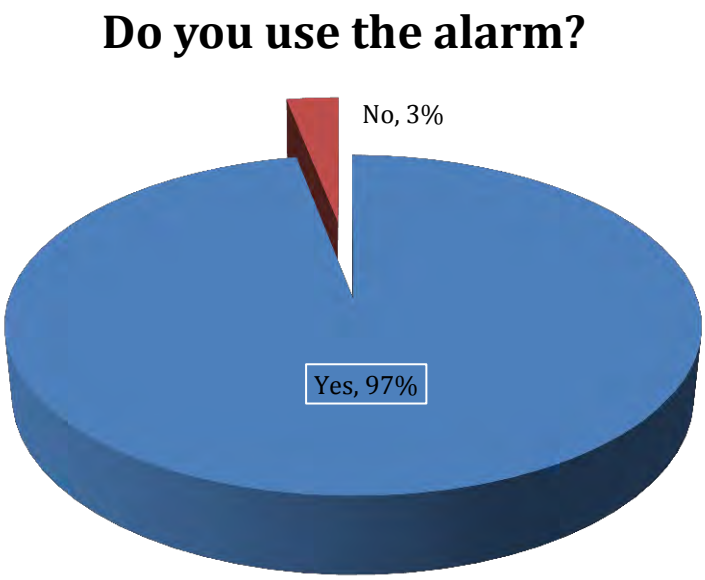
Do you live alone?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	82	77.4	77.4	77.4
	No	24	22.6	22.6	100.0
	Total	106	100.0	100.0	

Research shows that 77.4% or 82 individuals live alone while 22.6% or 24 individuals live with a partner or sibling. As seen in question 10, 46% of respondents strongly agree that their *Telehealthcare* equipment provides peace of mind while 53% of respondents agree with the statement. This highlights the effectiveness of the technology for older people and especially those living alone.

Q6. Telehealthcare usage

Figure 4.6 Responses to Question 6



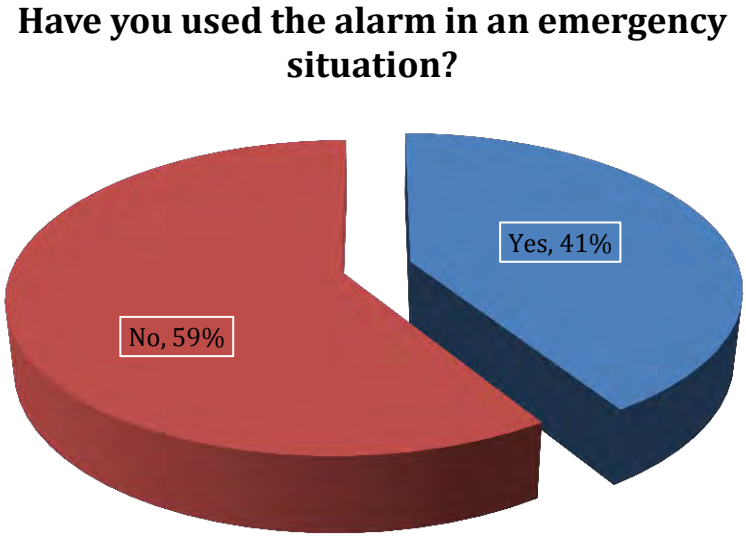
Do you use the alarm?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	100	94.3	97.1	97.1
	No	3	2.8	2.9	100.0
	Total	103	97.2	100.0	
Missing	System	3	2.8		
Total		106	100.0		

Interestingly, of the 106 respondents, 94.3% or 100 individuals have used the *Telehealthcare* system at some stage. However, 2.8% or 3 individuals have never used the system.

Q.7 Emergency Situations

Figure 4.7 Responses to Question 7



Have you used the alarm in an emergency situation?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	43	40.6	41.0	41.0
	No	62	58.5	59.0	100.0
	Total	105	99.1	100.0	
Missing	System	1	.9		
Total		106	100.0		

It was interesting to note that a considerable number 40.6% or 43 individuals have used or have had need to use their *Telehealthcare* equipment in an emergency situation. 58.5% or 62 individuals have not needed or been in an emergency situation. Cross correlation with question six identifies that the vast majority of individuals use their *Telehealthcare* system for other reasons apart from emergency situations. One would assume possibly the loneliness and reassurance aspect might play a part with older citizens.

Q 4.7.1 Cross tabulation- Emergency Situation's and Living Alone

Have you used the alarm in an emergency situation? * Do you live alone? Crosstabulation

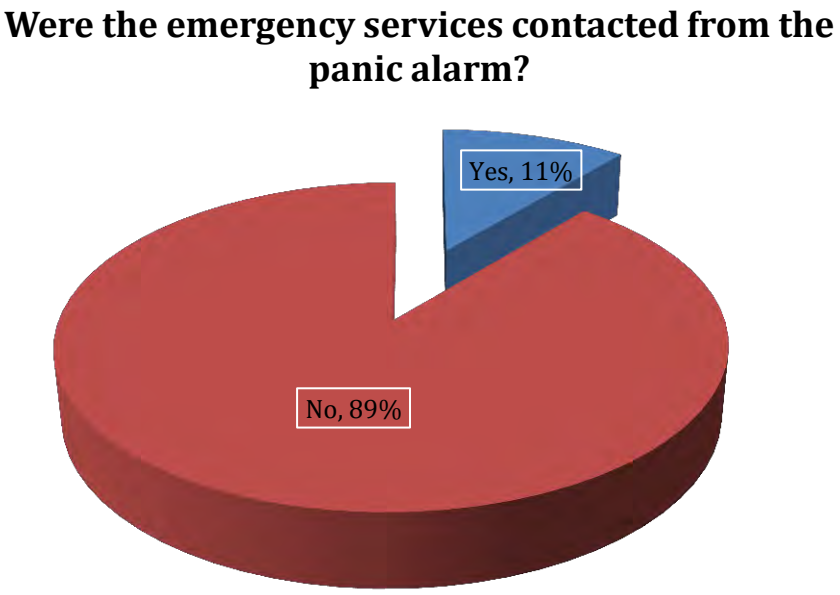
Count

		Do you live alone?		
		Yes	No	Total
Have you used the alarm in an emergency situation?	Yes	34	9	43
	No	48	14	62
Total		82	23	105

This cross tabulation shows an interesting statistic. Of the sample population who has used their alarm in an emergency situation, 79% are currently living alone. This shows the dependency of the *Telehealthcare* system on the elderly. Without the system, many individuals may have no way of contacting the outside world in the event of a sudden illness or fall. This highlights another one of the many health benefits to the end user as a result of *Telehealthcare* implementation as identified in Chapter One section 1.4. Supporting this from a strategic management perspective it identifies the purpose of the organization and the plans and actions to achieve that purpose (Lynch, 2006). This purpose from a health service perspective ultimately should involve providing a service to which people are happy with and depend upon as seen in the above cross tabulation.

Q8. Emergency Service Contact

Figure 4.8 Responses to Question 8



Were the Emergency Services contacted from the Panic Alarm?

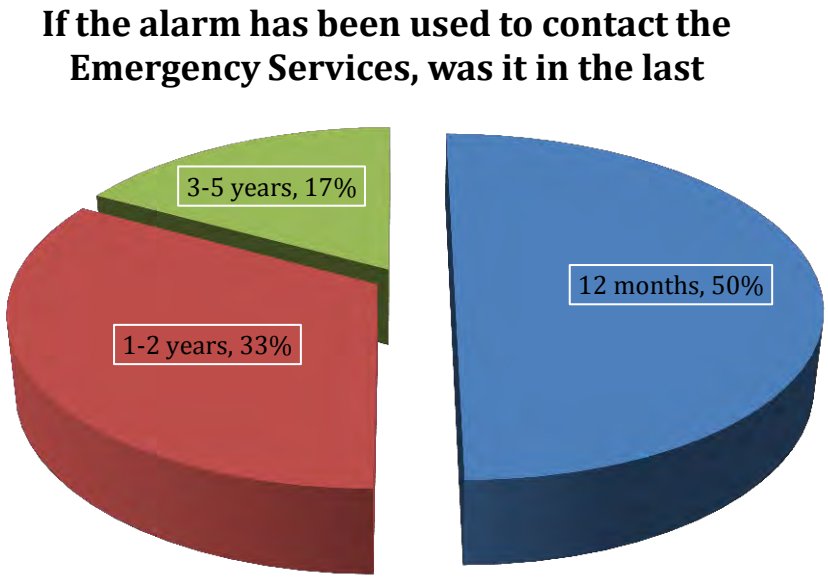
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	12	11.3	11.4	11.4
	No	93	87.7	88.6	100.0
	Total	105	99.1	100.0	
Missing	System	1	.9		
Total		106	100.0		

11.3% or 12 clients have needed the emergency services (An Garda Síochána, Ambulance or Fire Service). 87.7% or 93 individuals have not needed the system to contact the emergency services. Of the 35000 clients on the data base approx. 3955 individuals have contacted the emergency services via their *Telehealthcare* devices. A good strategy actually generates such advantages (Barney, Hesterly 2006). Through strategic thinking in *Telehealthcare,* a reduction in unnecessary contact with the emergency services can be achieved as seen above. The call center receives many calls from clients many of whom request emergency services however the call center filters and prioritizes specific requests. Many individuals look for ambulance assistance, but really a doctor or family member may be all that is required thus

reducing unnecessary callouts by emergency personnel saving the health service millions of euro. This illustrates another possible business benefit of *Telehealthcare* on the health service.

Q9. Frequency of Contact with Emergency Services

Figure 4.9 Responses to Question 9



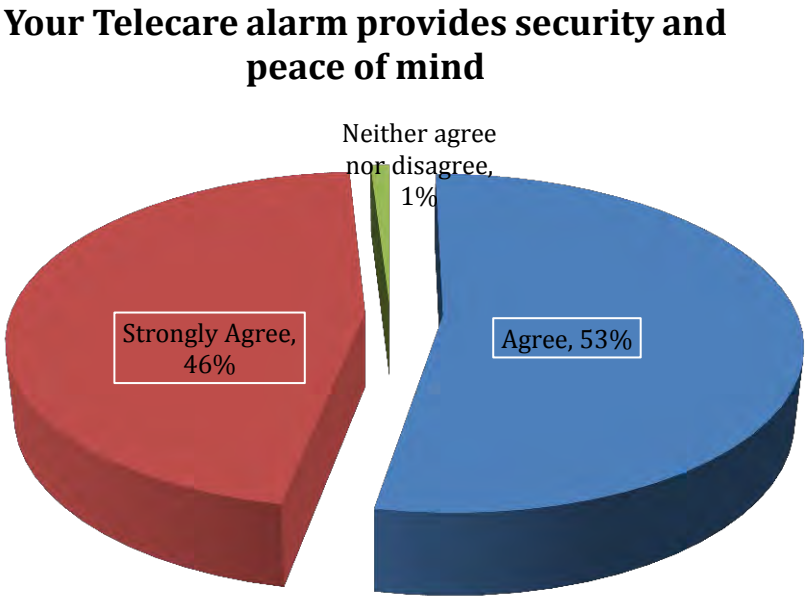
If the alarm has been used to contact the Emergency Services, was it in the last..

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	12 months	6	5.7	50.0	50.0
	1-2 years	4	3.8	33.3	83.3
	3-5 years	2	1.9	16.7	100.0
	Total	12	11.3	100.0	
Missing	System	94	88.7		
Total		106	100.0		

50% of the respondent's emergency calls have been in the last 12months. This represents a significant increase in usage when dealing with the emergency situations.

Q10. Peace Of Mind Obtained from Telehealthcare

Figure 4.10 Responses to Question 10



Your Telecare Alarm provides security and peace of mind?

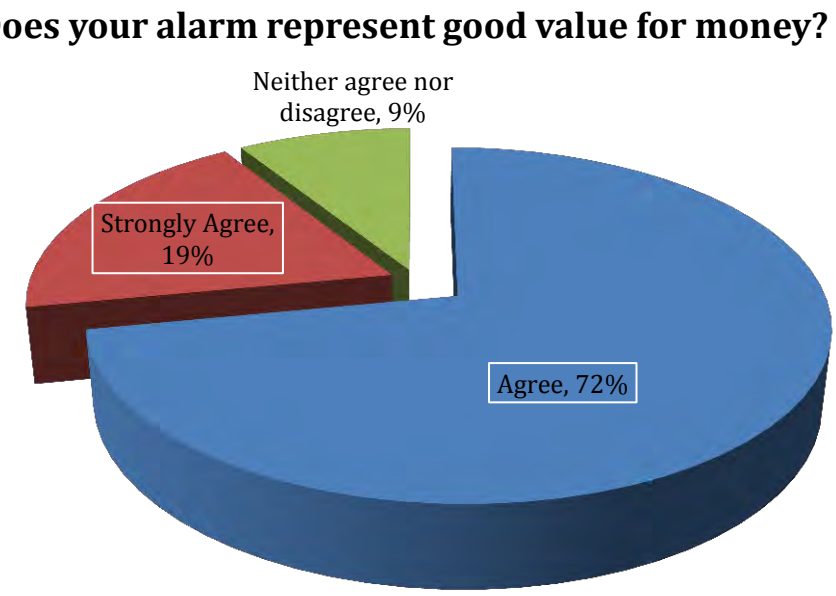
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	48	45.3	45.7	45.7
	Agree	56	52.8	53.3	99.0
	Neither Agree no Disagree	1	.9	1.0	100.0
	Total	105	99.1	100.0	
Missing	System	1	.9		
Total		106	100.0		

The above figures speak for themselves. 45.3% or 48 individuals strongly agree that their *Telehealthcare* system provides security and peace of mind. 52.8% or 56 individuals agree with the statement, while .9% or 1 individual neither agrees nor disagrees with the statement. According to Sassan (2013) having peace of mind has many benefits to older citizens including: freedom from stress (which can increase blood pressure and heart related issues), a sense of happiness and the ability to sleep soundly (which reduces the need for prescribed sleeping medication). Keeping people out of hospital, by reducing the time they're there when they have to be and by being

far more targeted and efficient with the use of NHS resources, we estimate the widespread use of *Telehealthcare* could save the NHS up to £1.2 Billion over two years (Burstow, 2012). This clearly addresses question two and three as identified in Chapter One; can *Telehealthcare* deliver enhanced business benefits to the health service, and what are the health benefits to the end user of *Telehealthcare* implementation.

Q11. Does Telehealthcare represent good value for money

Figure 4.11 Responses to question 11



Does your alarm represent good value for money?

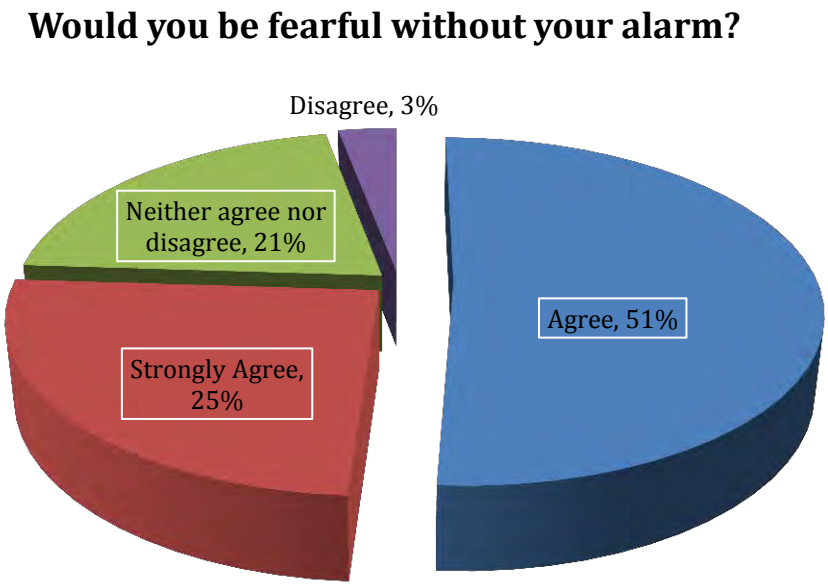
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	20	18.9	19.0	19.0
	Agree	76	71.7	72.4	91.4
	Neither Agree nor Disagree	9	8.5	8.6	100.0
	Total	105	99.1	100.0	
Missing	System	1	.9		
Total		106	100.0		

The annual 24 hour monitoring of the *Telehealthcare* systems cost in the region of €66. There are no grants currently available for the provision of monitoring services for Socially Monitored Alarm systems (Telecare). 18.9% or 20 individuals believe

that their *Telehealthcare* system represents good value for money. 71.7% or 76 individuals agree that the telehealthcare represents good value for money. However, 8.5% or 9 individuals neither agree nor disagree with the system. As identified, *Telehealthcare* is recognized as an alternative to institutionalization and many agencies see the cost benefits of this technology. According to Bluebird healthcare (2011) the average nursing home costs €1200 per week. Telehealthcare can provide many of the monitoring solutions to assist individuals retain their autonomy at a greatly reduced rate.

Q12. Dependency upon Alarm

Figure 4.12 Responses to Question 12



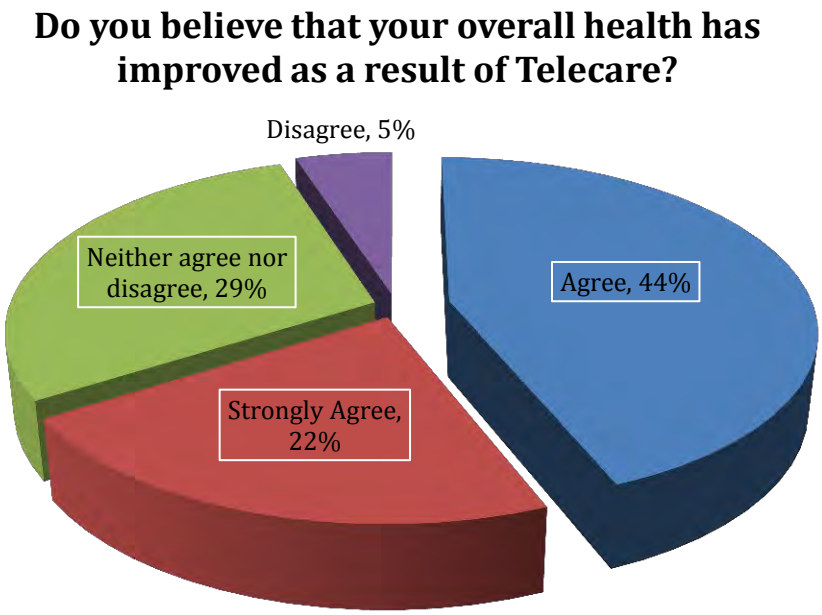
Would you be fearful without your alarm?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	26	24.5	24.8	24.8
	Agree	54	50.9	51.4	76.2
	Neither Agree nor Disagree	22	20.8	21.0	97.1
	Disagree	3	2.8	2.9	100.0
	Total	105	99.1	100.0	
Missing	System	1	.9		
Total		106	100.0		

Overall the sample population depends upon their system, 24.5% or 26 individuals strongly agree while 50.9% or 54 individuals agree that they would in fact live in fear without their *Telehealthcare* system. 20.8% or 22 individuals neither agree nor disagree while 2.8% or 3 individuals would not live in fear without the system. Another linkage to question three as identified in Chapter One. Aging citizens as a result of Telehealthcare, are not left to deal with medical/general emergencies by themselves thanks to *Telehealthcare*. We are enabling people to look after themselves and live more independently which is given them a better quality of life (Prosser, 2012).

Q13. Has Telehealthcare assisted in improving overall health?

Figure 4.13 Responses to Question 13



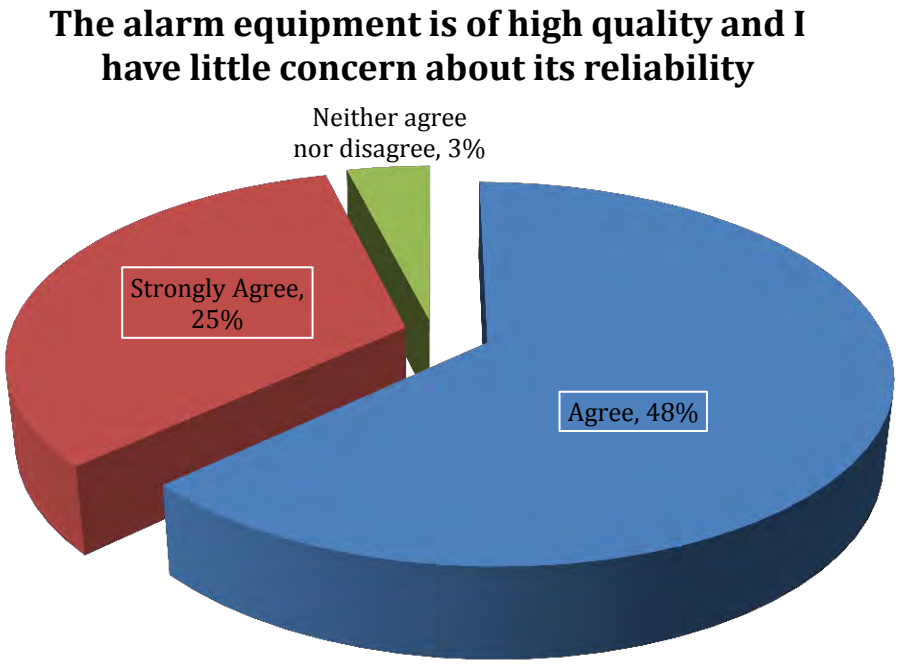
Do you believe that your overall health has improved as a result of Telecare?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	23	21.7	22.1	22.1
	Agree	46	43.4	44.2	66.3
	Neither Agree nor Disagree	30	28.3	28.8	95.2
	Disagree	5	4.7	4.8	100.0
	Total	104	98.1	100.0	
Missing	System	2	1.9		
Total		106	100.0		

21.7% or 23 individuals believe that their overall health has improved by having the specific form of *Telehealthcare* within their home. 43.4% or 46 individuals agree with the statement. 28.3% or 30 individuals neither agree nor disagree with the statement while 4.7% disagree. *Telehealthcare* systems are believed to provide peace of mind to individuals thus assisting in the reduction of stress related illnesses. Furthermore, the early alert of a health related issue could ultimately mean better recovery outcome for the patient. Another specific linkage to the overall health benefits to the end user of *Telehealthcare* and supporting Prosser (2012) stating that there are other visual benefits from *Telehealthcare* including reductions in unplanned consultations and hospital admissions.

Q14. Personal Feeling of Reliability

4.14 Responses to question 14



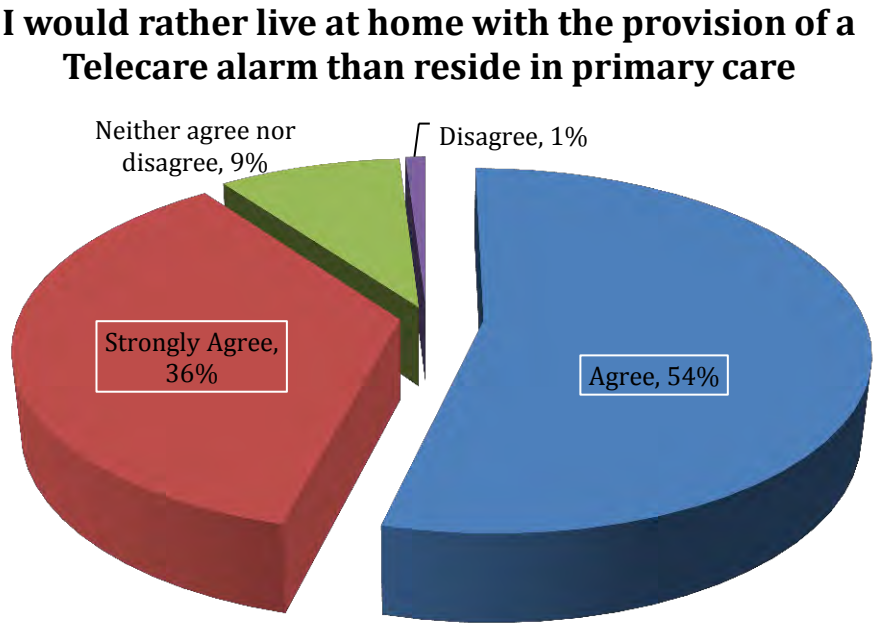
The alarm equipment is of high quality and I have little concern about its reliability

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	51	48.1	49.0	49.0
	Agree	50	47.2	48.1	97.1
	Neither Agree nor Disagree	3	2.8	2.9	100.0
	Total	104	98.1	100.0	
Missing	System	2	1.9		
Total		106	100.0		

It is clear from the above statement that the existing daily users of *Telehealthcare* have little doubt of the systems reliability and functionality.

Q15. Confidence in Telehealthcare

Figure 4.15 Responses to Question 15



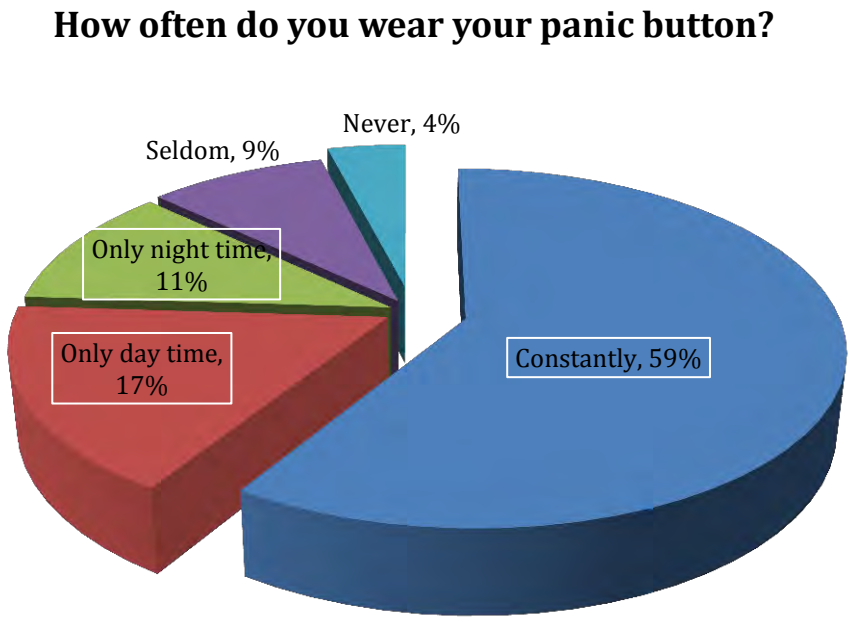
I would rather live at home with the provision of a Telecare alarm than reside in primary care

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	38	35.8	36.2	36.2
	Agree	57	53.8	54.3	90.5
	Neither Agree nor Disagree	9	8.5	8.6	99.0
	Disagree	1	.9	1.0	100.0
	Total	105	99.1	100.0	
Missing	System	1	.9		
Total		106	100.0		

The analysis revealed that the vast majority of *Telehealthcare* users would rather live within their current home environment with the provision of *Telehealthcare* technologies than reside within residential care settings. 35.8% or 38 individuals strongly agree with the above statement, 53.8% or 57 individuals agree with the statement while 8.5% or 9 individuals neither agree nor disagree. Unsurprisingly, one individual disagreed with the statement.

Q16. How often portable panic button is worn

Figure 4.16 Responses to Question 16



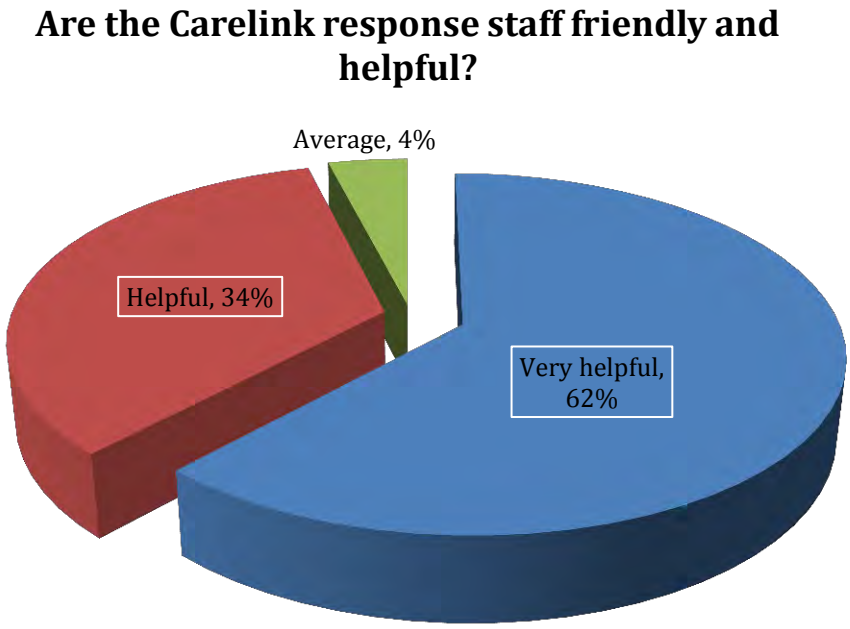
How often do you wear your panic button?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Constantly	62	58.5	59.0	59.0
	Only Day Time	18	17.0	17.1	76.2
	Only Nighttime	12	11.3	11.4	87.6
	Seldom	9	8.5	8.6	96.2
	Never	4	3.8	3.8	100.0
	Total	105	99.1	100.0	
Missing	System	1	.9		
Total		106	100.0		

As expected, responses reveal that the vast majority of individuals (58.5%) of individuals wear their panic buttons constantly. 17% only wear their panic button during the day, 11.3% only wear the panic button at night. 3.8% or 4 individuals never wear their panic buttons.

Q17. Satisfaction with service provided through Telehealthcare

Figure 4.17 Responses to Question 17



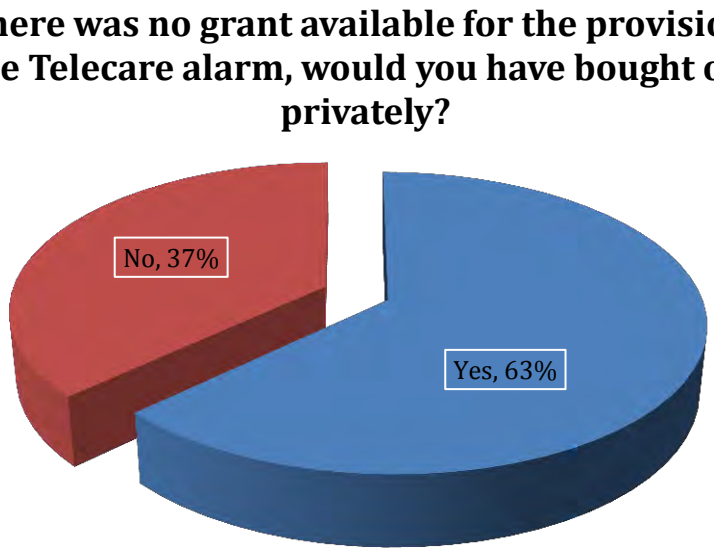
Are the Carelink response staff friendly and helpful?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Helpful	64	60.4	62.1	62.1
	Helpful	35	33.0	34.0	96.1
	Average	4	3.8	3.9	100.0
	Total	103	97.2	100.0	
Missing	System	3	2.8		
Total		106	100.0		

Analysis reveals a high level of customer satisfaction among respondents towards the service provided. In total 60.4% or 64 individuals find the *Telehealthcare* responders very helpful, 33% or 35 individuals find the responders helpful. 3.8% or 4 individuals believe that the service provided is average standard.

Q18. Likelihood of people purchasing telehealthcare if no grants were available

Figure 4.18 Responses to Question 18



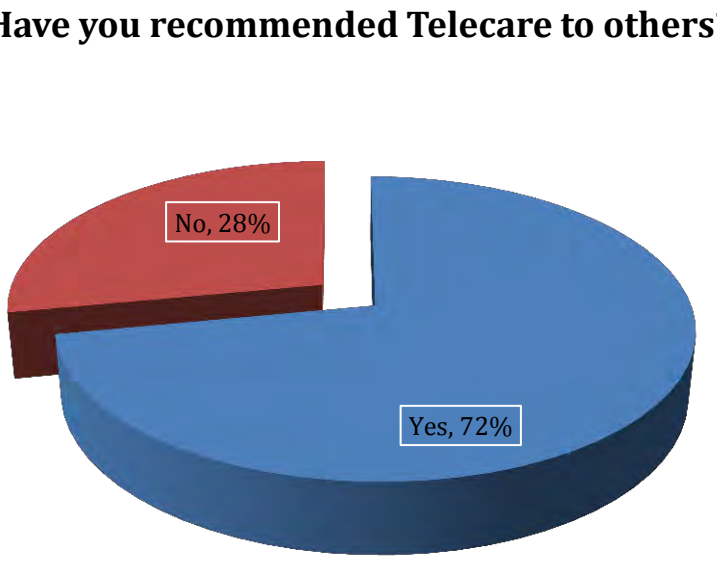
If there was no grant available for the provision of the Telecare alarm, would you have bought one privately?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	65	61.3	62.5	62.5
	No	39	36.8	37.5	100.0
	Total	104	98.1	100.0	
Missing	System	2	1.9		
Total		106	100.0		

The researcher was surprised that only 61.3% of individuals would actually purchase the systems privately in the event that there were no government grants available. It is interesting to note that due to the high dependency of the systems as seen in above questions, that this figure is in fact as low as it is.

Q19. Have existing Telehealthcare users recommended the service to others?

Figure 4.19 Responses to Question 19



Have you recommended Telecare to others?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	76	71.7	72.4	72.4
	No	29	27.4	27.6	100.0
	Total	105	99.1	100.0	
Missing	System	1	.9		
Total		106	100.0		

The majority of respondents (71.7%) were confident and satisfied with *Telehealthcare* product and services that they have already recommended the services to others. In a recent report conducted by the HSE, it was proposed that the organization further develop arrangements and facilities to support the deployment of *Telehealthcare* services to support dependent persons (Health Service Executive, 2011). To date, no such deployment of services have been conducted.

In conclusion, the quantitative questionnaire showed positive results for the use of technologies to keep people independent and safe within the home. The broad consensus of the 106 respondents was extremely positive towards the services to which they avail. Undoubtedly, the quantitative analysis supports question three in section 1.4 within Chapter One, *what are the health benefits to the end user as a result of Telehealthcare implementation?* This research clearly supports the findings of the qualitative research that was also overwhelmingly supportive of remote assistive technologies such as *Telehealthcare.* Measurement is an integral part of the strategy and as such must be an integral change process (Kaplan and Norton, 1993). The researcher would recommend that the *Department of Health* conduct their own survey on customer satisfaction with *Telehealthcare* as a motivator to embrace the technology.

Chapter 5: Conclusion and Recommendations

5.1 Conclusions

Strategic planning can help leaders and managers of public and non-profit organizations think, learn and act strategically (Bryson, 2008). It is evident that all organizations need to be proactive, responsive and responsible to survive on the knowledge era (Manikandan, 2010). At present, a major trigger of change within public sector organizations is the turbulence of recession and the need to anticipate and embrace change constructively and creatively (Baker, 2007). A number of forces including resistance to change, lack of strategic thinking and planning are contributing factors facing the health service in the coming years. Leadership and strategic thinking need to be embraced by the health service if operational difficulties are to be avoided. Real change cannot occur within a top management team to master, drive and implement change at a strategic and tactical level (Ancona and Nadler, 1989).

The qualitative research highlighted a number of barriers to strategic thinking in *Telehealthcare*. Health providers face the problem of trying to make decisions in situations where there is insufficient information and also where there is an overload of (often contradictory) information (Jones, 1995). Early data finding's reveal that the health service lacks leadership and is poorly managed and contains too much bureaucracy. The health service is also over managed and hung up on micromanagement and central command, which just doesn't work. It lacks leadership from the minister down (healthmanager.com). Furthermore, with the changing face of healthcare provision the clear need for a convergence of departments to effectively manage the health service going forward.

In the current investigation into strategic thinking within the health service, greater insight was obtained through McKinsey's 7's model. The model examined strategic management (strategy), change management (Skills), leadership and management (style), organizational behaviors (staff) as applied to the health service today.

Firstly, a clear strategy will ultimately position the health service for success going forward. At present, the general consensus would indicate that no such strategy currently exists and a continuation of the status quo will continue. There needs to be radial change within the health service as a whole, being proactive, responsive and responsible to survive in today's market (Grant, 2010). Furthermore, this supports Chandler's (2003) theory that, structure should always follow strategy.
It is evident from the qualitative data that the health service has no strategy in terms of health care provision alternatives, however the qualitative data indicates that the service does conduct its day-to-day operations reasonably well.

Change Management can be successfully implemented by embracing Morgan and Zeffane's (2003) concept that in order to avoid the negative consequences of change you need to involve employees in the organizational decision making process from the beginning. As identified from the qualitative data research, and in particular the responses to question six (*See Appendix 3 to 8*) the fear for change is clearly identified as a barrier to *Telehealthcare* implementation. The evidence would suggest that, possible vested interests on the part of certain individuals within the health service pose the greatest stumbling block. However further evidence would suggest that the concerns identified are in fact unfounded as *Telehealthcare* will create jobs and make existing positions function more efficient. To achieve this outcome, supporting Carter (2008) through a strategic approach to communication is an important element in the change process to reduce resistance, minimize uncertainty and increase stakeholder involvement and commitment. Furthermore, embracing and supporting the idea's of Ghosn (2002) that success cannot be gained through fundamental changes to the structures and operations, but rather, through the balancing of implementing change while protecting the identity of the organization and self-esteem of its employees.

Strategic thinking within the Irish health service will ultimately require effective leadership to assist in organizational change. A hierarchy who has vision and can embrace change for the overall good is ultimately required. It is overwhelmingly evident from both the qualitative and quantitative data collection that *Telehealthcare* is ultimately the way forward for many reasons. However, the lack of accountability has been identified within the management level of the health service and reluctance on the part of managers to make decisions. As identified by Thornhill (2012) Ireland

has been ranked the worst performing health services in the developed world. Leaders play a pivotal role in driving change and change should only commence once a clear vision and strategy is developed and communicated and comprehended the organization (Siegal and Stern, 2010). Leadership is often seen as a top-down approach, however in the information age, a leaders job is to inspire (Drucker, 1979) and effectively maintain a balance between a top-down approach and a bottom-up approach. Leaders should be selected for roles that embrace openness and are naturally born leaders rather than gaining a leadership position for other reasons. Butler and Rose (2011) suggest leaders are born and there is little organizations can do to develop effective leaders as highlighted in the trait approach. These are the caliber of individuals required for the Irish health service for drive strategic change forward and overcoming the challenges posed to the service as identified through data collection as seen in *Appendix 3 to 8.* Analysis of the qualitative and quantitative data analysis identifies a need to drive strategic thinking within the health service while respondents identify the need for senior management to improve the balance between top-down and bottom up approaches (Manikandan, 2010) while communicating horizontally with other departments to improve overall service performance.

Overcoming the barriers to change and formulating strategic direction also involves motivating and engaging organizational staff to cooperate and participate. As highlighted by Watson (2013) employees need the will, the sense of mission, the passion and the pride that motivates them to give the all-important discretionary effort. Clearly defining the future strategy of the health service through effective leadership should ultimately show the benefits of *Telehealthcare* for all stakeholders. There would appear to be a misconception when addressing the effects of *Telehealthcare* as identified in the qualitative data analysis. It has been identified that a possible loss of jobs or autonomy could transpire from the adaption of these new technologies, however this research aims to disprove this concept. Motivation is the cause of movement, the inspiration behind activity, the feeling within an individual that makes them want to achieve personal need or expectation (Butler and Rose, 2011). There is possibly a need to create incentives for early adapter clinicians before clear performance norms are available to manage sustainable delivery of scale (Cruickshank, 2012). To understand the motivation behind some clinician's behavior towards new technologies one can look to the various theories of motivation as

addresses in Chapter Two. In summary the content theories focus on the question, what initiates or stimulates behavior. Furthermore, the process theories seek to establish not only what people want from their work situations, but how they believe they can actually achieve it and what influences the process (Tiernan, Morley and Foley, 2006). The assumption could be made that clinicians, fearing the loss of control could be driven by individuals expectancy of a preferred outcome and the strength of the attractiveness of the outcome to the individual (Butler and Rose, 2011).

In a knowledge-based economy, where people are the primary determinant of organizational success, the extra effort of engaged employees is a vital asset, especially in lean organization's needing to do more with less (Hay Group, 2012). Through strategic thinking and effectively engaging employees within the health service should assist greater productivity as identified within the qualitative data analysis. Various qualitative data analysis have identified that *Telehealthcare* would allow clinicians work smarter, ultimately assisting them to have a greater impact. Analysis also has shown that many new positions would be created in the private health sector from the provision of telehealthcare technologies. This ultimately addresses the emotional and intellectual commitment of employees on their organization (Baumruk, 2004, Richmond, 2006 and Shaw, 2005). Highlighting the possible benefits of *Telehealthcare* technologies can create a sense of mission, passion and pride that motivates them to give the all-important discretionary effort (Watson, 2013). This discretionary effort will determine the success or failure of the care platform through technologies. The record shows that *Telehealthcare* technologies can greatly improve the quality of the health service and individuals lives. In order to provide the confidence needed for referrals into a Telehealth service, clinician engagement is essential- based around clear evidence of benefit to patient and disease groups (Cruickshank, 2012). This engagement process can educate and motivate clinicians and health professionals to embrace modern alternatives to health provision and ultimately defy the concept that engagement is one step from commitment (Robinson, 2004).

It is clear from the analysis of the qualitative and quantitative data that *Telehealthcare* may prove to be an effective cost effective alternative to current health care practices.

However, supporting the Hull University finding's there is without doubt issues that need to be addressed when dealing with change management within the health service. Resistance and barriers to change from traditional health practices are clearly evident and the current economic climate may well irritate these concerns further. Through effective communication and engagement from suppliers of such technologies can highlight the all-round benefits to all involved stakeholders of Telehealthcare. Health care professionals in many quarters understand and acknowledge the merits of the technologies as identified in interview one (*See Appendix 3*) who acknowledges that strategic thinking in *Telehealthcare* is a win-win for those involved.

The qualitative data analysis shows beyond reasonable doubt that current users of *Telehealthcare* are overall satisfied, comfortable and confident with the technologies. While addressing question three in chapter one, what are the health benefits to the end user as a result of *Telehealthcare* implementation? the researcher believes that the quantitative data analysis from a patient's/end user point of view shows many benefits to the client. These benefits ultimately keep people in the home environment longer, reduces the number of unnecessary ambulance callouts and assists in reducing the numbers of people entering the A&E departments. This onset directly addresses question two in chapter one, can *Telehealthcare* deliver enhanced business benefits to the health service? In summary, strategic thinking in *Telehealthcare* can ultimately save the health service many millions of euros annually while making the service operate more effectively and efficiently.

Finally, when addressing the hypothesis pertaining to the study it was clearly evident that, strategic thinking in *Telehealthcare* need's to be driven by senior health service management, effective communication vertically and horizontally within the organization is critical to assist viable alternatives to health practices prevailing. In essence, the research revealed that a broad discussion is required within the health service, which will lead to the long-term success of the organization going forward.

5.1.2 Limitations of the Research

There are a number of limitations to note when discussing this research:

1. The study was carried out from a top management level across the specific agencies and responses may be somewhat different the closer you go to the front line.
2. The interview process included two individuals from a specific health department, both initially agreed to partake in the research. However, both individuals stalled the researcher before indicating that their preference was not to partake in the research following the thought process. Incidentally, the department that they represent is mentioned from several quarters in the qualitative analysis as being opposed to *Telehealthcare* implementation.
3. Finally, the timeframe was a limitation for the research; this ultimately meant that the researcher could not replace the two individuals who cancelled the opportunity to provide an interview.

5.2 Recommendations

The researcher recommends that the following recommendations be considered by the Irish health service:

1. To develop a strategic plan to overcome the financial and demographic challenges facing the health service in the coming years
2. To create a proactive approach to the new strategy, managing change and engagement of staff
3. The health service should look at proven alternatives to improving the lives of citizens

5.2.1 Recommendation One

It is recommended that the health service devise a formal plan to implement *Telehealthcare* as an integral part of the health service going forward. Supporting Chandler (1963) that strategy is the determination of long-run goals and objectives of an organization and the allocation of resources necessary for carrying out these goals. In order to successfully implement this strategy, the health service will be required to address the issues as identified in the Qualitative analysis section (*Section 5.2*). Firstly, the various departments in the health service will be required to operate in greater co-operation with a shared vision. The qualitative research highlighted that the system is currently very disjointed, with similar department's attempting to conduct similar objectives but unaware of what other health professionals are doing in the health arena.

Strategic thinking and implementation in areas such as *Telehealthcare* can deliver enhanced business benefits to the public sector as seen with the United States Veteran's Association. Unfortunately, for such a strategy to work successfully senior management within the Irish health service will be required to make effective leadership decisions. The research has shown that the system is currently full of bureaucracy and many senior decision makers refuse to ensure accountability within the service.

At present, the evidence would suggest that there is no clear plan in place to deal with people leaving hospitals to return to the home environment. The data analysis would clearly show that the only effective way to manage patient's conditions from the home environment is through remote technologies such as *Telehealthcare*. The benefits of such a strategy as a possible solution to easing the strain on the health service and furthermore deliver enhanced business benefits have been identified by the Government of Saskatchewan. They state on their health website (www.health.gov.sk.ca) that *Telehealthcare* can:

- Reduce costs without impacting patient care
- Increase productivity with limited resources
- Helps attract and maintain medical services in rural areas
- Reduces travel budgets of health care providers

Undoubtedly strategic thinking in *Telehealthcare* can ultimately deliver enhanced business benefits to the health service and related areas, providing government, legislators and health professionals devise a strategic plan going forward.

5.2.2 Recommendation Two:

While investigating the barriers to *Telehealthcare* implementation, it became evident immediately that strong resistance to the technology was present and is supported by the University of Hull findings and reinforced by the qualitative findings within this report. Understandably, the current economic situation has heighted health professionals fear of job losses, remuneration reductions etc.

However, through the development of an effective strategy (Recommendation One) the benefits of Telehealthcare can be clearly communicated to all within the health service. Through the effective testing of the McKinsey model (As identified in Chapter two) the merits of the proposed technologies will be evident to all health professionals. It is important for the health service to move with the times and embrace new technologies as a counter measure to the aging demographics of the country and irritated by the reduced health budgets as highlighted in chapter one. Heraclitus once noted that the only constant in life is change itself (Siegal and Stearn, 2010). Inevitably the same will apply to the health service. The recommendation is clear, through an effective strategy on *Telehealthcare*, effective accountable leadership, clear communication and engagement all shareholders within the health arena, the benefits of technology to the health service itself will prevail. Furthermore, this can also assist in a happier and healthier patient (see quantitative analysis). Addressing the highlighted issues will assist in overcoming the obstacles to *Telehealthcare* implementation as identified in chapter one.

5.2.3 Recommendation Three:

In order to address the health benefits to the end user as a result of *Telehealthcare* implementation as identified in chapter one, proven examples of where *Telehealthcare* has worked successfully should be considered.

The most notable example of successful *Telehealthcare* implementation is the Veterans Health Administration in the United States. In 2011 over 50,000 patients received *Telehealthcare* services and this number is growing substantially year on year (Cruickshank, 2012). There are many other examples of where *Telehealthcare* is a successful part of the National Health Service. Unfortunately, in order for telehealthcare to even be considered by the health service the processes within this report need to be addressed. However, following this research there is also an onus on Telehealthcare providers to market and sell the concepts of technologies to health professionals. This was identified in the qualitative data analysis as being an area of contention within the health service when addressing health provision alternatives. The qualitative interviews also highlighted the question of who should pay for the provision of telehealthcare if it were implemented. Interestingly, all seven interviewees gave a similar answer, ultimately the Department of Health and the patients themselves. A recommendation proposed from Cruickshank (2012) proposes to the NHS that funding should be addressed through sustainable reimbursement policies, particularly with revisions to tariff. A similar concept would also be recommended for Ireland. One proposal within the qualitative analysis section identifies reimbursement to the client, in a similar way to the fuel allowance for older people.

It is the opinion of the researcher that whatever the consensus will be when dealing with *Telehealthcare* implementation, change will not come easily. However a final proposal would involve the investigation of Beckard's (1969) change model. The model addresses three factors:

- Dissatisfaction with the current situation
- A vision of what is possible
- The first steps that can be taken to achieve that vision

If the combined product of these factors is greater than the potential for resistance to change, then change is more likely to happen. It is the opinion of the researcher that the proposed recommendations will greatly add value to the health service in a very short period of time if they are embraced.

As one interviewee commented,

*'Telehealthcare, I see it being if you like, **In Internet Terms** the next Google'.*

5.3 Researcher's Concluding Statement

The researcher believes that this research has addressed the objectives of the study as identified in Chapter 1. In summary:

1. The investigation of strategic thinking on the chosen topic through the testing of McKinsey's model as a facilitator to overcome the barriers to *Telehealthcare* implementation (research question 1, chapter 1, section 1.5) has been achieved through the presentation of literature review in Chapter 2.

2. Presentation of qualitative data collection summarized in chapter 4 and attached in appendices three through to nine, the feeling of health professionals on the three research questions as addressed in chapter 1, section 1.5. This section is designed to address research questions two and three in section 1.5.

3. A presentation of quantitative data has been collected and summarized in Chapter 4. This summary is designed to establish the general feelings of existing *Telehealthcare* users towards the technology. The outcome of this research has been overwhelmingly positive, highlighting some of the health benefits of *Telehealthcare* implementation to the end user (patient). Furthermore supporting the research question three, section 1.5.

4. The research findings illustrate the many benefits of *Telehealthcare* implementation on both the health service, in relation to providing a better standard of care to the patent while achieving impressive cost savings in the process, and furthermore assisting the improvement of patients' lives through technology.

5. The recommendations proposed are based on the research question, supporting the qualitative and quantitative data collection, and linked to the literature review as presented in chapter 5.

Chapter 6: Self Reflection

"Your time is limited; so don't waste it living someone else's life. Don't be trapped by dogma – which is living with the results of other people's thinking. Don't let the noise of others' opinions drown out your own inner voice. And most important, have the courage to follow your heart and intuition. They already know what you truly want to become. Everything else is secondary" (Steve Jobs)

6.1 Introduction

This section of the study will conceptualize the reasoning behind the decision to undertake the MBA in Executive Leadership. I work for a family owned business operating in the field of *Telehealthcare*. The company established by my father in 1974 has grown dramatically over the last three decades, and this growth has posed many unique opportunities and challenges. With this expansion, opportunities for the author became available at a senior level of management within the company, which involved future business strategy, business development, and management.

Having completed a BA (Hons) at Dublin Business School in 2011 I felt the need and desire to continue the learning experience and develop my skills further. The decision to undertake the Executive MBA resulted in my ability to face the fear of the unknown associated with conducting an MBA. However, I knew that the benefits of having a high level award such as an MBA would stand to me and enhance my career path and direction. I believe that I am now more confident and my abilities to deliver have improved immensely. I am a key spokesperson for the organization I work for and have addressed past and present Taoiseach, government ministers and high ranking civil servants, a task that before now would not have rested easily with me. This is a direct result of my participation in the Executive MBA and the skills and knowledge obtained on my journey.

This journey that begun in October 2011 has without doubt been rewarding and exciting. It too has been demanding especially when holding down a full-time job and compromising time with family and friends. I constantly remind my self of the well-

known saying that *'if there is no pain, then there can be no gain'*. This idea has acted as a motivator and driver throughout my journey.

6.2 Learning Style

"We now accept the fact that learning is a lifelong process of keeping abreast of change. And the most pressing task is to teach people how to learn" (Drucker 1977)

During the MBA various learning style tests were carried out to establish individuals personalities and various learning styles. In particular the effective people management module gave participants the opportunity to carry out the Myers Briggs personality test. The test established the researcher's personality type was ENTJ (extraversion, intuition, thinking, judgment). In summary this personality type make good natural born leaders, are career focused and are generally tireless in their efforts. The ENTJ personality is known for being extremely direct and straightforward and is verbally fluent. This epitomizes the character of the researcher and possibly explains my reasoning and motivations behind the MBA participation.

The ENTJ personality also poses a number of negative traits, which others around them may find frustrating. Their enthusiasm and passion towards issues they believe in can make them appear argumentative. At times the ENTJ can appear to be challenging and confrontational who engage in "win-lose" conversations. Furthermore the ENTJ personality cannot tolerate inefficiencies and appear obnoxious towards those who they perceive as lazy or incompetent.

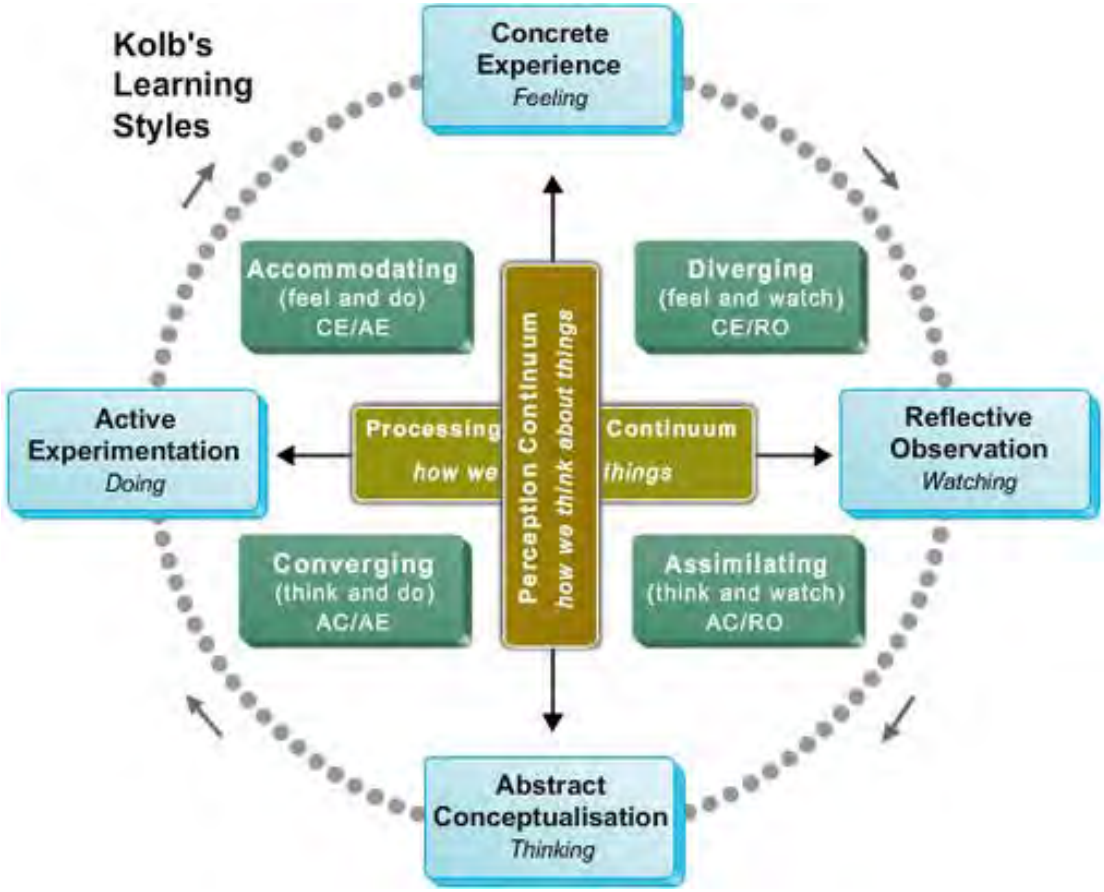
It is important to note that the ENTJ personality is one of the most rare personality types within the population. According to truity.com ENTJ's make up only 2% of the population, 3% of men and 1% of women. Interestingly some famous ENTJs include, Napoleon (General emperor of France), Julius Caesar (Dictator of Rome), Margaret Thatcher (UK Prime Minister) and Bill Gates (Microsoft Founder).

The completion of the MBA could only be achieved through the finalization of this detailed dissertation. This idea brought a level of fear and anguish and a general

concern of not getting across the line, however this prompted the researcher to carry on and achieve the best possible results and therefore sum up the specific personality as identified by Myers Briggs.

The researcher's learning style is important to understand when discussing the MBA journey and the research document. Kolb (1984) developed the learning theory model and a later model by Honey and Mumford (1986) was developed as somewhat evolved version of Kolb's model. Kolb's 'cycle of learning' outlines four specific learning styles with four stages of the learning cycle. The four-stage cycle include concrete experience (CE), reflective observation (RO), Abstract Conceptualization (AC) and active experimentation (AE). These four stages converge with the experimental learning which is defined as diverging (CE/RO), Assimilating (AC/RO), converging (AC/AE) and accommodating (CE/AE).

Figure 6.2.1. Kolb's Learning Cycle

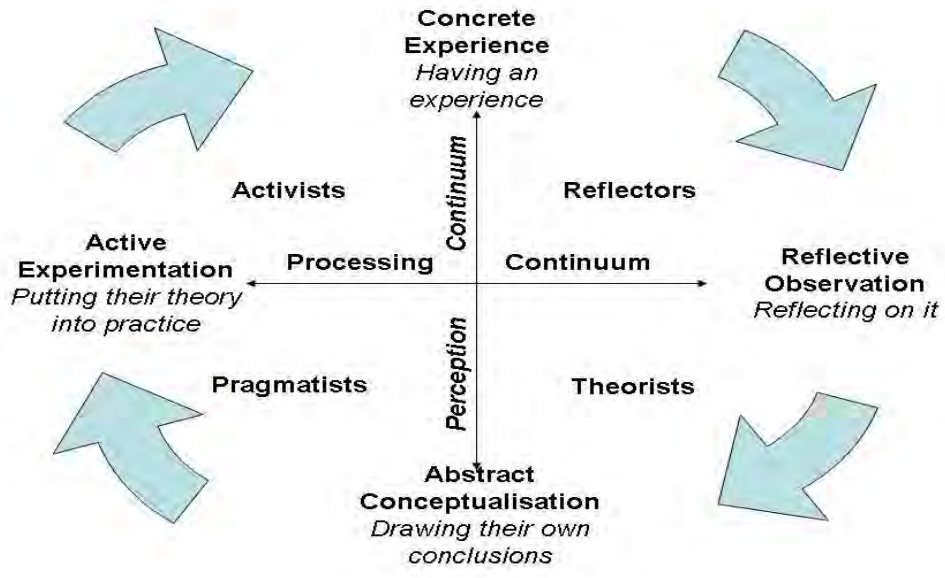


Following the completion of the Kolb test the researcher discovered that their unique learning style was that of a diverging nature (feeling and watching- CE/RO). This

outcome would be supported by the researcher and believes that viewing situations from different perspectives is always beneficial. When the researcher undertook the MBA a fellow classmate and friend from the BA degree undertook the course also. This individual and the researcher always had a good working relationship in-group projects and dynamics were always present when we undertook projects together. A major factor in our joint success was our ability to brainstorm and develop genuine ideas and exclude ideas and options that we felt was unbeneficial thus supporting the outcome of the Kolb test.

Honey and Mumford have identified four key areas of learning styles, *activist* (people who enjoy being involved in new experiences and ideas), *theorist* (those who adapt observations into logical theories), *pragmatist* (those who are eager to try things out and apply concepts to their job), and finally the *reflector* (individuals who view situations from many perspectives). Honey and Mumford (1986) have developed a learning style questionnaire to assist respondents to determine their preferred learning style.

Figure 6.2.2. Honey and Mumford's (1986) learning style



Adapted from Child (2010)

The researcher has been identified by Honey and Mumford's questionnaire as a strong Pragmatist and Activist. This result shows a close correlation with the Kolb learning cycle test that identified the researcher as a watcher and thinker. Strong activists again

enjoy brainstorming problem solving and group discussion. It is the belief of the researcher that these traits allow the best in people to flourish and to be successful. In a working environment where the researcher currently holds a senior management position, the MBA has taught the researcher to embrace information from all ranks of the organization, especially front line staff who sometimes know exactly where the company may be waning or general improvement may be required. The Honey and Mumford (1986) learning styles further identified the researcher as a very strong pragmatist. The commencement of this particular piece of research affirms this outcome as much time was required as to how exactly the research would be developed in a coherent and logical manner. Pragmatists also enjoy discussion and this is somewhat befitting to the area of *Telehealthcare* implementation where discussion on this topic is limited and in some areas non-existent.

6.3 Application of Learning

"Learning has happened when people can demonstrate that they know something that they did not know before" (Honey and Mumford 1996)

The application of knowledge attained during the Executive MBA program has undoubtedly assisted in the researchers ability to make tough decisions for the overall good and sometimes personal self-interests. As mentioned, the MBA program was undertaken with a fellow colleague from BA degree in Dublin Business School that was completed previously. The researcher and a colleague formed an understanding of how to successfully manage group assignments. We both had the experience during the degree of working with people that would not pull their weight when it came to assignments hoping others would carry the work load on their behalf. It is vitally important that when carrying out part time study especially, that your team members are committed team players and are willing to invest in the necessary time to achieve the best results possible. Coincidentally the first group assignment of the MBA resulted in the researcher and his colleague being paired together by the lecturer. This gave both of us the opportunity to see how various individuals performed in groups. Two particular individuals were identified as 'poor team players' when it came to group assignments leaving the workload to other individuals. The researcher and his

colleague continued to work together despite criticism from other class members and especially those identified as poor team players. This approach may well have been motivated by our own self-interests but the financial cost to conducting the MBA is considerably expensive and neither could afford not to succeed first time.
This supports the researchers personality type (ENTJ) as identified by Myers Briggs who states that these personalities are blunt and decisive and are driven to get things done. Furthermore, the decision to take charge for the overall good of the MBA program without the concern of possibly offending individuals along the way came naturally to the individuals involved, who coincidentally share a similar personality type. The Myers Briggs findings support the Honey and Mumford personalities who identified the researcher as being a pragmatist. Merriam-Webster.com has identified pragmatists as individuals who emphasize the practical function of knowledge for adapting to reality and controlling it.

This approach saw both participants achieve mostly marks above 68% throughout the MBA journey and the applied learning techniques proved essential. An example of applying the learning of the course to how the researcher handled the above situation resonates back to night one of the MBA course and a message given by the lecturer on that evening that will possibly stay with the researcher for the rest of his life. Explaining the MBA program and the learning benefits of conducting such a course, lecturer Mr. Shay Lynch said that '*no matter what you learn in our MBA or indeed your career, at the end of the day you should always firstly ask, what is your gut telling you? Your gut feeling is seldom wrong'*. Each time the researcher has encountered difficulties or uncertainty about how to apply the learning; he would always stop for a moment and ask the question. To date this question has not let the researcher down in an educational, work or personal life setting and further more supports Honey and Mumford's (1996) theory on learning from the researchers experience.

6.4 Learning: Strengths and Skill Development

This section identifies key strengths and skills obtained from undertaking the Executive MBA at DBS. Many of these skills are applied to personal and professional work goals. From this standpoint, the researcher will outline three specific skill sets acquired and developed throughout the MBA journey:

6.5 People Management

Due to the researcher's senior position within his organization and regular high-level public events a level of professionalism and people management skills are vital. The researcher has gained invaluable experience in this regard both with the organization's employees and clients. The understanding gained from the Executive MBA on areas such as Strategic Management, Effective People Management, Operations Management etc. as a competitive advantage has been a value adding experience in the area of leadership, therefore equipping the researcher with the skills and knowledge to actively assist in driving the business forward.

6.6 Inter-Personal Skills

Holding a management position within a company requires effective inter-personal skills including the ability to influence, motivate and listen to employees and clients in an effective manner. The small group setting within the Executive MBA at DBS allows individuals to develop these skills in a safe comfortable environment where the only criticism is constructive. The next aspiration of the researcher surrounds the research findings relating to this document. It is hoped that the ability to influence and motivate Health Professionals on the area of *Telehealthcare* will be successful. The researcher's vision is that *Telehealthcare* will be core to an efficient and effective health service going forward. The desire of the researcher to highlight such ideas and proposals relating to this research is summed up by Oliver Wendall Holmes who once noted that *"a moment's insight is sometimes worth a life's experience'*.

6.7 Further Learning

"The ultimate measure of a man is not where he stands in moments of comfort, but where he stands at times of challenge and controversy" (Martin Luther King, Jr.)

A significant factor that influenced the researcher under take the MBA at DBS was the need to develop the core skills and competencies required to achieve high standards and professional excellence. The desire to developing a greater understanding of business strategy through the application of my research is befitting to my personal and working life. My ongoing research will investigate and further examine the results of this thesis within a strategic and leadership field especially when dealing with the area of *Telehealthcare*. This is imperative as the area addressed is the field of expertise that the researcher is currently employed.

Through the completion of this chapter the researcher has demonstrated a personal commitment to utilizing the learning, while developing a self-reflective ability to aspire to new and professional visions aided through the implementation of a personal strategy (Poister, 2010). There is absolutely no doubt about the positive outcomes of the MBA program for the researcher. The course has highlighted the personal strengths of the researcher and brought to the fore areas of weakness that, through patience and nurture will emerge. The ability to think, act and execute strategies accurately has enhanced the confidence of the researcher. It is a necessary trait to have especially in the business world where the environment is constantly changing and where leaders and managers need to move and change accordingly.

In conclusion, the researcher is highly confident that the MBA has without doubt added value to him as a person and ultimately to further academic studies and career progression.

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Appendix 1: Quantitative Survey

	Your Personal Details					
1	Are You	Male	Female			
2	What Age Are You?	<65 65-74 75-84 85+				
3	Was the Telecare System Provided through a Government Grant Scheme?	Yes	No			
4	Number of years with system	< 1 2-4 5-7 8+				
5	Do You Live Alone	Yes	NO			
6.	Do You use the Alarm	Yes	No			
7.	Have you used your alarm in an emergency Situation?	Yes	No			
8.	Were the emergency services contacted from the Panic Alarm?	Yes	No			
9.	If the alarm has been used to contact the emergency services was it in the last	12 Months 1 –2 Years 3 -5 Years				
	Your Feedback					
10.	Your Telecare alarm Provides security & piece of mind?	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree

11.	Does your alarm represent good value for money?	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
12.	Would you be fearful to live alone without your alarm?	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
13.	Do You believe that your overall health has improved as a result of Telecare? I.E reduced stress levels, better medication management etc.?					
14.	The alarm equipment is of high quality and I have little concern about its reliability	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
15.	I would rather live independently at home with the provision of a Telecare alarm than reside in primary care?	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
	Other General Questions					
16.	How often do you wear your panic button?	Constantly	Only Daytime	Only Nigh-time	Seldom	Never
17.	Is the Carelink response staff friendly and helpful?	Very Helpful	Helpful	Average	Below Average	Unhelpful
18.	If there was no grant available for the provision of the Telecare alarm, would you have bought one privately	Yes	No			
19.	Have you recommended Telecare to others?	Yes	No			

Appendix 2: Qualitative Interview

1. What is your general feeling towards the Health Service today, and can you identify any threats facing the system in the coming years

2. What in your opinion is needed to improve the efficiency or effectiveness of the service in the medium term?

3. Do you believe that Telehealthcare is a suitable, feasible or acceptable method of providing a quality health service from individual's homes?

4. Do you believe that an individual's wellbeing would be compromised from the use of Telehealthcare, or could Telehealthcare assist in improving the quality of people's lives.

5. In your opinion, if Telehealthcare is not a suitable method of avoiding institutionalization as a cost-effective alternative to some cases, what do you believe would suffice as a suitable alternative if any?

6. Why is Telehealthcare not embraced by the health service in Ireland today?

7. Can you identify what the barriers may be and from whom, when dealing with Telehealthcare implementation?

8. Would the provision of Telehealthcare create, or reduce the number of clinicians required in the system?

9. Would you trust and have confidence in telehealthcare technologies to effectively manage patient's conditions? If not please explain you answer?

10. Do you believe that telehealthcare can deliver enhanced business benefits to public sector organizations?

11. Who should be liable to pay for the provision Telehealthcare?

Appendix 3: Interview One

1. **What is your general feeling towards the Health Service today, and can you identify any threats facing the system in the coming years?**

   Well let's identify the threats as identified by 60 community groups that we carried out research with which was a face to face interview with 60 community groups representing 60-80,000 people down the south east. And we asked the three most important issues that need to be addressed in Irish society as of this time three years ago. And when we collated that data the first identified need which was way ahead of anything else in those communities was the desire for older people to be able to stay as long as possible in their own homes. So it was to promote independent living for older people. And when we look at the statistics we find that 11.8% of the population are 65 and over, based upon the last census, and that when we get into the rural areas that can be as high as 18-20% and we know we have an aging demographic and we know it's only going in one direction.

2. **What in your opinion is needed to improve the efficiency or effectiveness of the service in the medium term?**

   It's a partnership and for a partnership to work you need to have equality on both side. So there's little point in having an equality of expectation on behalf of the older citizen, that they, where they really want to be in their own homes, were they will be able, by measures being put in place in their own home, means their home is safer and means that they can live longer. You know, it could be it could be embracing new technology with regard to minimizing trips and falls, common sense things that make a real difference to people. And then the other side of that partnership is to save the State an immeasurable amount of money. But its and unequal partnership, in that I don't' believe that there is enough active listening by the statutory agencies of the needs of older people and that aging demographic.

3. **Do you believe that Telehealthcare is a suitable, feasible or acceptable method of providing a quality health service from individual's homes?**

   Yes it is. It is because it makes sense. It's a common sense approach and getting back to what I said earlier, the desire of the sense of place where people have, what they value, what improves their spirit. We have seen this, there is research to show that if older people can stay in their own home for as long as possible that they need less medication, and that's another saving to state. So, so yes

4. **Do you believe that an individual's well being would be compromised from the use of Telehealthcare, or will it be used to assist in improving the quality of people's lives?**

   Again I think this is about effective communication. But let's assume that there is effective communication to the benefits of the products that are now available as we embrace the new technology that is coming on, at quite an accelerated rate. Once that's explained to the benefits to the older persons and their family it can only be a win-win.

5. **In your opinion, if Telehealthcare is not a suitable method of avoiding institutionalization as a cost-effective alternative to some cases, what do you believe would suffice as a suitable alternative if any?**

   Well the alternative if any is going to have the potential to do two things. Place an undue burden on family members to be physically there in the home supporting the older person. And regardless of our age we all like to be independent. So just because somebody reaches a certain age, doesn't mean they don't prefer their independence. Very often they do. So by having what is available in the form of Telecare, allows them to be independent and offers peace of mind not just to them but to the family members as well, who in the present economic climate, don't have a choice, but they need to work.

6. **Why is Telehealthcare not embraced by the health service in Ireland today in your opinion?**

I believe that a cost benefit evaluation, that a proper cost benefit evaluation, has not been put in place. Because if it were examined, they would be able to see the benefits of those products in Telehealthcare. We know that people 23% I think 23% of people over the age of 65 will fall at least once a year. Eh a working out on our population, if we can save through Telehealthcare, 10% of those from falling and breaking the hip, we are moving into saving millions of pounds. And those are measureable. So the cost benefits analysis has not been carried out for whatever reason. I think the problem is there's not enough joined up thinking between the relevant Government agencies and Departments that are purporting to support older people

7. **Can you identify what the barriers may be and from whom, when dealing with Telehealthcare implementation or similar projects?**

Okay, I think the challenge is this. If we can have a proactive approach to the needs of older people rather than a reactive approach. But what we tend to do is try to block the tide when there is a huge problem with older people going into hospitals because they've broken the hip. A preventative health care programme, a preventative outpatient's healthcare programme, should be put in place embracing the benefits of Telehealthcare along with other similar benefits in a proactive way will mean that you won't have the increased waiting lists in hospitals breaking the hip all of that. So it needs to be proactive rather than reactive and we don't have that model at present. And we need it.

8. **Would the provision of Telehealthcare create, or reduce the number of clinicians required in the system?**

   Em I spoke to a doctor who's involved in inspection of nursing homes and she made the point to me that if we could have preventative outpatient approach in place embracing the technology that you are talking about, that it would not alone significantly reduce hospital admissions, but also significantly reduce the older people who need to go in to the private and public long term care units. And that was coming from a healthcare profession within the system of the HSE.

   Interviewer do you think jobs would be lost or would they be created from the clinician's point of view?

   Interviewee they certainly would be created because we see one of the biggest growth, (company name removed) is with organisations in the private sector who are coming together and putting in place employment opportunities for people who can go into the community and be able to work X number of hours to meet the needs of older people in their own homes. And as they're health challenges increase or the number of hours increase and therefore the employment opportunities increase. So it's a no brainer to say that you're not alone going to sustain the present jobs but also increase into the future.

9. **This is a replication question to some point, but would you trust and have confidence in telehealthcare technologies to effectively manage patient's conditions? If not please explain you answer?**

   Well in the Telecare technology that (company name removed) has experience of over the last 7 or 8 years and to see how it's growing very very fast in terms of increased technology, we see it as a win-win

10. **You probably answered this already, but do you believe that telehealthcare can deliver enhanced business benefits to public sector organizations?**

I suppose I will qualify the healthcare, eh the potential to the healthcare sector by staying I would like an evaluation of the companies who are advertising the products in the healthcare that proper vetting of them. That products are of a quality that will meet the needs, that there's no questionability of the quality of products. So I think, I am not talking about regulation, but I think there needs to be a system ensuring that the people providing these products are providing quality products, so if that's assuming that that's the case the… what was the question again sorry now.

11. **Interviewer do you believe that Telehealthcare can deliver enhanced business benefits to public sector organizations?**

Interviewee Yes I absolutely do absolutely

12. **Who should be liable to pay for the provision Telehealthcare if it is rolled out?**

Well I think we should be able to look at the measurable saving outcomes as this is introduced. And as it is introduced we can see measurable savings outcomes. So a percentage and portion of that should be going in to grant aid products that are going to save the State measurable amounts of money in their budget and therefore the State should support that in the form of a grant in the future, because it isn't work

Interviewer so maybe the health service?

Interviewee yea

Appendix 4: Interview Two

1. **What is your general feeling towards the Health Service today, and can you identify any threats facing the system in the coming years?**

   In my opinion it's poorly managed, there's too much bureaucracy. No clear direction where it's going. There's not enough emphasis on the reason why it operates, by this I mean emphasis should be on the patient, less administration, and less involvement in areas not directly involved in health. And with the current financial situation being so poor and the future outlook is so bleak, then the emphasis will have to be given to savings in the Health Service, it it's not to implode. At present it's just not fit for purpose.

2. **What in your opinion is needed to improve the efficiency or effectiveness of the service in the medium term?**

   Well they have to go at reducing staff number, and again by this I mean administration, less management and a greater use of private sector involvement in running non-core medical areas.

3. **Do you believe that Telehealthcare is a suitable, feasible or acceptable method of providing a quality health service from individual's homes?**

   Yes, Telehealthcare in the home is the future. This service offers greater efficiency and delivery of services. It frees up the over-crowding in hospitals, doctors surgeries, clinics, whatever, etc. Not to mention the huge savings that would be achieved by not having to incur costs associated with the provision of ambulances, taxis etc. used in the transportation of patients back and forth for routine tests. Less patient visits to hospital, less likelihood of spreading and contracting diseases, and easing the strain on the hospital staff.

4. **Do you believe that an individual's wellbeing would be compromised from the use of Telehealthcare, or could Telehealthcare assist in improving the quality of people's lives?**

No not at all, quite the opposite. Facilitating the client to have time resources more effectively used by educating the patient to measure their own parameters, especially those with long term conditions, this would enable health care professionals to identify even gradual changes in patient conditions, so that the treatment can be modified to prevent serious health complications.

5. **In your opinion, if Telehealthcare is not a suitable method of avoiding institutionalization as a cost-effective alternative to some cases, what do you believe would suffice as a suitable alternative if any?**

With the aging population going forward we just have no alternative. The system is just becoming more inefficient, changes just have to be implemented.

6. **Why is Telehealthcare not embraced by the health service in Ireland today?**

Well anything new is not accepted easily

Interviewer Fear of change?

Interviewee Yep absolutely. Telehealthcare is no exception. Resistance comes in many ways. Doctors and nurses feeling wrongly that they may be losing control over their area of expertise, or losing control to the private sector. It's all vested interest.

7. **Can you identify what the barriers may be and from whom, when dealing with Telehealthcare implementation?**

Well it's all about trying to bring together the vested interests doctors, nurses, administration, Government bodies, legal profession, Telehealthcare companies, etc. and it's about getting agreement. Singing off the same hymn sheet, to drive this forward, to bring better health care to the patient, and greater savings to the health service.

8. **Would the provision of Telehealthcare create, or reduce the number of clinicians required in the system?**

   Telehealthcare would certainly increase the number of health professionals working in this area. It would create many new jobs in the private sector, and for medical personnel it would ease the burden on the Health Service.

9. **Would you trust and have confidence in telehealthcare technologies to effectively manage patient's conditions? If not please explain you answer?**

   Telehealthcare technologies will provide greater potential for improving health care and enhancing the role of the healthcare professional. And it will, by providing access to regularly complied, up to date patient data for diagnosis and care.

10. **Do you believe that telehealthcare can deliver enhanced business benefits to public sector organizations?**

    Yes patients with long term conditions account for significant healthcare spending, increasing costs. And the rising age of the population are clear indicators for demand for solutions.

11. **Who should be liable to pay for the provision Telehealthcare?**

    Department of Health.

Appendix 5: Interview Three

1. **What is your general feeling towards the Health Service today, and can you identify any threats facing the system in the coming years?**

   Yeah the health service when they ran the scheme for community support for older people, it was grand. There was plenty of money available through the occupational therapists and anyone coming out of hospital could apply for funding and what have you. But now since funding has been given through a grant scheme through the current Department of Community and Family Affairs all that funding has moved out of health and there is no funding available. So there doesn't seem to be any clear policy on supporting people that are coming out of hospital. They are just relying on handing over the problem to the Department of Community and Family Affairs. There should be funding available for to help people coming out of hospital to maintain them in their homes, because not everybody is over 65. There is quite a lot of young people that have disabilities that require help and there is nothing available that we know of. And the danger is that for Tele-health, the same, that nobody is responsible, that there is plan in place to maintain people in their homes. Never mind giving Tele-Health. And then there is such a resistance to spending money, by the nurses the doctors, and therein is the problem.

2. **What in your opinion is needed to improve the efficiency or effectiveness of the service in the medium term?**

   Well there should be a clear policy. Somebody needs to drive it. Eh, clinicians need to get together and say this is the way we should go. And supports should be put into place. Whether it's the nurses on the ground or the occupational therapists, but there should be funding there, and a clear policy. But if you're, unless the occupational therapist can supply this equipment, which they can't.
   Interviewer the Health Service only for the moment

Interviewee Well they need a clear policy, they need clear guidance of who can get this equipment and what term or period they are going to support it for in people's homes. Whether its short term, coming out of hospital …

Interviewer Taking the equipment out of the equation, focusing on the Health Service as a whole

Interviewee There has to be a clear policy

Interviewer Is there a danger for the Health Service going forward?

Interviewee no, well there are so many people involved in this, whether it's doctors, nurses, everybody needs to knock heads and say this is a policy for going forward to support people coming out of hospital. They can have these telemedicine aids for a short period of time. And then if they need extra support they can go on the Tele-care, unless they are much older.

3. **Do you believe that Telehealthcare is a suitable, feasible or acceptable method of providing a quality health service from individual's homes?**

Absolutely, absolutely, without doubt. That is the future. That's the way it will go. But it will meet a lot of resistance before it gets that far.

4. **Do you believe that an individual's wellbeing would be compromised from the use of Telehealthcare, or could Telehealthcare assist in improving the quality of peoples' lives.**

Absolutely using the system could help the quality. You are keeping people out of hospital. You are supporting them in their own homes. This thing about bringing people into hospital to take their blood pressure or whatever else, that can all be done from home, easing congestion on a hospital. Saving the health service a lot of money, and as well as that keeping people safe in their homes and having the small devices there to support them in their homes.

5. **In your opinion, if Telehealthcare is not a suitable method of avoiding institutionalization as a cost-effective alternative to some cases, what do you believe would suffice as a suitable alternative if any?**

   No I think Tele-health and Tele-care covers almost all cases that I can think of. The small percentage would have to go into full time nursing care, but it would only be a very small percentage.

6. **Why is Telehealthcare not embraced by the health service in Ireland today?**

   Too many people have vested interests, they want, don't like change. People don't like change. And as well as that even if you got one section, the Health Service is broken up into too many different people with their own interests, that it would be very hard to get agreement across the board.

7. **Can you identify what the barriers may be and from whom, when dealing with Telehealthcare implementation?**

   Well everybody feels that you're doing their job. And nurses feel that it's their job to go out to visit people's homes, to take their blood pressure, whatever else. They feel that they may come under pressure and this is not the case because in a lot of cases this information would be fed down to a control center or whatever and analyzed by a nurse who will then take appropriate action. But most of the things definitely can be delivered from the home and, but then doctors feel that people should be coming into them and having the tests done there. It's just that they need a change of mindset.

8. **Would the provision of Telehealthcare create, or reduce the number of clinicians required in the system?**

   It would make their time more productive and I don't know whether it would reduce the amount of clinicians, but it would certainly make more productive. It would ease up the inflows in the hospitals for small scale tests. And mmm yes yeah

   Interviewer so you don't think that from a monitoring center those sort of centers would create employment with clinicians?

   Interviewee well the monitoring centers would have to employ in a lot of cases, like nurses, to read certain information, medical information. But the main thing would be that it would free up hospitals and free up doctors surgeries. This information can be sent down the line and put directly on a client's file for the doctor to read. It's so easy

9. **Would you trust and have confidence in telehealthcare technologies to effectively manage patient's conditions? If not please explain you answer?**

   Yes absolutely in almost all cases

10. **Do you believe that telehealthcare can deliver enhanced business benefits to public sector organizations?**

    Absolutely its saving a vast amount of saving that can go on to other things. Like I said before there's no need for people going in clogging up hospitals. Let the doctors and the nurses get on with more serious stuff. The information that's sent down, will be sent down the phone lines and will be there on the files for the doctor to read on a particular file. And if there's a problem then at that stage the client can be rung and asked to come into hospital if there's something more serious.

11. Who should be liable to pay for the provision Telehealthcare?

Well it should come out of the health budget, because it's gonna save lots of money to the health services. Yes the Health Service. The Government

Interviewer Would that money be thousands, millions, billions?

Interviewee oh absolutely millions, absolutely millions. The amount of money, when you're getting people, say young pregnant women coming into hospitals from all over the country for different tests and what have you, that can be done from their homes. Or people coming into hospitals following operations eh for routine checks that can be done from their homes, people in their own homes, blood pressure can be taken etc. all from the home without having the necessary trips into hospital. Not mentioning the fortune that's spent on taxis by the Health Service to transport patients back and forward. And not to mention ambulances, but taxis would be a big expenditure.

Appendix 6: Interview Four

1. **Firstly, what is your general feeling towards the Health Service today, and can you identify any threats facing the system in the coming years?**

   For me the Health Service, does a reasonable job, however it tends to defy much ,not opposed to future developments, but it doesn't embrace them the way that I would feel that some of them should be embraced, certainly not all of them. So it's very disjointed, the whole provision of care is very disjointed, certainly here. You're separate entities very much being ring fenced both doing in their own piece, there's not a lot of communication between each of the different elements. If there was better communication and better interchanging or inter-dependability if you like and I will give you an example of that there. Palliative care, end of life care, there are 14 or 15,000 people die every year in the North. Two thirds of them require some sort of palliative care in the last year of their life. But not two thirds of them receive that care. There's not… so what I am saying is, why is that? Well what does that lead to? It leads to generally inappropriate admissions into hospital for people at the end of their life phase. That's not where most people want to be, most people prefer to be at home in their home, or if it's a care home, or in a hospice. You know. But that can't be provided because we don't have the rapid response in place that needs to be going out. Yes there are some of that with hospice nurses etc. going out providing for example morphine on a drip. Occupational services, you know someone needs a different bed, someone needs a different type of toilet provision in their house. So that's just one many examples.

2. **What in your opinion is needed to improve the efficiency or effectiveness of the service in the medium term?**

Well I would bring a group of health care professionals together and identify the issues, you know and set up project team to actually how we get from where we are now to where we want to be. Transforming Your Care is the latest policy guidelines that we have up here. And I agree fundamentally with it all. How that's delivered, well hopefully it will be delivered. That's under project management at the minute.

Interviewer So basically convergence of people coming together?

Interviewee Yeah well that's what you need to do, you know and there might be some elements. For example if you cut down admissions into hospital, by de facto you are saving money so that saving should be translated into domestic care or something else, or rapid response team care, whatever it is that's decided ultimately. So yeah that's the way I would see it.

3. **Do you believe that Telehealthcare is a suitable, feasible or acceptable method of providing a quality health service from individual's homes?**

Absolutely I think it's definitely the way forward. It won't be in, even from an acute point of view, if someone is having an acute episode let's say someone has COPD and they are regularly monitored once a day and that information is going through an appropriate clinical source who can monitor that, and then at again given time they have an acute episode, they don't have to wait until they go to a doctor, the don't have to wait and go through that distress. If there is someone monitoring them regularly they can pick up immediately that this person is outside the normal parameters, we need to do something about that. I can see it being if you like in internet terms the next Google.

4. **From an Emergency Services point of view, do you believe that an individual's wellbeing would be compromised from the use of Telehealthcare?**

   No, quite the opposite, so long as there are protocols in place and corporate governance is behind it and everybody knows the rules that they are playing to, or working to, I think it's very much, if in the long term it assists people to stay home, monitoring their chronic conditions or palliative and provide them with palliative care. A lot of people think palliative care is only if somebody's dying. But it's not. Palliative care is also for anybody with a long term condition and has the potential to deteriorate.

5. **My next question, but I think you have already answered it, in your opinion, if Telehealthcare is not a suitable method of avoiding institutionalization as a cost-effective alternative to some cases, what do you believe would suffice as a suitable alternative if any?**

   Well I don't think the alternative would fit the need but there are alternatives and I will give you an example that you know. Why do you need a GP? Why do people need to see a GP if there's something wrong with them? Why not go see a paramedic based in the community? Or a nurse, better trained nurse, based in the community who can do the regular monitoring or whatever. Yet again, you know if you're not going to provide that 24/7 then Telecare is the best alternative solution for me.

6. **Why is Telehealthcare not embraced by the health service in or the north of Ireland today?**

   I think it's just a lack of understanding of the fundamental principle of what it is and what it's trying to deliver. Whether that's a result of the companies selling it, aren't selling it well enough. Or it's because the people listening, or who should be listening, are too institutionalized and stuck in their own ways and don't embrace change. I don't know. Or it could be something in between both. Everybody in the health service, they're here for the same reason and

that is to provide adequate provision of care to improve the health and wellbeing of the population they serve and you can't do that using a system that was the same maybe 20 years ago, things have moved on. You know particularly with computerization and all the advances that are there today. So I would always, anybody sends me anything, I would read it and make my own mind up, in terms of do I think it would be fit for purpose.

7. **Can you identify what the barriers may be and from whom, when dealing with Telehealthcare implementation?**

   I don't because I am not involved in it so I can't really suggest what those barriers might be. I can only go on my experience with (named removed) and other providers who would hopefully demonstrate that I would be willing and worth talking to.

8. **Would the provision of Telehealthcare create, or reduce the number of clinicians required in the system?**

   I don't know, I haven't tried to quantify it and I haven't read any studies that would suggest one way or the other that it does. But I am convinced that it has cut down on inappropriate admissions into hospital and therefore there must be a knock-on effect for that.

9. **Again a cross-over question, would you trust and have confidence in telehealthcare technologies to effectively manage patient's conditions? If not please explain you answer?**
   I would.

10. **Do you believe that Telehealthcare, again a cross-over, can deliver enhanced business benefits to public sector organizations?**

Of course, it has to, I mean efficiencies of scale, it just has to be able to. Again if the protocols and parameters are right and set up and monitored and reviewed and altered and changed and whatever. The whole idea of it in my book is, monitoring currently ill patients, in this the difference between chronic as opposed to being acute, and measuring those patient's conditions within certain parameters and once they step outside of those there is immediate intervention , which hopefully will prevent your €400 a night stay in hospital. I will give you an example, there's a hospital in London which will remain nameless, and the face criticism in the media because there's a hotel at the bottom of the street in London. And what they decided strategically that was that when patients came in for example for day procedures, that would require an overnight stay they weren't going to keep them in a hospital bed which is £350 they booked them into the hotel down the road, which they got for £125 for the night. And they were able to send a nurse down, or a medic down, periodically throughout the night in case someone had issues. Now they were seeing the bigger picture. Clinically it was appropriate to do. Financially it was appropriate to do and probably the patients preferred to be in a hotel bed as opposed to a hospital bed.

Interviewer possible more comfortable

Interviewee yep

11. **And, who should be liable to pay for the provision Telehealthcare, my final question or would you have any idea?**

Well I think it's not… anybody providing Telehealthcare are not public organizations. So therefore they are in this to make money State money. And provided they are not charging an inappropriate amount of money for this provision I would throw it within gain, whatever the contract it's delivering on says it should be. I would have thought it would have been the health care system that would pay for it

Appendix 7: Interview Five

1. **Firstly what is your general feeling towards the Health Service today, and can you identify any threats facing the system in the coming years?**

   Well I suppose the threat is the reorganization, the restructuring and that generally means less services. What I see like is a constant grinding of the frontline staff, the people that are actually doing the work are facing longer hours, less pay, less actual services being provided. And longer waits for ambulances. All disguised under the guise “”” and that maybe existing rural, semi-rural facilities are not of “””standards. I suppose being a (location removed) man I talk best about (county name removed) We have a very good hospital in (location removed) recognized over the years by anyone who ever had any dealings with it as being a truly outstanding hospital. But it’s an old structure an old building and “”” came in and had problems with the structure of the hospital. So there’s been a gradual erosion of the services of those services into (hospital name removed). Now that’s regarded and it's, I suppose publicized at one time as being a center of excellence. But the center of excellence actually became a mock and a mockery and people nowadays kind of make snide remarks about the center of excellence because of waiting and screw-ups and just too much to do. Not enough of staff, all sorts of things. And we’ve been, I don’t know if you know it, on the south side of the city, grounds are very limited, it’s getting confined. When it was originally built it was out in the country, but it’s surrounded. And there’s only one way to go and that’s up. And every planning application they’ve made to go higher the local residents have objected. So unless they buy the shopping center across the road from them, which is unlikely, you know we are getting into a situation. The other thing about it, as they close (name removed) which is in the north of the county, covering a huge area the ambulances and the emergencies trips, and I have been on a couple of those myself. so I know from personal experience what I am talking about. If you are going flat out emergency, and you have to go from North (county named removed) to the

center of excellence in (location removed) you need Garda outriders, you need Garda presence cars blocking I think it's 7 different intersections. Once you swing off the (location removed) that you go down to (location removed) you need Guards at a number of intersections along there. One two three, four five six we are down as far as (location removed) we need 6 Garda interventions, then (location removed) 7 then (location removed) 8 (location removed) and into (location removed), you need 10 different stops put up by Guards at cross roads and this is what normally happens. If the Guards are busy on the day that there's an ambulance coming through with a major emergency it's not gonna make much progress. It's typical at the moment, you phone for an ambulance and you could be told that it would be an hour, it would be an hour and a half, and on various occasions making phone calls are been told that cannot give me an estimate on when an ambulance can attend somewhere in north (county name removed). And that's happened on a number of occasions over the last four months. Running into maybe five hours of a wait. So threats to the Health Service today……

Interviewer it's under pressure

Interviewee it's under pressure and the other thing I think it's possibly under pressure because there are too many managers and people are afraid to make decisions, there seems to be more managers that staff. And no manager wants to be too accountable. They are not prepared to come out and face the public and to explain their decisions or stand over their decisions and if they really get it wrong there's no consequences to them personally. They get their bonuses if they save costs in the coming 12 of months, to 24 months. So I think that's the threat to it.

2. What in your opinion is needed to improve the efficiency or effectiveness of the service in the medium term?

Interviewee The Health Service?

Interviewer Yes. Tough question?

Interviewee It's a tough question, especially when I am kind of on the periphery of the Health Service, there's a whole load of "" . First off I think I would put a cost on the GMS cards. Every person that has a GMS card,

General Medical Services, gets a free visit to the doctor. If you go into the doctors on call services on Christmas Day, Stephens' Day, Saturday Sunday you will find that 70 or 80% of the people that are in are availing of a GMS card. You might actually have evenings, after hours, that every single person has a GMS card. You'll notice that the people that are paying hard cash, 50 a visit they're either very very sick or they're injured. There's nobody coming in with a common cold and paying 50. And I think that a lot of medical people are tied up dealing with people that are getting totally free services. When the nominal charge was put on the prescription, it cut down on the number of prescriptions dramatically and instead of having to take suitcases of out of date pills that were never even opened out of their box out of people's homes, we don't see that stock piling of unused medicines anymore. So maybe something could be done with the GMS card as well, to how would you say, use the doctor's time a bit more efficiently and effectively with people that really actually need care.

What else could be done? There are loads that can be done. I hate to see the small local hospitals chipped away at constantly. We are putting all our eggs in one basket. Whether that's effective or efficient? It might be efficient economically in that you're, how would you say, more concentrated but it is at a risk if at a major risk has all their eggs in any one basket. We don't know what diseases can certainly break out or what pandemic might occur. If you have a pandemic in the next two years three years four years, and you have your medical service concentrated in one hospital, where are you at? The likes of (location removed) hospital in (location removed) my son was stabbed about three years ago and he was taken to that hospital and his life was saved inside in (location removed) by a very good surgeon that just came in and starting working on him. He took 22 pints of blood 9 liters of Hearting?? solution that night. The ambulance driver said that if he had to take him to (location removed) he wouldn't have survived the trip. So that service in (location removed) is gone now. So if a young lad's was in the same situation as my son tomorrow night there's nothing in (location removed for him). So that's not improving the effectiveness in the health service. And there are a host of little local services being chipped away chipped away chipped away. And the management line seems to be concentrate our eggs in one basket. It

may be efficient on paper but is it efficient on the ground? And it is definitely not what people want.

3. **Do you believe that Telehealthcare is a suitable, feasible or acceptable method of providing a quality health service from individual's homes?**

Yes I do. I been looking at Telehealthcare for about for years or more since I came across it up in Northern Ireland and there's been a few pilot projects run here in (county name removed) with different community groups and I have spoken to doctors about it who are very in favour of it. I am not so sure that public health nurses are quite so gone on it, but time will tell. I think it has a huge amount to offer people. And I am actually surprised that there is so little, how would you say, official recognition of it, and so much time has gone by with so little being done about it by the HSE.

Interviewer Just going off slightly, what do you think the public health nurses issue is with Telehealthcare or can you identify?

Interviewee I don't know would some of them see it as a bit of a threat to themselves. My experience of public health nurses is that they have a little empire and they're very very possessive of what they've got. I have seen the public health nurses in (location removed) in disputes with (name removed), which is the Doctor on Call Service down here, over the use of facilities and things like that, petty stuff. Very very petty stuff. Like in one particular health center were (name removed) were supposed to move in there were certain areas to be used by (named removed) after hours, once the nurses have left, and I have seen public health nurses throw office furniture out and stuff like that. Constant niggling over the years over this that and the other. I get an impression from them that they you know see any threat to their job as something to be taken on, head on. Now maybe it's just the nurses that I have been coming across, the other side of the from the offices side is that I get a lot of requests from public health nurses for social monitoring alarms for patients that they identify in different places as needing this assistance and on that side of it they seem to be very happy. But there definitely needs to be a role I think for the public health nurses built into the Telehealth to avoid them seeing it as a threat to their domain.

Interviewer Possibly a fear of change?

Interviewee Yeah yeah that's it. What is the old term for it, luddites is it? Have you come across that term? When the first attempt to mechanize harvesting grain came in, I think there was a movement in there call the luddites, they smashed up equipment and stuff like that, fear of change yeah, stop the clock I don't want to move on.

4. **Do you believe that an individual's wellbeing would be compromised from the use of Telehealthcare, or could Telehealthcare assist in improving the quality of people's lives.**

I would say the latter, that it should improve peoples' quality. I disagree with that an individual's wellbeing could be compromised. Any condition that I know of anyhow the one common denominator of a condition would be appear the soon you identify it and the better you monitor it, the safer you are. I don't care whether that's diabetes or hemochromatosis. I suffer from hemochromatosis myself and I only discovered it accidently. I know that it's very very important that it's monitored carefully. Now, that means taking a blood test every 6 weeks or so and donating blood at this stage about every 6 weeks. But name any condition and it would appear that an important part of staying safe would be regular monitoring and that's where Telehealthcare really comes into its own. It can only assist in improving the quality of people's life.

5. **In your opinion, if Telehealthcare is not a suitable method of avoiding institutionalization as a cost-effective alternative to some cases, what do you believe would suffice as a suitable alternative if any?**

I don't think there is, the alternative to Telehealthcare is what we do at the moment and I think Telehealthcare would be an improvement. You know it would be, it's not in competition with it, it would just be a big step forward in monitoring health and avoiding emergency intervention. And avoiding things deteriorating to a situation to were maybe somebody has damage done to them.

6. **You have probably answered this in some form already, but why is Telehealthcare not embraced by the health service in Ireland today?**

I am surprised that it's not like you know. I was saying that I feel that there are certain individuals that think it's going to intrude on their domain, but there are many other doctors, forward thinking people, that have a great respect for it and see potential in it. Obviously doctors like money they are very intelligent at where their rice bowl is filled from. I suppose the way forward with Telehealthcare is where there is a role, that doctors, you're shown to be, how would you say, including the doctors into the system.

7. **My next question you have answered this one already pretty much, but can you identify what the …?**

Interviewee The barriers?

Interviewer Exactly, probably doctors, public health nurses, and basically the convergence of services coming together?

Interviewee Tell me one thing, is there any issues with a need for better broadband?

Interviewer Absolutely as of 2011 Ireland was ranked 97th in the world for broadband infrastructure, so from a technology point of view, and that is one of the points highlighted by the University of Hull, it is a legitimate concern. The University in Galway are currently doing a pilot project as you probably heard, with pregnant women on the islands. They have dealt with a company in Belfast who have put in equipment for individuals. But they have failed to look at the broadband infrastructure. So there's actually people who have Telehealthcare equipment in their homes but no broadband to support it. So again it goes back to 'well that's not my job' and 'that's for somebody else to worry about' and this that and the other thing. But the convergence of all these services coming together hasn't happened and that particular case, I believe, in some cases, has turned out to be a disaster.

Interviewee That should be a remedy, there should be a remedy to that though. Surely the islands must be fighting for better broad band on a constant basis anyhow. Where's that going like? Is there a physical, a financial

problem like? There are companies out there, if there is money to be made they will provide a service. Even here where I live, I have terrible service online and I got it in via microwave eventually, you know, to bring it up to speed.

Interviewer Right I will give you another example, I was working with (company name removed) recently. And the head guy was telling me a story that they have a new piece of equipment for alarm receivers and its manufactured by an Israeli company, but works on 4G technology. So the Israelis came to (company name removed) and wanted to trial out this new technology and they asked (Company named removed) where can they get 4G technology within the building, and the guy laughed and said we can't get 4G in this building we have to drive out to Drumcondra in North Dublin. Apparently Drumcondra is the only part of Dublin presently with full 4G technology. They then went on to say that the 3G technology in Ireland is so poor that it would probably take in his words 15 years before we have full 3G, never mind 4G technology. So the equipment is in place to be used but the technology is not there to support it from a security point of view. So that's something that certainly needs to be looked at an improved greatly.

Interviewee So that is probably the biggest barrier to the development, well it is a major physical barrier.

Interviewer it is a physical barrier, certainly in some cases. But I think through proper and effective planning, maybe site surveys before the equipment is installed, and to organize broadband to be in place. I suppose looking outside the box from the likes of companies like (company name removed) organizations such as (company name removed) whoever is going to be involved in the installation of this equipment or the supply of this equipment, as I said by looking outside the box, should be able to plan effectively for this and I think that will reduce a lot of the problems from a technology point of view.

Interviewee I suppose you move forward in a way and but it is something I suppose that will raise its head every now and again.

8. **Would the provision of Telehealthcare create, or reduce the number of clinicians required in the system, from your own experience?**

   It's very hard for me in a position, I am not in the system, I am looking in at the system maybe from the periphery, and I would think that what Telehealthcare would do is that it would allow the physicians and clinicians to work smarter in that there's more work than they can handle at the moment. I think they could concentrate their efforts on where they would have a greater impact. And I think that's the advantage of it. It mightn't reduce the number of clinicians but if the productivity could go way up. Because first off the amount of information available to them would increase. They would have better information, more constant regular information. It should allow them to make better decisions. Like if I go in for a test say a PSA test say get it done every three months or so, and we are looking at the graphs and we are wondering if you know has something caused this spike or that spike, if you… now that's this one, but it could be any kind of test. But if you can look at it daily or weekly obviously it's far better than looking at it on a few occasions through the course of the year. So whether there would be greater or lesser amounts of clinician required I don't know the answer to that but I am pretty sure that they would be working a lot smarter. That's a close as I can come to that one.

9. **So just summarizing up now, but I take you would have trust and have confidence in Telehealthcare technologies going forward?**

   I would yeah

10. **Do you believe that telehealthcare can deliver enhanced business benefits to public sector organizations?**

    I would say that there is a lot of savings to be made.

11. **And the final question, and I am sure you have an opinion on this one, who should be liable to pay for the provision Telehealthcare?**

    I think both the State and the user. If there isn't a buy in by the person who has the equipment, who's health is being monitored, it won't be regarded as well, there won't be the same appreciation of it. I think both parties should be paying for it. By State sponsoring it, you have faster adaption of it, the initial set up like is shall we say, the important bit. But if there is no buy in by the user as well, that's very important.

Appendix 8: Interview Six

1. **What is your general feeling towards the Health Service today, and can you identify any threats facing the system in the coming years?**

   Well obviously there's the obvious issue around the fact that the aging population, and particularly the aging population with long term conditions, are living longer due to better health care, better diet etc. The threat that comes from that though is that the work force is diminishing, so we have a smaller work force and a large elderly population with long term conditions. So that's gonna be the challenge we face, is how we support these people as they live longer, but live longer with a long term condition that will span a greater part of their lives. Also I think there's a realization now that we can't look at long term conditions in isolation. So an elderly person with one long term condition is likely to have a second or third. So given someone with Chronic Heart failure for instance, might also be a Parkinson's sufferer and might also have elements of depression as well. Or as there's with those people with long term conditions certainly with memory related illnesses in terms of Alzheimer's and early stage dementia as well. So I think it's almost a no-brainer for health and social care that to bridge the gap between the growing elderly population and the diminishing work force is that technology has to be the only answer that will help bridge that gap.

2. **What in your opinion is needed to improve the efficiency and effectiveness of the service in the medium term?**

   So, in the md term the big issues are that for a number of years particularly in the UK, Germany as well, is that the health services faces a number of threats. The first one obviously financial issues, so the Health Service has got to improve in order to be able to cope with the population but within the current budget, because those budgets really are very difficult to grow. It's becoming more expensive to support people and the funding really isn't there. So the first real threat is finances. And to a great degree the Health Services in the

UK and in Europe have been looking to scale down in terms of administration and infrastructure, so you see what's happening in the UK at the moment in terms of the Primary Care Trust being devolved or has been devolved since the beginning of this year and being replaced by the Clinical Commissioning Group, we saw merged together a number of clinician groups from the GP's to the Commissioning providers and also link into public health and social care. So streamlining these organizations is a big plus in terms of being able to support these people going forward.

So the second thing is how, once you've got the budgets more streamlined, is how we allocate the budget. So there's no new money for technology so if you're looking at technology solutions there's no magic money left available there. So what we've got to look at is how we set up reimbursements for technology, both Telecare and Telehealth that come from existing budgets. And the only way to do that really is by including technology in the patient and Services User Pathways for both health and social care. So we need to move away from where health technology is an add on, so something that comes later, so what can we do to support this person in terms of medication, hospitalization, consultant time, nurse time etc. and then later on bolt on some Telehealth and Telecare. So what we need to do is have those technologies right at the beginning of the pathway process. So is there technology solutions that is gonna be not just for cost savings, for the patient's quality of life as well.

3. **Do you believe that Telehealthcare is a suitable, feasible or acceptable method of providing a quality health service from individual's homes?**

Ok, so if we think about Telecare to start off with and we think about how long Telecare has been around and you're talking about 40 years. If you go back to the pull cord in someone's flat or the box and button that went to people's home almost 37, 38 years ago. Those tried and proven technology had helped support people live more independently and that's a given. Those technologies came from I suppose the housing providers who were looking at how much longer they could keep people living in their own accommodation for before the need to move to that next step. So I think that there's no

argument that Telecare in its most basic form and then latterly in terms of environmental monitoring, such as smoke detectors, rapid heat etc. have helped people stay at the level that again is better for their quality of live but also it saves money in terms of housing budgets. So if you have someone who could stay in their own home for longer, if they moved into sheltered accommodation, it would keep them there for longer, it would hold that period before they moved into very expense nursing home care.

In terms of the more personal sensors, that has given us the opportunity now to help people with conditions such as epilepsy, people with early stage dementia and Alzheimer's and people who are prone to falling or who have related health issues that cause falls regularly. So those personal sensors, like epilepsy sensors, options for occupancy for detection and for prediction, have all come part of that delivery. That just moves that Telecare on from the very basic systems we provided 40 years ago to something that would now provide the wider population with the ability to stay where they are for longer. In terms of Telehealth obviously it's a newer offering. But if you look at the infrastructure that Telehealth works on is not that different to the infrastructure that Telecare worked on. So you've got the infrastructure there were you use a communications network whether that be the PSTN system or an IT system or GSM system, it doesn't really matter, but you've got an infrastructure that now not only pick up alerts but that can capture data over a period of time and help support that patient by early alerts. But then what we have done now with the introductions of better communications enables us particularly with Telehealth to be a two way support structure. So instead of just relying on collecting data, enabling to look a trend changes or set alerts against pre-set parameters like blood pressure, weight, heart rates etc. We are now… the system now enables us to give the patient information about their condition. And that enables them to really improve their quality of live and they become more independent and are able to deal their condition to a greater stage before they actually have to get medical help.

Now I think at this point as well it's about bringing the two streams together. So we need to look at how we move away from say this person is going to receive Telecare because it's a cheap effective way of supporting them, but one day they might work up to needing Telehealth because they develop long

term condition. And to have those very simplistic views makes it more difficult to deliver these technologies properly. What we need to do it to what I was talking about in the last question about pathways and to have proper assessments, technology assessments of the patients. So we need to train OTs community nurses, community matrons, district nurses, enable them, all the professionals who captures these people's lives, we need to train them to make the assessments on what technology they need. So for instance someone coming out after a cardiac procedure might go in at a very high level in terms of having a full Telehealth system installed, which will take their vital signs and support them in terms of monitoring their condition so they can improve their lifestyle. But hopefully, that person will get better and then we can support them during in their convalescence period over longer using Telecare. Also in looking at it in that way we will be able to move people to the right technology in the right time, we are also more likely to get the right reimbursements have the budgets to support these people throughout the technology. But that's not to say for instance if someone wants the technology they shouldn't also, in terms of how we can have the option of you know of buying into private health, buying into our own medication, that we should also definitely have the option for those who can afford it and want to, to be able to purchase the technology as well.

4. **Do you believe that an individual's wellbeing would be compromised from the use of Telehealthcare, or could Telehealthcare assist in improving the quality of people's lives?**

It could be jeopardized if it wasn't used correctly like anything. Think that every intervention whether it be through pharmaceuticals, whether it be through therapy, there's always a risk. And there's a similar risk with Telecare. We're moving to a level where we're providing such complex technology solutions, so we've got to do that correctly. So we've got to have quality standards that cut across health and social care. For example with health the industry is engaging with organizations like (company name removed) because we understand that if these technologies are to be worked well, work faithfully and be trusted both the professionals and the end users,

we need those quality standards within there. So whether it's (company names removed) whatever quality standard you're looking for, you need to, to build those in to the delivery. Once you've done that then it's as safe as any other intervention. But you did need to ensure that they are regularly inspected, that service providers are inspected to meet those qualities. This isn't something that we can continue to say, oh you know, that we put through the CQC monitoring center, or a security center. This is a specialized care, and need to be recognized as such to have those standards to make it safe for the patient.

5. **In your opinion, if Telehealthcare is not a suitable method of avoiding institutionalization as a cost-effective alternative to some cases, what do you believe would suffice as a suitable alternative if any? You have probably answered that already to some extent in the other questions.**

Yeah I think there are always gonna be cases that won't be suitable and that's is a given but I think as we move especially as we move for example in terms of content for Telehealth. So we got into the industry, we then get the low hanging fruit, so those long term conditions that cost the most and cover the widest range of the population, COPD, CHF, diabetes. But now we are into other area as well. So in terms of quality of life and costs, cancer is a short term, you know palliative care for end of life cancer patients can be very traumatic for the family, for the patient and very costly for health provision. So by developing systems to support certainly people with cancer at the end of their lives in their own homes, we can do a number of things to improve that person's quality of life for the few remaining months or years. We improve the stresses to the family, and we also bring down the costs. So that funding can be used to be more appropriately, to support more appropriate patients. So I think although we haven't covered all the areas that will stop someone being institutionalized through technology, what we are doing is moving forward all the time to support more and more people with different conditions.

6. **Why is Telehealthcare not embraced by the health service in Ireland today in your opinion?**

I will go back to the point I made about pathways. So when we train a nurse, when we train an OT, we train these professionals to use very historic solutions to a great degree. I mean obviously it moves forward. But what we haven't done yet is to introduce that training right at the beginning, so you know can you imagine if an OT as part of their training that they were taught effect someone from the simplest things like a grab rail, to chair lift, to lifting aids, to walking aids, getting help of what their gauge is like in terms of falling, all those things. But if right at the beginning they trained to use technology as well at an early stage, and then those technologies are included in the patient's pathways, once that person is working in the community. That would need adaption, equating those technologies much easier. So what we need to do is bring Telehealthcare, medical technologies, whatever you want to call it, into the mainstream so that it is part of the service provision with a proper reimbursement and not something that sits outside.

7. **Can you identify what the barriers may be and from whom, when dealing with Telehealthcare implementation?**

So there's a number people who straight away…. So take a suffer of COPD for instance. Your COPD nurse is dealing with a patient over a long period of time. And they are very committed professional individuals. So their first question will be, I don't want to lose that contact with my patient, I it as part of my role to support my patient and I don't want to be replaced by a piece of technology.

The second question will be around employment. The more you put the technology in, the less my role will be needed, and I might lose my job.

The third one, is around finance. So if you spend more money on the technology what other areas of me supporting my patient, service users would suffer. And also if you talk to GP's for instance it's the question around data, if you collect all this data how am I going to have the time to look at it and analyze it all because I get my four minutes of fame with my patient. I haven't

got the time to go through reams of data that you're picking up from the patient every day.

So let's try answer some of those questions. So in terms of contact with the patient what we should be saying to the professionals is yes we understand, you know, that you're not just a professional, you care about your patients. But you've got to look at the bigger picture. If you need to see more patients, it's the patients at the bottom end who you don't need to see who can be supported by the technology. And you can really concentrate your time with the patients who actually need your intervention. Also if you talk to the patients at the bottom end, who can support themselves, they're saying you know I'd rather have the flexibility. So again for example a young person with diabetes doesn't want to go and sit in front of a nurse or a community matron once a week to have their readings taken. They want to be able to manage their own condition, they want to get the data, they want to be able to get information back. They want to understand what they're doing wrong, to be able to change that in order to improve their symptoms. So the first answer it will enable you to support those emotional needs.

In terms of work force, no it's not going to get rid of people's jobs, because there won't be enough people to do these jobs if we don't put the technology in. so you patients are going to suffer because there just aren't enough people to support them unless the technology is involved.

In terms of financing, reimbursement goes back to the pathways process. The reimbursement is there and is not taking the money from one area to cover another, that it's built into it as part of the pathways for that patient.

And in terms of the GP's concerns around data, it's really important to right at the beginning make them understand that although we gather a lot of data, they don't have to see that until they need to. So there are a number of triaging stages with Telehealth, were the patient will be self-monitoring, or there will be a non-clinical triage, or there will be a low level clinical triage. So there's all these filters, before the GP ends up seeing that patient. And hopefully because they have been filtered, less patients will get as far as a GP because they will be dealt with at an earlier stage.

So I think it's those sort of barriers, you know, if we could put a list of frequently asked questions by people on why they don't want to implement

this or how it will work, or why they are worried about it, it would be really good to be able to say and those would be the four frequently asked questions that would come to mind with my sort of experience in dealing with professionals, both from health perspective, and in my current role in (company name removed).

8. **Moving on to my next question, and I think you have somewhat answered it, but would you believe the provision of Telehealthcare create, or reduce the number of clinicians required in the system?**

I don't think it'll reduce the number of clinicians. What it will do is enable the current numbers, and as I said we are not going to be able to grow these workforces massively, but it will enable the current number of clinicians to support a larger number of patients.

9. **Would you trust and have confidence in Telehealthcare technologies to effectively manage patient's conditions? If not please explain you answer?**

I will go back to what I said earlier about quality standards. You know the technology isn't the big issue because as long as there are a number of checks along the way. So I believe that the supply sector is a genuine supply sector that wants to produce the best, most efficient, safest technology for the patient. I don't think the supply sector takes risks. But there's still checks and balances, so there are companies and services providers like (company name removed) and services providers are very protective of their service users or patients. They will test equipment, they will check equipment, they will challenge suppliers of equipment. So that informal basis is there as well. So I think before the technology gets to the patient, it goes through a number of almost informal checks already by the industry, both supply and service providers. And also professionals will challenge you know. If you are going to give a fall detector to a patient who is being supported by an OT, they will question it, they will say you know, will this really work, are they safer, is there a bigger risk in case it might not work and we might alright so they're safe. Both the informal checks within the industry, and quality standards,

you've got to say that it has as much risk as any other intervention, not more so.

10. Do you believe that Telehealthcare can deliver enhanced business benefits to public sector organizations?

It's a no-brainer really because delivered correctly right from prevention, so if we can identify those members of your community that would benefit from a preventative technology strategy at a very early stage, to intervention from particularly around enablement, so if someone does end up in hospital in A&E , admitted and whatever. When they come out if there is a technology solution, that is more cost effective. So for instance you know if someone comes out after a fall, can you together with your physio and OT services, put a technology package together that enables you to check the reasoning for the fall, so is it just a trip-and-slip? Or is it something to do with diet, prescription compliance, you can look at medication monitoring, you can create alerts out of that. So, all of those things will enhance the business case for delivering these technologies. Also there's got to be economies of scale. I have never been an advocate of making the biggest monitoring centers in the world, monitoring centers to do absolutely everything, from smoke detectors, to CCTV, to health. I don't think that's appropriate. But what I do think is if you have very specialized monitoring centers that could do a range of things. For instance if you take Ireland for instance, if you've got two really good centers that monitor the Telehealth, rather than have 6 or 7 or 8, because you've got the professionalism in there, you've got the standards and you're gonna be able to look at that service more cost effectively because you've got the economies of scale as well.

11. Who should be liable to pay for the provision Telehealthcare going forward?

Everyone, if you've got it running well it might be in two years' time I might think, ok when I come back from the gym I'd like to take my blood pressure, but also I'd like it to go somewhere and I'd like it analyzed in the background. I'd like to know if the system thinks there's a problem with it, I should be able to, if I can afford it, be able to buy that. If someone is getting to a stage where I have been identified with having maybe falls or potential falls, we should be able to then, through the support mechanisms through central care and public health, be able to say ok we can do certain things in terms of Telecare, preventative type thing monitoring. If someone comes close to being discharged we need to have the facilities to produce technology in that post fatigue support. So I think the liability for reimbursement is something that both local and central Government in health need to think about. We've got provision for, with the fuel allowance, we've got provision for grab rails, chair lifts, you know all these, you know all these things. We need to have the same sort of reimbursement provisions for Telehealth and Telecare as well.

Appendix 9: Interview Seven

1. **Firstly what is your general feeling towards the Health Service today, and can you identify any threats facing the system in the coming years?**

   I'm not the best person to answer that question. I've worked with medics but I am not in day to day contact with what goes on in the hospitals. There is certainly obvious things that most people could identify and that is the escalating cost for the provision of health services and it's not just the fact that aging population. It's also the key to technology, the cost of that technology, to comfort and give meaningfulness into it. And also to some degree, I think driven partly by statistics which I know only a little about, is the accountability. There's a much greater level of accountability within hospitals and that's going to be extended more and more into the practice of surgery were, for example looking at how surgeons should be trained. The argument is that they should be trained in the much the same way you train airline pilots. And they should follow certain procedures in a given way and also they should be trained through the use simulators. Now all of this is gonna cost more, but it's also the fact that it's just a monitoring of just how successful different doctors are, because the actual variation, from listening to people who know about this kind of thing, there appears to be substantial variation in the training and in the competency if you like of different people in surgery. Now that may be true in other areas but those things are more likely to be highlighted in the future, as such just the cost of monitoring that system in dealing with it, these are extra issues.

   Plus the fact that I think the public rightly demand a better level of service. And that has to be taken into account. And I suppose, I just have also a feeling that salaries may, that is seems to be the salaries do seem to that take up a lot of the costs, another factor. But having said all that there's also the costs of the aging population that everybody talks about. But there is also of course lifestyle, obesity is a big issue. The amount of people that are….it's getting near, 10+% now….that have diabetes and that's just increasing. And those are lifestyle choices. And I am not saying it's just down to lifestyle, it's obvious that depends on where you can buy your food, marketing materials, what

information we are given and so on. But nevertheless these things have to be dealt with in terms of the health care services. We can deal with them as well, there are those things that obviously add to the quality of life and that grow bills. Now they are just some thoughts on it. Like I say I am not the best person to tell you the issues effecting hospitals.

2. **What in your opinion is needed to improve the efficiency or effectiveness of the service in the medium term, just from your own opinion?**

I think cause things are close to what I'm doing, you know and that's how I think people respond to questions like that. I think in surgery the quality of training in terms of simulation training I thought it would be much more widespread before the doctors or surgeons are dealing with people. I think that's one major change. I also, I know you're interested in Telemedicine, and that's what your project is about, well; there's a lot of skepticism about Telemedicine amongst, especially amongst medics who basically think sometimes haven't maybe used it to a great effect and maybe the people introducing it haven't been … haven't introduced it very effectively either. But I do think Telemedicine does have a serious role to play, this business of taking people from their homes to monitor what's going on, whenever they haven't got the money or resources. And then we complain about them not turning up. But the bus services aren't there. It costs a fortune, and I mean they're having to, in many cases basically because of expectations and because of risk. We are doing a study on pregnant women have developed the diabetes during the course of pregnancy. In that situation there's a lot of monitoring that goes on and its very intensive monitoring, but a lot of the monitoring is just to make sure nothing has changed and a lot of the information, it is possible to actually relay that over the lines.

Now of course there is a big problem, there's a couple of major, major problems here. One is the fact (as we have just seen there with Skype) it really was difficult for us (and it would be better to speak to name removed about this to hear her experience) but it was hard to get some of the technology to work as efficient as was needed.

And the second aspect of it is to get the doctors to actually treat it. Or the people looking at the information to make sure that it's been treated as seriously as if the person was in front of them. Now maybe that also does speak to the fact that maybe there does need to be some face to face communication, because people like to think that....they like to be treated as special, that you're only thinking about them at the time. And to some degree those facial expressions means of communication become very important. I think it's obvious that taking people, asking people, expecting people who are in deprived areas, to actually ask them to all the time get to hospital. The resources required, and with young children, and so on, these are very tall orders. And frequently it's not even required, for the person to have to sit around for a long time, it's unpredictable and they don't know when they're getting back. There's serious scope for the development of the Telemedicine stuff and would think of it in terms of diabetes and (locations removed) and also because of the…people are even traveling from Islands over to the mainland to go for hospital visits that are very short and basically that they are being monitored if everything is alright.

I think those are the … the important areas that are gonna be developed. But it's a matter of getting in the right structures and the right…. Making sure that people have enough space to really do what they're supposed to be doing. And not just to be looking at the slides or the recordings at the end of a day and then something really goes wrong and then there's a real crisis.

3. **I think you have answered my next question which was do you believe that Telehealthcare is a suitable, feasible or acceptable method of providing a quality health service from individual's homes?**

Yeah, for certain things, for certain activities it's far superior to the system we have at the minute. The difficulty is that with the system at the minute we have so many people who just don't come. Who just basically, now you could say that they won't do, and they mightn't respond to the computer, and so on, that's also possible. But basically there's a much better chance if they have the facilities at home as against the… you know there's serious issues in terms of

costs, there's serious issues in terms of many of these individuals have also got other people depending on them. And it is just unrealistic the way we treat patients. And then in fact we are even talking about punishing them for not turning up as they're seen as wasting hospital resources. Now I don't think any hospital has implemented such a policy but certainly it's one of the things you'd hear people in the medical profession saying. And its …. My point of view on that is that it's a ridiculous comment. I mean I think we have to understand why people aren't availing of service and also many of the things that they are doing, patients know that it's for monitoring purposes, and basically they think to themselves well I am doing alright. Well if they are doing alright let them send the information in and it can be examined and if something needs to be done then there can be a conversation had. Well see it depends on the area, I mean one of the mistakes we have made in the North, in Northern Ireland, is actually the Government give a whole load of money into Telemedicine. I am not close enough to it, but as I understand it they say to the hospitals 'you have to use up so much in Telemedicine and you have to spend this money on it' and they didn't designate the areas, they didn't target the areas and they didn't bring on board… the people I speak to don't seem to feel that they were actually on board with the ideas and that things weren't brought in in a controlled way. And that there was no effective monitoring of what was going on. It was basically just get the money in and get it spent in the hope that something is saved. Whereas in fact we would want to know did it save any money at all? Did it alienate the professionals as it appears to? Where was it targeted? Were those targeted areas most effective areas for it to be targeted in and indeed what were the consequences? I mean, what were they, did they people think that this was an improved service? Or did they feel it was done on the cheap for them? And that they weren't being …that their needs weren't been met? I mean those kind of crucial questions weren't being addressed. Maybe I am being over critical. I am going just on basis of snippets of conversations with people who are senior players in the health service, so I take their word. I think they're cautious enough people so what I am saying is, I think there's some element of truth in it.

4. **Do you believe that an individual's well being would be compromised from the use of Telehealthcare, or could Telehealthcare assist in improving the quality of people's lives?**

Well I think anything misused, even any good thin, it can be misused. And it can be relied on too heavily or it could be ignored. We need some systems for actually checking that things have been done. So it's like in the hospitals or wards, we need some system in place to actually ensure that the readings have been competently done. So basically, outside of that, I mean we are talking about restricted areas here. We are not talking about Telemedicine, well I suppose there's Telemedicine even for major operations. I mean the monitoring that you receive in a hospital is a form of Telemedicine I presume, but in the case were it's a remote service, it's obvious benefits is if you have easier, easier access to the individuals who are treating you. I mean it seems to be only red banded but its only making sure that there's a proper system in place, to ensure that that monitoring is really done correctly. I mean it's been a constant problem say in the hospital services in the treatment of cancers and so on. If the screens aren't done right, the people who are meant to do these things haven't done them right. Or recently we have had one bone fractures in the (location removed) in the North, where a whole lot of people had to come back as someone looked at the x-rays and found that they had been misread. GPs kind of…. But hospitals are well used to that.

The creditability of Telemedicine rests on getting rigorous procedures in place. And that is probably more costly than we think and sometimes we think technology is just a way of saving money. I think there's a lot more to be said about Telemedicine than just saving money. I think, I have already said, the ability to assist people in terms of their own complicated lives and to actually have a closer monitoring of activity, and also to indeed to have a more personal interaction in terms of communication. and also the dealing of emergencies. People aren't coming and reporting to hospital because they think there's something wrong because they actually can relay the information and there's somebody there who, or at least their notes are available, so they can be consulted to know whether that is something that you really need to send an ambulance. Or the person needs to get to a major center of care very

fast. But those are….. And then in some ways that saves money, but that's not the driving motivation for it.

5. **In your opinion, if Telehealthcare is not a suitable method of avoiding institutionalization as a cost-effective alternative to some cases, what do you believe would suffice as a suitable alternative if any?**

Well first of all a lot of Telemedicine is not about people who are about to be institutionalized. I mean a lot of Telemedicine like in the case of diabetes, it is just simply the problem of the blood samples, the blood pressure and so on. These measures, these things have to be watched very carefully under certain circumstances. So it's a matter of rather than these individuals having to go considerable distances. Or even if it was a short distance, the fact that that can be done in a remote setting, that can only be to the benefit of the individual. And potentially of the doctors and the nurses but essentially it really facilitates the public. It facilitates them to be able to have better control over what's going on in their own life. Rather than have to get rid their care arrangements, or costs or whatever, these things have to be dealt with then by the patient. Telemedicine gets around a lot of that.

But the institutionalized people I think is a totally different issue. I think there's the issue of maintaining people in their own homes. And there's one thing we do know is that once people leave their own home to go into nursing homes, frequently there's a very high death rate. We have also seen from a study, a recently study on the pharmaceutical stuff. People were been given a hell of a lot of drugs as soon as they got into say nursing homes or care homes. And these were things that they were doing very well without, in their own house, in their own community. But as soon as they went into the institutions, the prescriptions for these individuals just rose dramatically. And this is now something you can easily monitor, because of… at least in Northern Ireland, it's easy to monitor that.

So there's obvious benefits of anything that can help people to facilitate their living at home. I mean….I am not saying…it's obvious that many nursing homes are very good and there's certainly a role for nursing homes. But at the same time nobody and probably one can safely say, there are few if any that

would not prefer to be in their own home. And as such people will do what's required there now.

I don't know how well the technologies are worked out. I mean there's a lot of maybe they might have hype, I mean there's a lot of hype that goes on too in a lot of these areas. But what can be done. But certainly…..this is something that is just gonna happen. It's gonna happen. The rich are gonna do it if there's no other facility for other people to do it. But the issue is for people who…haven't got the resources sometimes to actually…well that has to be thought through in terms of social policy.

So what do we want to do? Do we want to actually pay for them in other ways in society, or do we want to actually keep them within their own community. I think it's a no-brainer. I think anybody wants to you want to keep them in their own home. It's a matter of getting things that will facilitate them.

Now we have gone down that road, like in terms of re-organizing houses in terms of bathrooms, in terms of steps, in terms of going up and down stairs and those things. So I mean these ideas are readily accepted in society now. So I think, I don't know, whether it will come in as the idea Telemedicine maybe. But the bits of that that are incorporated in that I assume with the terms Telemedicine will just creep in to households and they will just be taken for as if granted, maybe generate a new term for it.

The issue of what we were trying to do like Skype for example, I mean there's no real reason why there's isn't a greater use of that type of facility between parents and their offspring, or between grand parents and their and so on and their offspring, and I'm not saying that their offspring shouldn't visit them, but at the same time the ability to monitor and the ability to… now the ability to monitor people have to have control over it, in the sense of being able to switch it off and on. But nevertheless, I mean I am sure Skype has transformed a lot of lives, in terms of, for people who are more privileged.

Which raise the issue of how do you get round the cost issue, cause a lot of this depends on the interest facilities and the maintenance of that. And it's maybe tied in with maybe TV packages and so on but all those are kind of more expensive. Whereas at the core people really need those things for communicating with their relatives and so on and for I presume gismos that could be put in place in terms of Telemedicine.

6. **Why is Telehealthcare not embraced by the health service in Ireland today?**

It's like a lot of things, it has been oversold.it would have been better targeted on a few areas, on a few limited areas, where there was some chance of it been taking up in those areas. And that those areas would become areas for showing how it could be done. And let it roll out from there. But those areas would have to be carefully selected so that there were champions within those particular areas, who actually saw it as a useful thing. This business of just cover everything, everything can be done by Telemedicine, I think it's a dead duck. Because it just doesn't focus on the areas that are important. The areas were that is really useful. There are other areas that may have some more limited use. I mean there different degrees of usage in different areas, and for different purposes. It fits for one thing and doesn't do for another. So let's admit that there's some limitations. Let's admit that at sometimes we do need the person into the hospital, well at certain times. So what can we …. So what are the other gaps, the times when we can be monitored from home? What kind of criteria do we need to make those decisions? Those things have to be worked out technically within the different professions. So I think it's… so that's where a lot of the resistance… you know there's so much more work involved sometimes in implementing the stuff. And then possibly there's not enough…. there's an issue of resources. This is technical stuff. It's interfacing between engineering, communications and medicine. Now those are not easy areas. So you need different people who are talking different languages coming together and actually communication and interacting with one and other. So that requires a lot of resource, it requires a lot of time and probably in truth it requires a lot of sensitivity, because people think whatever they're doing is all that needs to be done. Whereas, if you get these linkages you start creating new dynamics and people will be able to see the spin-off. But that's not the initial way that a lot of these things are perceived because they think 'why should I bother, . I mean picking up on engineering problems and telecommunications, I've got to deal with this patient. And that's the immediate thing.'

I think those are… those are to some degree those are behind the level of skepticism, and I wouldn't under estimate the degrees of skepticism. But I think in certain areas….. it also has to be monitored so that you actually show the effectiveness of these things. No point in bringing these things in on just the fact that this must work. It may not work in certain situations, and we're gonna have to accept that in certain areas it's just not working out. But those kind of tight evaluations, of what is going on, of what is the benefits, it may actually show that there are no real benefits in a particular sector, in a particular thing. And then you can try it in another area and in another area and in another area. It's like keyhole surgery doesn't do all surgeries. It does certain things very well and other things it's not so good at. And it's the exact same problem for Telemedicine but it's finding those niches at the minute that are .. that's probably more difficult. And basically I assume that people coming from Telemedicine don't have enough knowledge of the health service to actually know the different kind of niches that are present because, I mean I wouldn't know about the one on diabetes only I was working with people in the area of diabetes. I mean there was this particularly crucial group who had to be monitored a lot and then they wanted to try and conduct a telemedicine thing with them.

7. **Just rolling on slightly from that but can you identify what the barriers may be and from whom, when dealing with Telehealthcare implementation?**

Well in medicine one is stuck with whoever the big chief is and it's not necessarily the medical director, it's the people on the ground, who's in charge of the clinic.... of a particular clinic. And it's basically until you get that person thinking about it and cooperating with it, basically there's very little else…. Very few people can move others on in the health service.

8. **Would the provision of Telehealthcare create, or reduce the number of clinicians required in the system?**

No, I think that's kind of a silly notion. I don't see it as reducing clinicians. No I think… I think what it would do would be…it could make a more efficient system. But I think it would also mean that medics would, and nurses and so on, that they're able to move up stream the more technical issues. If the low hanging fruit, or things are lesser that could be dealt with in other ways, could be taken off their plate or dealt with in a more efficient manner, it simply allows them to deal with the more intractable issues, that they're more training for and they're better equipped in many ways to deal with. So I think that all you'll find at the best would be some reorientation of resources in a different direction. But I …. There's no shortage of work, it's a matter of how you find an efficient way of actually getting it done.

9. **Just to confirm by the sounds of it you would trust and have confidence in telehealthcare technologies to effectively manage patient's conditions? If not please explain you answer?**

Ah yeah in certain areas certainly. We wouldn't be doing it in the case of the group of pregnant women if we actually thought there was a great risk involved. So we obviously think that can be done. That doesn't mean we don't monitor it, what's going on. But obviously telemedicine can do that. We actually, we think more than that, we actually think it can facilitate people. If people are having to rush to take three or four hours out of their day, maybe more, in order to get to a hospital appointment, we're not doing them any good if that's monitoring. You know that is in fact actually adding to the complications, rather than taking them away. So in many contexts we are…. It's providing a better service. However I do suspect that there are serious technical issues involved. One does need reliable systems, one does need to know within certain limits will work. We also, on the hospital side, there really does need to be a change in culture. Because doctors are centered around clinics and seeing people in clinics. No there has to be a change in orientation there if you are to introduce telemedicine and…now, we haven't

done it by people, they're just sending in their information. But I just suspect that could be better if there was also a certain time whenever the person could actually speak to the clinicians or speak to a clinical nurse or something, who knows about that particular area. And that would also facilitate it. It would also tighten the structure on the hospital side, make sure that there's proper monitoring going on because what I would be concerned about is that people would not get a reduced service as a result of it, but that it in fact added to the service. And it is possible that this could really add significantly to the kind of service that they get from the hospital clinicians and the nurses for that matter.

10. So I take it that you do believe that Telehealthcare can deliver enhanced business benefits to public sector organizations?

Ah yeah, I don't…I'd like to see more evidence on this. All the people I know, like nurses and stuff, that work in this area, while they have been skeptical about the way these things have been rolled out, none of them think that it doesn't have a serious role.

11. Who should be liable to pay for the provision Telehealthcare?

(Laughs) that's a good one alright. That's probably alright….I suspect that, in our system in Northern Ireland anyway, and the Republic's different, but in Northern Ireland it's picked up by the health service. Now in order for the health service to keep picking up the tab, I do think it does require effective evaluation. And to show where the economies are coming in and where the benefits to the client are coming in. I think that's the only way it will be maintained and rolled out on a bigger scale. Now I don't know the extent to which such studies have been undertaken, but that's the normal way that it works in any area and it would be then incorporated into say nice guidelines, nice guidelines for the treatment of patients. I don't think there is anything about telemedicine in it, I don't know I have never checked, but I have never seen it. I suspect until they're actually in the guidelines for the treatment of patients that its more difficult uphill struggle but that's the norm for getting any new intervention.

Appendix 10: Further Benefits to Telehealthcare

- Helps reduce unnecessary admissions or re-admissions, as remote monitoring assists in better managing health situations while at home

- Helps reduce the number of false ambulance callouts as monitoring Centre responders determine exact problem before emergency services are called (To be addressed in Paper two)

- Assists in keeping people safe within their homes through a Telecare alarm.

- Assists in monitoring pregnant women with diabetes during their pregnancies.

- Eliminates unnecessary travel to hospitals/clinics etc. A welcome to individuals living in remote geographical areas

- Actively assists in the reduction of MRSA and other hospital related infections, as individuals are removed from possible contaminated areas.

- Through Telehealthcare help is available to individuals immediately.

- For individuals who may suffer from Dementia etc., Telecare peripherals can actively monitor the home environment to ensure the client in always safe. Examples of these peripherals include, *Wandering Sensors* to detect if the person exits the home, *Monitored Medication Dispensers*. *Flood, Smoke and Gas Detectors* etc. to detect a change in the home environment.

- Fall detection, can be monitored by the use of automatic fall detectors,

- Inactivity/Activity can be monitored throughout the home day or night by the use of passive infrared detectors (PIR). Door exit monitors/Floor/Mat/Bed and Chair sensors can be strategically place within the home to detect periods of inactivity where individuals may have suffered a fall.

- Actively assists in the reduction of Hospital/ Clinic emergencies.

- With the advancements in *Telehealthcare* many more peripherals are turning the basic home into a smart home environment.

- Significantly reduces the costs involved in travel made by patients to Doctors/ Hospitals/Clinics etc.

- *Telehealthcare* provides a vital link with the outside world through which they can be sure of safety, security and most importantly *peace of mind*. That peace of mind also extends to relatives and friends who would otherwise be continually concerned for the welfare of their loved ones.

Appendix 11: Confidentiality Statement

Confidentiality and Non-Disclosure Agreement for Research Participants

Title of Research Project: Strategic Thinking in Telehealthcare; A possible solution to easing the financial strain on Ireland's overburdened Health Service

Researcher: *Ronán Bunting*

While conducting this research study, submitted in partial fulfillment of the requirements for the completion of Master's in Business Administration in Executive Leadership, I understand that I may have access to confidential information about study sites and participants. By signing this statement, I am indicating my understanding of my responsibilities to maintain confidentiality and agree to the following:

- I understand that names and any other identifying information about study sites and participants are completely confidential.
- I agree not to divulge, publish, or otherwise make known to unauthorised persons or to the public any information obtained in the course of this research project that could identify the persons who participated in the study.
- I understand that all information about study sites or participants obtained or accessed by me in the course of my research is confidential and only for the purpose of fulfillment of my studies. I agree not to divulge or otherwise make known to unauthorised persons any of this information.
- I understand that I am not to read information about study sites or participants, or any other confidential documents, nor ask questions of study participants for my own personal information but only for the purpose of completing my studies as required by Dublin Business School.
- I agree that identification of the study participant companies will be removed from the study after submission to the Examinations board of Dublin Business School.
- Confirmation of requirements of this study can be obtained from my research adviser, Enda Murphy, Dublin Business School.

_____ _____

Ronán Bunting Date: