An ISO 10000-based Patient Satisfaction Framework

by

Mohammad Ashiqur Rahman Khan

A thesis submitted in partial fulfillment of the requirements for the degree of

Doctor of Philosophy
in
Engineering Management

Department of Mechanical Engineering
University of Alberta

Abstract

Health care systems focus on fulfilling patient expectation and needs. However, the wide differences among various health care services make the understanding and use of patient satisfaction information challenging. Patient satisfaction can systematically be studied and analyzed through methods based on the ISO 10000 series of quality standards, a research area that is still unexplored. This research presents a study of three specific aspects of patient satisfaction through the application of ISO 10000 standards and various quality management principles and techniques. Unlike the traditional, provider-centered health care delivery systems, integrated health care, a relatively recent strategy, offers a patient-focused system that integrates the diverse resources and services with the objective of attaining a high quality of care and patient satisfaction. However, research on patient satisfaction in integrated care systems is still rare. The ISO 10000-based methods developed in this thesis address this void, demonstrating the focus on patient experience along the health care process.

The thesis demonstrates a systematic construction of patient satisfaction promises, unsolicited handling of patient feedback and measurement of patient satisfaction by applying ISO 10001, 10002 and 10004, respectively. A promise and its supporting processes were designed, developed and implemented in the inpatients care of a Canadian hospital. The feedback-handling and patient satisfaction measurement systems were designed and developed by focusing on the Emergency Department (ED) and inpatients care continuum, which was assumed as an integrated care case. To design and develop the three components that this research focuses on, i.e., patient satisfaction promises, a feedback-handling system and a patient satisfaction measurement system, interviews with the research participants, which including health care professionals (e.g., nurses and unit managers) and feedback-handling experts involved in health care performance measurement, were performed.

A promise was implemented in an inpatients care unit, including performance measurement processes with collection and use of solicited and unsolicited patient feedbacks using a patient survey and a feedback handling process, respectively.

A feedback handling system was developed for the unit-level handling of feedbacks by focusing on the ED and inpatients care continuum. For the measurement of patient satisfaction, a survey encompassing patient experience along the continuum of care was developed and verified through interviews with the research participants. The survey also included items related to

promise and feedback-handling system performances. Based on the results, the usefulness and applicability of the standardized systems were analyzed.

The most significant contribution of this research comes from the connections demonstrated among promises, feedback-handling and patient satisfaction measurement, which helped in conceptualizing a patient satisfaction framework for integrated care. The use of ISO 10001 presented a fresh approach to the systematic design, development and implementation of promises in health care. The integrated application of the three ISO 10000 standards in health care is presented for the first time, the feasibility of the approach and synergy attained being evident in the work presented. Through the focus on a care continuum, the ISO 10002 and ISO 10004-based feedback-handling and patient satisfaction measurement systems enriched the research in integrated care. The research learning can not only be replicated in other health care areas, and but can also serve as a baseline in other industries and sectors in investigating customer satisfaction effectively and efficiently.

Preface

This thesis has been developed based on a research project based that received research ethics approval from the University of Alberta Research Ethics Board. Three separate research ethics approvals were obtained for the various components of the thesis, and are included in Appendices A, D and H. All research participants signed a consent form, permitting the use of the data as explained in the information letter supplied to them.

The research presented in Chapters 2, 4, 5, 6 and 7 was condensed into four journal papers, three of which were already published. Condensed versions the work reported in Chapters 4, 5 and 7 have already been published as:

- Khan, M.A.R. and Karapetrovic, S. (2015), “Establishing an ISO 10001-based promise in inpatients care”, *International Journal of Health Care Quality Assurance,* Vol. 28 Issue 2, pp. 100-14 (connected with Chapter 4).
- Khan, M.A.R. and Karapetrovic, S. (2013), "Implementing an ISO 10001-based promise in inpatients care", *International Journal for Quality Research,* Vol. 7 No. 3, pp. 335-46 (connected with Chapter 5).
- Khan, M.A.R. and Karapetrovic, S. (2014), “ISO 10002:2004-based feedback handling system for emergency and inpatients care”, *European Accounting and Management Review,* Vol. 1 Issue 1, pp. 25-43 (connected with Chapter 7).

I was responsible for the concept formation, data collection, analysis and manuscript formation. Professor Karapetrovic was the supervisory author and was involved with the concept formation and manuscript finalization.

The work reported in Chapter 6 has been the source of the following working paper:

- Khan, M.A.R., Karapetrovic, S. and Carroll, L. (2015), “IS0 10004-based patient satisfaction measurement in integrated care”.

I was responsible for the concept formation, data collection, analysis and manuscript composition. Professor Carroll assisted with the concept formation and manuscript reviewing. Professor Karapetrovic was the supervisory author and was involved with the concept formation and manuscript finalization.

Additionally, the following peer reviewed paper was published in conference proceedings at the beginning of my research, and is conceptually related to the work presented in Chapters 6 and 7.

- Khan, M.A.R., Karapetrovic, S. & Liss, K. (2010), "A Methodology for an ISO/TS 10004 Application in Integrated Health Care", Proceedings of *The 14th International Conference on ISO 9000 & TQM*, Scranton, Pennsylvania, April 5-7, 2010, Paper 2-3, pp. 1-8.

I was responsible for the concept formation, analysis and manuscript composition. Mr. Liss assisted with the concept formation. Professor Karapetrovic was the supervisory author and was involved with the concept formation and manuscript finalization.

Acknowledgments

This is the part most readers, and hopefully there are some, hardly pay attention to, but it is very important to me. I will try to recall the people who, I believe, were part of this journey of mine.

Professor Stan Karapetrovic, I never seized calling you “Dr. Stan” because of the high respect I have for you as my mentor. My respect only increased over the years. I learnt from you how to really do research, dig deep into a concept, how to write papers and make sense at the same time. You led by example and demonstrated how to put the ethics at the pinnacle of priorities and how to be sincere in everything you lay your hands on. They said to me, “Senior profs don’t work hard, and that’s because they don’t have to”. On the contrary, I never felt I could match your level of dedication and hard work. Most of all, I witnessed how to respect students, regardless. There were times when I disappointed you and times when I made you feel good, but you never deviated from the high respect you have pre-set for your students. Of all the things I mentioned above and forgot to mention, this is my biggest take-away, and I thank you.

I would like to mention my Advisory Committee Members, Professors Dr. Linda Carroll, Dr. John Doucette and Dr. Yongsheng Ma, who put my thinking straight during my candidacy, guided me towards making my thesis more effective (hopefully) and took the time and care with sincerity. Especially, Dr. Carroll, I never came out of a meeting with you without feeling that I learnt something new. It was a privilege to have known you and researched with you.

Gratitude to my examiners Professors Dr. Fotis Vouzas of University of Macedonia and Dr. Amit Kumar of MECE, University of Alberta for your guidance and comments. Dr. Vouzas, your comments and compliments on my thesis as a Quality Management expert reinforced the importance of our work, and actually inspired me to further my exploration on the field. I needed this push.

Thank you Gail Dowler, Sr. Graduate Program Assistant, MECE, for your refreshing smile and patience in dealing with the “distressed” graduate students, me included.
I would like to express sincere gratitude towards my countrymen whose tax money funded my undergrad studies in Electrical and Electronic Engineering at Bangladesh University of Engineering and Technology. I also thank Alberta Health Services for the support and its personnel for facilitating this research. I recall my conversations with Dr. Abdullahel Bari (Assistant Professor of Management, University of Texas at Tyler, the only person with two PhDs that I know of). Your guidance while I was making my decision on starting this journey, as well as when I started looking for a full-time position in academia, was priceless.

My sincere gratitude to my colleagues and friends for all your time and advice, and for sincerely listening to me going on and on and on about my research:

- Dr. Abuhanif Bhuiyan, Dr. Noor-e-Alam, Dr. Sabbir Ahmed, Dr. Sayeed Rushd, Dr. Masum Hossain, Mr. Enrique Fernandez and Dr. Tetsu Nakashima from the University of Alberta;
- Dr. Fouad Dabbarh of Biomatcan, Fredericton, NB;
- Dr. Rafat Alam from the Department of Economics, and Dr. Muhammad Hossain, Dr. Bruce Thomson, Mr. Muhammad Huda, Mr. Mouhammadou Diallo, Mr. Asif Siddiqui, Mr. Gordon Lucyk and Mr. Ryan Orchard from the School of Business, MacEwan University;
- Dr. Joe Varughese, Dr. David Schmaus and the rest of the team from Bachelor of Technology in Technology Management, NAIT.

I recall with gratitude all the sacrifice my mother Fatema Begum and father Mohammad Saadullah Khan had to make to bring up a rowdy one like me and making me presentable to the society. The Almighty saw what you did for me, and the reward is from Him. I share this joyous moment with my loving brothers Mohammad Mahbubur Rahman Khan and Shafiqur Rahman Khan, and my baby sister Jannat Afroza Khan.

Ten years ago I married a wonderful girl who brought to my life smile, calmness, peace and excitement. Whenever she saw any crookedness in me, she straightened me. Whenever I had a great fall, she always picked me up and put me together again. In this journey of my PhD, you endured so much pain and sacrificed so much, my beloved wife Sayeda Sameeha Sarwar, I thank the Almighty for allowing me to be with you to share the joy and challenges of our journey together. I look forward to the journey ahead of us.

During my PhD, I became a father, the biggest achievement in my life. My children Suhaib Muhammad, Khadeejah Muhammad and Haajar Muhammad are the reasons for me to jump up in the morning to start a great day. I was away from you so much, putting the long hours on my work. I missed so much of the laughter and fun you brought to my life. Now I will be able to be around you far more and see you all grow.

All that I am and all that I have achieved is because of the mercy and permission of the Almighty. I bow down my head to express my gratitude for all that You have given me. I will strive to be a better servant of Yours in the time to come.

Table of Content

List of Tables

List of Figures

List of Abbreviations

CS	Customer Satisfaction
CSO	Case Study Organization
CSP	Customer Satisfaction Promise
ED	Emergency Department
FHS	Feedback-Handling System
PSM	Patient Satisfaction Measurement
HCAHPS	Hospital Consumer Assessment of Healthcare Providers and Systems
HQCA	Health Quality Council of Alberta
IP	Infection Prevention
PM	Program Manager
PRN	Pro re nata (as per request)
PWTG	Patient Wait Time Guarantees
RN	Registered Nurse
SIPOC	Supplier-Input-Process-Output-Customer
UC	Unit Clerk
UM	Unit Managers
UWCC	United Weight Control Corporation

1. Introduction

1.1. Patient satisfaction

Customer Satisfaction (CS) is one of the core goals of any organization whose mission is to satisfy customer needs and expectations. CS has been defined in various ways, for instance, as "customer's perception of the degree to which the customer's requirements have been fulfilled", although fulfillment of customer requirements cannot always guarantee high satisfaction (ISO 9000:2000, sub-clause 3.1.4). Conversely, even though complaints commonly indicate low CS, their absence does not necessarily mean high CS (ISO 9000:2000). Another way of understanding CS is by determining the gap between the customer's expectations and perception of the delivered product; the extent of this gap determines the degree of satisfaction (ISO 10004:2012, Annex A). Customer satisfaction is also defined as an outcome, "an end state resulting from the consumption experience", as well as a process, "emphasizing the perceptual, evaluative and psychological processes that contribute to satisfaction" (Vavra 1997, pp. 4). Prominent quality gurus and experts, such as Deming and Ishikawa, went as far as defining quality as customer satisfaction (Hoyer and Hoyer, 2001). The importance of the concept can be felt by its definitions from a wide variety of perspectives.

The variance in the definition and the complexities in the concept of customer satisfaction can be even more prominent in health care. Patients and the general public are the ultimate customers of health care (Deffenbaugh, 1994; Smith and Swinehart, 2001), which may also include patient families and friends (O'Malley *et al.*, 2008). Therefore, the assessment of care quality can include not only the patient's ongoing evaluation but also the perception of the observers such as family and friends (Strasser et al., 1995, found in Naidu, 2009). Patients want the right service in the right place, at the right time, at the right cost (Thomas and While 2007; Lamb 1997), although "the demand is infinite and resources are finite" (Deffenbaugh 1994, pp. 39). The vast scope of health care makes care quality evaluation challenging, considering the

service size, complexity, specialization and expertise within health care providers (Eiriz and Figueiredo, 2005). As Simoens and Scott (2005) stated,

> "Rather than a specific product progressing through a predetermined production process, the focus in health care is on the patient's journey. Each patient is different, and the nature of health care is characterized by uncertainty and multiple spells of treatment episodes, with care delivered by a number of different types of providers over different time periods" (pp. 26).

Health care quality assurance in general, as well as determination of patient satisfaction in specific, is challenging because the patients take part in the care process. The inseparability of the process and its customer also means that patient actions, mood and cooperativeness can affect the care quality (Ziethaml, 1981, found in Conway and Wilcocks, 1997). Further, the strong domination of functional aspects of care over the technical aspects makes it challenging for researchers to define the customer's perception of the quality of care. Patients typically lack the knowledge of the technical aspects of the care, such as clinical procedures (e.g., Wisniewski and Wisniewski, 2005; Carman, 2000; Berry and Bendapudi, 2007; Leonardi et al., 2007). Hence, patient's perception of the quality of care is more affected by its non-technical components (e.g., Andaleeb et al., 2007; Tucker, 2002; Baalbaki et al., 2008). Wisniewski and Wisniewski (2005) also pointed out that patients without the technical knowledge rely heavily on the functional quality of the care to evaluate the overall service quality, and, therefore, most patients only consider attributes such as empathy, reliability and responsiveness of the service in rating the service quality, which makes these attributes vital in evaluation of quality of care from the customer point of view. Other researchers also discussed about patients' lack of understanding of the technical aspects of care (e.g., Carman, 2000, Baalbaki et al., 2008, Berry and Bendapudi, 2007, Leonardi et al., 2007, Andaleeb et al., 2007, Bikker and Thompson,

2006). Therefore, focusing only on the best treatment may not lead to, for instance, a high level of satisfaction if the non-technical components of the care are not also emphasized.

Researchers and practitioners are focusing on the patients to study the patient's journey along the continuum, and understand the care process flow and the interactions and connections among various stages of care as the patient experiences it. By applying quality management concepts such as the "Process Approach" of ISO 9001 (ISO 9000:2005, sub-clause 2.4) and the "Spiral of Progress in Quality" (Juran, 1988, pp.5), and tools such as "Process Mapping" (Jacka, 2009, pp. 7), it is possible to investigate the patient's journey in great detail. The learning can be useful in providing an enhanced level of care, and subsequently, patient satisfaction on a continuous basis. The focus on the patients and their experience has led to origin of "integrated health care". This relatively recent concept is receiving a great deal of interest as a means for providing patient-centered care (Suter *et al.,* 2009; Ouwens *et al.,* 2005; Thomas and While 2007; Kerber *et al.*, 2007; Lamb 1997; Armitage *et al.*, 2009). Mur-Veeman *et al.* (2003) defined integrated health care as a coordinated organizational process that "seeks to achieve seamless and continuous care, tailored to the patients' needs" (pp. 227). Integrated health care focuses on combining physicians, hospitals and medical services (Rygh and Hjortdahl, 2007) and intends to provide coordinated and comprehensive care to the patients, acknowledging their diverse needs and expectations and involving them in decisions related to the care (Kodner and Spreeuwenberg, 2002). Care is provided as a continuum of services from the initial contact between the patient and the care provider to the end of the care and its follow-up (Rygh, Hjortdahl 2007), encompassing primary to tertiary care, as well as "from community and ambulatory services to institutional services" (Lamb, 1997). Key benefits of the integration include providing broad overview of the supply of health care (Deffenbaugh 1994), reducing fragmentation within the organization and improving the continuity and coordination of the care by placing patients at the center of health care delivery process (Ouwens *et al.*, 2005). In such a

patient-centered care, decisions and actions are focused on patient needs and preferences, and patient's participation and partnership in their own care are emphasized (Calabretta 2002; O'Malley et al., 2006). Depending on the specific area and application, integrated care is also referred to as "coordinated care", "collaborative care", "chronic disease management" (Minkman *et al.*, 2011), as well as "disease management", "care management" and "case management" (Ouwens *el al.*, 2005).

Researchers attempted to identify integrated care "attributes" (Friedman *et al.*, 2001), "principles" (Suter *et al.*, 2009) and "components" (Rygh and Hjortdahl, 2007). However, the integrated care principles that consistently appear in the literature are "patient centeredness" (in O'Malley *et al.*, 2008; Suter *et al.*, 2009; Ouwens *et al.*, 2005; Friedman *et al.*, 2001; Coddington *et al.*, 2001) and "comprehensive services across the continuum of care" (in Suter *et al.*, 2009, Friedman *et al.*, 2001), and need to be focused under the context of patient satisfaction. Researchers attempted to conceptualize integrated care (Kodner and Spreeuwenberg, 2002; Minkman *et al.*, 2011; Suter *et al.*, 2009; Vize, 2012) and suggested models and methods of establishing it (Armitage *et al.*, 2009; Leutz, 1999; Suter *et al.*, 2009; Vize, 2012). Although the literature contains examples of integration cases (e.g., Leutz, 1999; Nesrallah and Mendelssohn, 2006; Rea *et al.*, 2007; Wittwer, 2006), integrated care systems are still rare and as a concept still evolving (Armitage *et al.*, 2009). Nonetheless, the study of patient satisfaction in integrated care received little or no focus.

A useful means of increasing satisfaction is promises made to patients regarding the care. Appropriately designed and implemented promises can enhance the patient's confidence in the health care provider(s) and understanding of what to expect from them, thereby minimize the possibility of complaints and dissatisfaction (ISO 10001:2007, sub-clause 0.1). There are many examples of promises made in various health care services, the emergency department waiting time being the most renowned (Pallarito, 1995; Anonymous, 2004; Anonymous, 2008;

Anonymous, 2010). Although a number of these examples detailed the methods for implementing the promises, there is a lack of research in the systematic development of promises and implementing these promises in not only emergency care but also in other health care areas. It should be interesting to explore the systematic design development and implementation of promises as a tool to clarify what patients should expect, and to enhance their satisfaction by fulfilling the promises.

Based on the above discussion, it is evident that the study of health care quality assurance in general, and patient satisfaction in specific, have interesting research opportunities when explored through the quality management concepts. In addition, the study of patient satisfaction along a continuum of care is an area that still lacks substantial research a gap that can be addressed by applying quality management methods and tools.

1.2. Research problem

As part of their care experience, patients may undergo various stages of care, which may involve, for instance, the family physician, the specialist, the hospital to undergo a surgery, and the rehabilitation. Therefore, viewing this experience as one system should facilitate an effective understanding of the entire care process and patients' encounters with the care provider, as well as the patient's perception of, and satisfaction with, the care. Such a holistic understanding can usefully be obtained in integrated care. However, traditional measurement of outcomes within each care stage may not capture the patient's experiences along the continuum (Lamb, 1997). For instance, traditional patient satisfaction survey instruments are attribute-specific and may not clearly indicate the customer's perception of service quality in its entirety (Stauss and Weinlich, 1997). Overall satisfaction with the care is often measured as an aggregate of individual scores obtained from the measured care aspects, but may not focus on a patient's complete experience that builds along the care life cycle (Stauss and Weinlich, 1997). Just as the direct measurement of patient satisfaction, systems for the indirect measurement of

satisfaction are also important as indirect indicators of patient satisfaction (ISO 10004:2012, sub-clause 7.3.2). Although studies on feedback handling in health care are abundant, there is a research void in the context of the continuum of care. Stand-alone surveys and feedback-handling activities may exist at each care stage, providing individual snapshots of the patient's experiences. However, they may not provide a comprehensive picture of the patient satisfaction along the care continuum and rarely focus on the patient's experience. Nevertheless, patients view these stages as one system of interconnected processes carried out by various care providers and support staff. Because decisions and actions in integrated care are focused on patient needs and preferences, and patient's participation and partnership in their own care are emphasized (O'Malley *et al.*, 2006), focusing on the care continuum can extract a more complete and continuous picture of patient satisfaction and may highlight issues and improvement opportunities, which may not be possible in the traditional, provider-centered care.

There has not been much research on methods for the systematic development of promises. The study of promises can bring in a different dimension of patient satisfaction that the direct measurement tools and feedback-handling activities do not focus on. What can be also interesting is to explore if promises, direct measurement of patient satisfaction and feedback-handling can be brought together in one framework that clearly shows the possible interconnections among these three and help attaining synergy in the study and analysis of patient satisfaction, which is the focus of this research.

1.3. Thesis organization

Chapter 2 of this thesis provides a literature review on each of the three topics of focus, i.e., patient satisfaction promises, unsolicited feedback-handling and direct measurement of patient satisfaction, followed by the motivation and objectives of the research. Chapter 3 illustrates the research methodology.

The research on customer satisfaction promises for the inpatients care was divided into two phases. Chapter 4 illustrates phase I, in which the ISO 10001-based method was applied in establishing promises. Then the method for selecting one promise for potential implementation is developed and the learning and recommendations based on the results are discussed. Chapter 5 details phase II of the research on promises, illustrating the standardized implementation of a customer satisfaction promise developed and selected in Chapter 4. The details of the implementation are then discussed, and an analysis of the collected performance data is provided. Based on the learning, recommendations were made regarding establishing similar promises in other health care areas.

Chapter 6 presents the design, development and verification of an ISO 10004-based patient satisfaction measurement system. The focus was on handling solicited feedbacks in an ED and inpatients care continuum as an integration case. The design and development of a patient satisfaction survey in integrated care is described. The results of the survey verification, as well as the learning and recommendation are reported.

Chapter 7 presents the design, development and verification of an ISO 10002-based feedback-handling system for the same ED and inpatients care continuum. The Application of ISO 10004:2012 in augmenting the maintenance component of the system is analyzed. The verification of the system is presented, followed by the results, learning and recommendations.

Lastly, Chapter 8 details the conclusions from the overall research, and the subsequent conceptualization of a framework for integrated care. The limitations of the presented research and the avenues for further explorations are discussed.

2. Literature review

In this chapter, a literature review is presented on the three key topics focused in this research: the promises in health care, Patient Satisfaction Measurement (PSM) in integrated health care and feedback-handling. First, the definition and classification of promises and guarantees, their benefits, the methods and health care examples of the implementation, and an overview of ISO 10001, are discussed. Second, a study of PSM in the integrated care setup is discussed, including examples of PSM along a continuum of care, the concept of service encounters, why certain aspects of the care should be emphasized in the measurement, and an overview of ISO 10004:2012.Third, a study on handling unsolicited patient feedback is presented and the systems that are used in this regard are discussed. Forth, the relationship among the ISO standards used in this research is illustrated. Fifth, the motivation stemming from the findings in the literature is described and finally the research objectives are stated.

2.1 Promises in health care

Organizations use promises and guarantees related to their products and services to attract customers, to gain competitive advantage, and to set high performance goals and thus improve the quality of the product/service (Hart, 1988; Wirtz and Kum, 2004). The two terms are used often interchangeably albeit there is a subtle difference - a promise is the “reason to expect something” that provides the “ground for expectation of success, improvement, or excellence” (Merriam-Webster Dictionary, 2012), while a guarantee is “an assurance for the fulfillment of a condition” (Merriam-Webster Dictionary, 2012). It is noticeable from their definitions that both promises and guarantees are connected with customer expectations. Hence, some organizations use “promise” (Pallarito, 1995) and some use “guarantee” (Lewis, 1993) to realize the intended benefits. Well-designed promises may bring numerous benefits, such as help customers understand what to expect and the organization’s commitment to meeting those

expectations (Hart, 1988; Hogreve and Gremler 2009; McDougall *et al.*, 1998). Therefore, useful promises can enhance customer loyalty (Hart, 1988; McDougall *et al.*, 1998) and satisfaction (Levy, 1999; McDougall *et al.*, 1998).

However, a promise can also be poorly designed, i.e., vague, unreal and meaningless, and without the backing of the supporting processes. This may cause more problems than the intended benefits (Hart, 1988; Wirtz, 1998), and can damage the reputation of an organization (Wirtz, 1998). For example, when a business states: “satisfaction guaranteed”, many questions may arise in a customer’s mind, such as

- What is exactly meant by satisfaction?
- How is the satisfaction measured?
- How do I file a complaint when I am not satisfied?
- How will the complaint be handled?
- How I am going to be compensated as promised?

It is, therefore, crucial that the ”promises” and “guarantees” are “clear, concise, accurate and not misleading” (ISO 10001:2007, sub-clause 6.4.3), as well as well-designed and backed up by clearly defined and implemented supporting activities so that customers know what to expect (Hart, 1988). Many potential issues related to poorly designed promises can thus be eliminated.

Articles on promises were searched in Medline, Emerald and Google Scholar with keywords such as “promise to patients”, “guarantees to patients”, “patient satisfaction codes”, “patient satisfaction promises”, “promise to customer” and “service guarantee”, as well as various combinations of “promise”, “guarantee”, “health care”, “patient satisfaction” and “customer satisfaction”. Additional articles on promises in health care were identified by snowballing, i.e., selecting articles from the list of references in the already reviewed articles.

In the search, the term “service guarantee” often came out as an alternative to “promise”. A promise is defined as “a legally binding declaration that gives the person to whom it is made a right to expect or to claim the performance or forbearance of a specified act” (Merriam-Webster, 2012). This definition reasonably suits the context and application of the term in business. A promise is intended to express what to expect, and details what happens when it is not fulfilled. In the literature, however, the term “guarantee” is more commonly used to depict the same meaning (Hart, 1988; Hart *et al.*, 1992; Hogreve and Gremler, 2009; Brown, 1986).

In this thesis, “guarantee” and “promise” are used as synonyms.

2.1.1 Definition, attributes and classification

Hart *et al.*, (1992) defined service guarantee as *“a statement explaining the service customers expect (the promise) and what the company will do if it fails to deliver (the payout)".* Hogreve and Gremler (2009) provided a detailed definition, which states, “*an explicit promise made by the service provider to deliver a certain level of service to satisfy the customer and remunerate the customer if the service is not sufficiently delivered*”. Promises should be simple and clear to all, and should contain a few components that help with its clarity. Hart (1988) defined a “good service guarantee” as being:

(1) unconditional,

(2) easy to understand and communicate,

(3) meaningful,

(4) easy (and painless) to invoke, and

(5) easy and quick to collect on (Hart, 1988).

In addition to these attributes, Fabien's (2005) definition of a "good service guarantee" includes transparency, credibility, and focuses on key service features, "significant compensation" and ease of implementation.

Hart *et al.* (1992) classified service guarantees into three types:

- "unconditional", which is explicit and broadest in definition,
- "specific result", which are also explicit but conditional, and
- "implicit", which are unconditional but not clearly stated.

Levy (1999) discussed the same classification (albeit using "extraordinary" in place of "unconditional") with health care examples of each type. Additionally, Wirtz and Kum (2001) discussed a comparison of performances between "full-satisfaction guarantees" that are against anything that dissatisfies a customer, and "attribute-specific guarantees" that cover a few key attributes of a service, and pointed to the benefit of the integrated use of the both as it combines the wide scope of the former with the specific minimum performance level of the latter.

2.1.2 Benefits of promises and guarantees

The benefits of promises and guarantees are discussed in many articles (e.g., Anonymous, 2002; Anonymous, 2004; Anonymous, 2010; Brown, 1986; Hart *et al.*, 1992; Levy, 1999; Pallarito, 1995; Wardlaw, 2007). The presence of a service guarantee improves the service quality and the outcomes of the service (Levy, 1999), as well as the customer's perception of quality and satisfaction (Hogreve and Gremler, 2009; Levy, 1999). Positive impact of guarantees include reduction of costs (Levy, 1999), as well as the customer perception of risk, anger and negative word-of-mouth during a service failure (Hogreve and Gremler, 2009). Understanding the perspectives of the patient, employees, organization and the competition on a continuous basis can be possible with appropriate service guarantees (Levy, 1999). Well-

designed service guarantees can help in setting clear quality standards, which leads to higher employee motivation and encourages them to deliver quality service (Hogreve and Gremler, 2009), and helps in assessing the performance of the service (Hart, 1988). When the guarantee provides a clear standard for assessment, customers can be convinced that complaining about unfulfilled guarantee can actually bring favorable outcome in terms of the specified compensation (Wirtz, 1998). Goodwin *et al*. (2012) suggested that guarantees should be made to patients with complex needs as an “ambitious” means of improving patient experience. Such guarantees can include patients’ right to an “agreed care plan” and “a named case manager” to coordinate the care plan (Goodwin *et al*., 2012). Additionally, studies show overwhelming customer loyalty and positive word-of-mouth effect when complaints are resolved promptly (Stichler and Schumacher, 2003). The complaints from dissatisfied customers regarding the unfulfilled guarantee can actually be considered as opportunity for a firm to recover the service or pay to the compensation guaranteed (Wirtz, 1998), both of which add to enhancing satisfaction (Hogreve and Gremler, 2009).

In addition, promises to patients may be used in identifying problem areas. Traditional customer surveys may not capture useful intelligence from customers about their concerns, true feelings, satisfaction and dissatisfaction about services (Levy, 1999). Service guarantees provide an open forum for consumers to make their voice heard (Levy, 1999). Lewis (1993) showed an example of how to use a promise to invoke patient complaints about problem areas. The United Weight Control Corporation promised refunds to patients who reported specifically what the problem was or why she was exceptionally pleased, which the patients were asked to record in two different “Service Guarantee Cards”, “Gray” for expressing disappointment and “Blue” for being exceptionally pleased (Lewis, 1993). Subsequently, improvement actions were undertaken based on the obtained data (Lewis, 1993).

Marmorstein, *et al.* (2001) recommended service improvement first before promising anything to customers simply because the customer's primary interest is service reliability and not compensation for missed promises. Using service guarantees only by providing a compensation for failure to the service to attract customers should not be the strategy (Marmorstein *et al.*, 2001). Hence, promises made to patients should be backed up by supporting processes and the fulfillment or failure of a promise should be evaluated based on specific performance indicators. For instance, a promise that states, "You will not be harmed by your care", an indicator can be "adverse events per admission" (Kabcenell and Roessner, 2002).

In the research on standardized processes on service recovery, there is a gap on how to develop clear "scripts and routines" that define standardized reactions to the occasion when a customer invokes the promise (Hogreve and Gremler, 2009). Having rules and standardized procedures on reacting during the service recovery can be a positive and value-adding improvement (Hogreve and Gremler, 2009). A method for establishing promises can include such procedures, and therefore, can close the identified gap.

2.1.3 Examples of promises and guarantees in health care

Although there have been many articles on guarantees and their impact in various business areas (Hogreve and Gremler, 2009), only a handful of articles on promises and guarantees can be found that are related to health care. In an area that deals with the vulnerable population of the society, implementation of well-designed promises has the potential to bring many benefits (Kabcenell and Roessner, 2002; Pallarito, 1995; Wardlaw, 2007). Guarantees in health care at the national level are not uncommon. Sweden has a "0-7-90-90" wait time guarantee, which includes zero delay for contact with primary care, seven days waiting time with the GP visit, specialist consultation within 90 days and elective treatment within 90 days from the time the diagnosis is done (Esmail, 2013). Inspired by the success in Sweden, maximum wait times in

certain health care areas were also established in the NHS (National health Services, UK), Norway and Denmark (Hanning, 1996). Interestingly, Health Canada allocated a $1 billion fund in 2007 to support implementing Patient Wait Time Guarantees (PWTGs) in all provinces and territories in at least one of the clinical areas including cancer therapy, cataract surgery, cardiac care, joint replacement and diagnostic imaging (Health Canada, 2015). PWTGs include two key components: (1) a defined timeframe and (2) access to alternatives in case the timeframe is exceeded (Health Canada, 2015).

However, scholarly articles on promises or service guarantees in health care are still rare. In addition to the maximum wait time guarantee in Sweden, (Hanning, 1996), examples of promises in the literature, include palliative care (Norlander and Baines, 2003), ED (Anonymous, 2002; Anonymous, 2004; Anonymous 2010; Pallarito, 1995), weight control (Lewis, 1993; Levy, 1999), hospitals (Levy, 1999; Pallarito, 1995; Wardlaw, 2007), outpatient care (Lewis, 1993) and diagnosis (Brown, 1986). Examples of health care organizations making promises to patients regarding care services are illustrated in Table 2.1, including the organization type, the promise that was posted on their website, instructions on how to leave feedback on the promise and the method of handling the received feedback.

Organization	Type of care	Excerpt of the promise	Ways to leave feedback	Details of the feedback-handling
Musgrove Park Hospital, UK (2012)*[1]	Hospital	"We promise that our nurses will: Communicate with you, Actively listen to you, Respect you, Involve you, Notice you, and Give you reassurance".	Telephone	Not provided
The Highland Hospital, (NY) (2014)	Hospital	"The Highland Promise—and it *is* a promise—commits all of us to excellence for our patients and our overall operations. And not just excellence, but excellence the "community hospital" way, with the emphasis on genuine compassion as well as top-notch treatment".	Not provided	
Banner Ironwood Medical Center, AZ (2014)	Hospital	A general promise is stated	Online link to feedback	
NHS Lothian, UK (2012)	Regional health care provider	A general promise is stated (pp. 5).	Not provided	
South London Healthcare NHS Trust (2012)**[2]	A trust of three hospitals	"The Care Guarantee: our promise to patients, delivered through getting the basics right. The Care Guarantee is about high quality care, delivered by caring people, in safe and clean hospitals".	Not provided	
Cancer Treatment Centers of America (2014)	Group of hospitals	A general promise is stated under the mission.	Email and online link for chatting	
St. Charles Parish Hospital (LA) (2012)***[3]	ED	*"Emergency room patients who arent triaged within 30 minutes will receive a gift certificate for dinner at Bravo Italian Kitchen."*	Not provided	

Table 2.1: Examples of promises or guarantees made to patients

[1] The hospital did not show the promise when accessed on July 30, 2014.
[2] Dissolved since October 1, 2013 (http://www.slh.nhs.uk/.)
[3] The hospital did not show the promise when accessed on February 16, 2015.

It is evident from these examples that the majority of the organizations lack clear instructions on how to leave feedback regarding the unfulfilled promises, as well as information on how the feedback will be followed-up on. Many of these promises can be comprehended as the mission or principles that may or may not have been implemented. These organizations do not detail how the promises were implemented. Therefore, it is not possible to comprehend if, or which, benefits of promises were realized. Further, as pointed out in Goodwin *et al.*, (2012), health and social care policy may already include actions that can form guarantees, but are not consistently implemented.

2.1.4 Implementation of promises

Hanning (1996) discussed the implementation of a "maximum waiting-time guarantee" of three months by the Swedish government Federation of County Councils (the central body responsible to finance and deliver most health care services in Sweden). The guarantee stated that if a hospital missed the deadline of three-month waiting time, it would have to pay for the treatment of the patient in another hospital or private clinic (Hanning, 1996). To promote the initiative, the participating County Councils would receive a subsidy from the government from an allocated fund of US$ 70 million. Results from this strategy showed that most departments could meet this deadline without major changes to the existing system, which led to better management of the waiting list and efficient allocation of resources (Hanning, 1996).

A number of health care examples of promises are related to quick service and less waiting time in the Emergency Department (ED). For instance, Pallarito (1995) discussed implementation of the following promise at a New Jersey hospital's ED:

"Patients will be seen within 15 minutes by a nurse and within 30 minutes by a physician or the hospital pays your bill".

Through this promise, the hospital intended to improve the delivery time of the care and made the following changes in order to facilitate the promise:

a) They hired a “floating registrar” who registered patients as soon as patients arrived,
b) They also hired a second triage nurse to speed up the triage process, and
c) They implemented shorter shifts to physicians so that they could stay up late whenever needed (Pallarito, 1995).

The changes increased the hospital expenses, but improved the patient flow by 15%, completely eliminated walkouts and sped up the care process by 25%, with 70% patients were in and out of the emergency in two hours (Pallarito, 1995). Inspired by the same program, another hospital in New Jersey implemented in their ED an identical promise that they called the “15/30 program”, which resulted in less than only 10 patients claiming the refunds to their ED bills (Anonymous, 2002). This hospital sped up the triage process by performing bed-side registrations of 90% patients and hiring more physicians, which resulted into an 11% increase in the total number of patients visiting that hospital since the implementation of the promise (Anonymous, 2002). What was interesting is the commitment shown by the physicians in upholding this 15/30 promise – each time a patient a claimed that the promise was not met, each physician in the team would pay $50 to the hospital library (Anonymous, 2002).

Two hospitals in Ohio also promised to treat a patient in 30 minutes of arrival in the ED, which resulted into reduction of the triage and waiting time and the overall “length of stay” (LOS) and increase in the total number of patients visiting the ED (Anonymous, 2004). Another ED in Virginia extended the promise to “providing a no-waiting experience” by having a Registered Nurse (RN) at the ED entrance to greet the incoming patient and asking about their chief complaint in order to determine whether they the patient needs critical or minor care, as well as floating staff that are ready to help immediately when several patients come in at once (Anonymous, 2010). The result showed a 57% decrease in the average LOS with most patients

being discharged within 1.5 hours and a 110% higher number of patients receiving care (Anonymous, 2010).

Brown (1986) detailed how patient feedbacks were used in identifying the problem areas, improvements were made in those areas, and guarantees focused on those areas were implemented subsequently. The result showed that in addition to receiving zero complaints from 250,000 patients at the end of the first year of the guarantees, there was a positive change in patient perception regarding the care, as well as improvement in the morale and job satisfaction among the staff (Brown, 1986).

What is common in the examples presented in Brown (1986), Pallarito (1995), and Anonymous (2004) is that hospitals implemented one or more improvement activities before making a promise. Additionally, some promises were ambitious, yet the hospitals pursued them as part of their push for excellence (Brown, 1986; Pallarito, 1995). These examples actually prove the argument of Marmorstein *et al.* (2001), as discussed in 2.1.2, that the service improvement should precede the implementation of promises. Otherwise, an ill-implemented promise may only aggravate the customer's poor impression of the service quality and ruin intended benefits.

Health care examples of methodical establishment of a specific "guarantee" (e.g., in Brown, 1986) or "promise" (e.g., in Pallarito, 1995) are still scarce, which indicates that there has been lack of research on this problem. There is an example in Brown (1986) of steps followed in establishing a "Patient Satisfaction Guarantee" at a Diagnostic Radiology Department in an inpatients facility. These steps can be summarized as below:

a) Areas of patient concerns were identified by analyzing existing patient surveys and letters.
b) Three guarantees (which were internally called 'goals') were set;

c) Specific actions such as acquiring additional resources and changing the procedures and guidelines were taken;
d) Patients were informed through posters, and guarantee cards that can be filled with feedbacks;
e) Employee commitment from various levels was nurtured by involving them in redefining strategies for changing both policies and methods to align with guarantees;
f) Continuous commitment was sought by routinely posting patient feedbacks about the service guarantee, and disseminating in every two months a memo about the program's status (Brown, 1986).

Even though Brown (1986) did not present these steps as a framework or model, they are based on actual implementation, hence, should be useful in other such cases.

Fabien (2005) proposed a decision support model called "Service Guarantee Development", which is intended for designing, implementing and communicating service guarantees. This model includes an extensive preliminary analysis of seven external and five internal factors in order to design a service guarantee (Fabien, 2005). Wardlaw (2007) advocated for developing "a brand promise" to generate a set of expectations for customers when the name of the care provider appears, and emphasized that the care should be delivered as promised by aligning it with the internal behaviors of the organization. Lewis (1993) reported how the United Weight Control Corporation (UWCC) used a promise to invoke patient complaints on the problem areas. In this study, UWCC promised refunds if patients complained on a "Gray card" what the problem was, and if exceptionally pleased, commented on a "blue card" the reason for their satisfaction. During the implementation period that spanned nine months, the number of blue cards was overwhelmingly higher than the gray, which led to a high morale of the staff (Lewis, 1993). Moreover, the gray cards pinpointed the specific problem areas which were not easily visible (Lewis 1993).

The implementation examples demonstrate how promises and feedback can go hand in hand, as well as lead to not only improvement but also innovation. However, the health care literature still lacks models or frameworks that can be applied in implementing promises in a systematic way.

2.1.5 ISO 10001:2007-based promises

The lack of conceptual models to establish promises in health care provides the motivation for exploring the application of ISO 10001, which includes guidance on establishing Customer Satisfaction (CS) codes of conduct (ISO 10001:2007, sub-clause 0.1). It is the first internationally recognized set of guidelines on CS codes (Dee *et al.*, 2004) for developing and implementing accurate and effective CS codes for an organization's products, services and activities (Dee *et al.*, 2009). An overview of the standard is provided in Appendix M. There are similarities between ISO 10001 and Fabien's (2005) "Service Guarantee Development" model. Fabien's "preliminary analysis", "guarantee design", "performance analysis", 'implementation' and "communication" activities are analogous to ISO 10001:2007, sub-clauses 6.1 to 6.5, 8.2, 7 and 6.7 respectively. However, Fabien's (2005) model lacks detailed guidelines on how to plan, design and develop guarantees, which is illustrated in Clauses 6.1 – 6.8 of ISO 10001:2007. The standard includes the guiding principles (Clause 4) to be adhered to while establishing a code, which Fabien's (2005) model also lacks. Fabien (2005) suggested that it should be interesting to learn from a few real-life cases about the problems encountered at the design and implementation stages of establishing service guarantees. Therefore, the application of ISO 10001 should be useful in addressing this research avenue.

ISO 10001 defines CS "codes" as "promises made to customers by an organization concerning its behavior that are aimed at enhanced customer satisfaction and related provisions (which)

can include objectives, limitations and complaints handling procedures" (Clause 3.1). There is clear connection between this definition of a "code" and Hart's (1988) and Fabien's (2005) definitions of a "good service guarantee" (discussed in 2.1.1). What the standard calls a "code" is actually a promise with its components and support activities, which are consistent with a "good guarantee". Therefore, it is appropriate to apply ISO 10001 in planning, designing and implementing a CSP.

ISO 10001 also details guidance on the supporting processes to deal with a complaint regarding an invoked promise. According to sub-clause 6.4, a CS code should include:

a) the promise(s) made to the customer, including its limitations;
b) the scope and purpose of the promise;
c) the definitions of key terms used in the code;
d) the way a customer can leave feedbacks about the promise;
e) the redress activity (the actions taken) if the promise is not met.

A hospital may promise: *"Within 15 minutes a patient walks into the Emergency, the triage nurse will inquire about the reason for the visit. If the triage nurse fails to speak with the patient within 15 minutes, the nurse will apologize for the delay and provide an explanation",* which is consistent with the already discussed examples (e.g., in 2.1.3). Based on these five components of a CS code, this promise has missing components. Firstly, its scope and limitation are not clarified. For instance, the triage nurse can be busy with another emergency situation and may not have the time to fulfill the promise. Secondly, the term "triage" may not be familiar to all, therefore, needs defining. Thirdly, the promise lacks details of the process how the patient will leave feedback regarding the promise. Hence, this promise is incomplete as a CS code according to Sub-clause 6.4. Sub-clause 6.5 suggests developing performance indicators based on which, the code performance can be measured and monitored. For instance, the promise can simply be evaluated by accounting for how many times the promise

was invoked within a certain period of time. Sub-clause 6.8, suggests determining the resource needs, which may include improving the triage process, hiring additional staff, training the staff and allocating additional funds.

A standardized set of CS codes may result in many benefits, such as

a) Enhancement of useful and fair practices and customer confidence;
b) Improvement of the customer's understanding of expectations from an organization's products and relationships with customers, thus reducing potential misunderstandings and complaints;
c) Potential decrease of the need for new regulations about the organization's conducts towards customers (ISO 10001:2007, sub-clause 0.1).

As already discussed in 2.1.4, the promise should include feedbacks from patients as part of the support activities. Hence, an application of ISO 10002 can be useful in this regard.

2.1.6 Summary

Based on the health care examples, it is evident that appropriately planned and developed promises along with the supporting processes can enhance patient satisfaction, help in achieving challenging goals and drive the improvement of the care quality. However, the methods of implementation of promises in the health care received little focus among the researchers. Moreover, no examples of following a standardized process in establishing promises could be found. Therefore, the health care personnel may struggle to establish effective and useful promises that are capable of realizing their objectives, and may end up with ineffective promise initiatives and wastage of resources.

2.2 Patient satisfaction in integrated health care

Patient satisfaction can be defined as the patient's "perception of the degree to which their expectations have been fulfilled" (ISO 10004:2012, sub-clause 3.2). Therefore, measurement of patient satisfaction can reveal issues with the care that were previously unidentified and improvement opportunities that can be realized. Measurement of patient satisfaction is quite relevant in the context of integrated care. In a particular health care organization, there may be Patient Satisfaction Measurement (PSM) activities already in place at each stage of a care continuum, but the connection between the stages can be missing, which is a challenge in the traditional measurement of outcomes. PSM is traditionally performed within each stage of the care and does not focus on the patient's experiences along the entire care continuum (Lamb, 1997). Such a view is provider-centered and outcome focused (Stauss and Weimlich, 1997), and may not help in realizing the benefits of integrated care. Moreover, traditional attribute-specific surveys may not clearly indicate the customer's perception of service quality in its entirety (Stauss and Weimlich, 1997). Overall satisfaction is often measured as an aggregate of individual scores obtained from the measured care aspects, but may not focus on a patient's complete experience along the care lifecycle (Stauss and Weimlich, 1997).

The solution can be having one patient satisfaction survey encompassing all stages of the care continuum, which may lead to more challenges than answers. Due to the diversity and complexities of various care continua, it is an arduous task to conceptualize one PSM model for all continua. A 'one-size-fits-all'-type solution may not be useful anyway. In integrated care, however, decisions and actions are focused on patient needs and preferences, and patient's participation and partnership in their own care are emphasized (Calabretta, 2002; O'Malley *et al.*, 2006). Integrated care can be implemented as "an organizing principle" to improve care through better coordination of service provided (Shaw *et al.*, 2011). Integrated care can provide a broad overview of the supply of health care (Deffenbaugh, 1994), and as already pointed out

in Chapter 1, can reduce fragmentation within the organization and improves the continuity and coordination of the care (Ouwens *et al.*, 2005). Therefore, focusing on patient experience along the care continuum can extract a more complete and continuous picture of patient satisfaction than the traditional measurement that is provider-centered.

2.2.1 Patient satisfaction measurement along a continuum of care

Although there are examples of measurement of the level of health care integration has been explored (e.g., Simoens and Scott, 2005), PSM in integrated care has not been fully investigated. The lone example that could be found is by Braun *et al.*, (2010), who also pointed out the lack of standardized instruments to measure and compare satisfaction of the patients of integrated care networks. Braun *et al.* (2010) adapted an existing satisfaction survey on ambulatory care patients and applied it to a sample of patients of integrated care services. Baalbaki *et al.* (2008) illustrated the development of a patient satisfaction survey with 50 items, which was administered on a sample of patients of the Emergency Department (ED) and inpatients care, which is the same continuum that is of interest in this research. Obviously, Baalbaki's *et al.* (2008) survey is not focused on integrated care or the continuum of care, but emphasized the aspects of care that have impact on satisfaction at each care stage. This survey can be considered as a typical example of a measurement that may have the focus on patients' satisfaction with the care at various stages, but not on the continuum of care. For instance, Baalbaki's *et al.* (2008) analysis does not include the patient handing off from ED to the inpatients care, which is something that needs to be included in a survey instrument when a continuum of care is analyzed. With the integrated care setup, such a survey should focus on the patient handing-off, as well as all the service encounters between patients and care providers, thereby help in obtaining a comprehensive picture of patient satisfaction within the entire continuum.

2.2.2 Service encounters

Since integrated care considers the care given to the patients as a continuum of services to focus on the patient needs and satisfaction, it is necessary to investigate the patient encounters with the health care providers and systems. Service encounters, i.e., contacts between patients and care providers, are the “moments of truth” when the patient makes a judgment about the quality of care (Osborne, 2004). Service encounters can contribute to explaining the patient’s perception of the overall care (Steiber and Krowinski, 1990). Moreover, satisfaction with service encounters is correlated with the overall satisfaction with the hospital (Baalbaki *et al.*, 2008). Therefore, PSM should focus on the service encounters and build-up of the patient’s perception of care along the continuum.

2.2.3 The non-technical aspects of the care

During the service encounters, the patient’s perception of the care quality is formed and this perception includes both the technical aspects of the care (such as the professionalism and knowledge of the physician and nurse) and the non-technical aspect (such as their friendliness and empathy). However, patients generally have less knowledge of the technical aspects of the care than the non-technical aspects; hence, the evaluation of the care and satisfaction can be more impacted by the non-technical aspects (Andaleeb, Siddiqui and Khandakar, 2007; Baalbaki *et al.,* 2008; Tucker, 2002; Naidu, 2009; Ware and Hays, 1988; Trout, Magnusson and Hedges, 2000). This particular learning is the same in general, whether the care is integrated or not, and should be included in the PSM.

More discussions on the general classification of the quality aspects are included in Appendix M. The quality dimensions proposed by Kano (2001) can be useful in the development of the PSM components as a means of maintaining patient focus, and can allow an involved understanding of the care aspects impacting patient satisfaction.

2.2.4 ISO 10004-based patient satisfaction measurement

This standard provides a framework in its Clause 6 that can be useful in developing the PSM activities for integrated care. In the literature, this standard was reported as a customer satisfaction measurement tool (e.g., Karapetrovic and Brkic, 2014; Kenett *et al.*, 2012; Kenett and Shmuelli, 2014; Yussupova *et al.*, 2014). However, a health care application of this standard is yet to be reported. Even though the standard is focused on the direct measurement of customer satisfaction, it is designed to work together with ISO 10001 and ISO 10002, the two other standards used in this research. As illustrated in Figure F.1 (See Annex F, ISO 10004:2012), the support activities regarding the CSP and feedback-handling can be developed and enhanced through ISO 10004:2012. Similarly, the performance data on the CSP and feedback-handling activities can be included in the measurement and monitoring. That ISO 10004:2012 can be adapted not only in the direct measurement of patient satisfaction, but also in the performance measurement of the CSP and feedback-handling activities helps in conceptualizing a framework for PSM in integrated care.

2.2.5 Summary

An organization's definition of quality almost certainly differs from the patient's perception and expectations (ISO 10004:2012, Annex A2). Traditional health care is provider-centered (e.g., Baalbaki *et al.*, 2008; Dagnone, 2009) and, therefore, may lack the patient focus. ISO 10004:2012 with its customer focus and, however, defines customer satisfaction as the gap between customer perception and expectation of the product and distinguishes customer perception from the organization's view. This strength of the standard should be useful in integrated care. PSM activities should include the service encounters along the care continuum and account for the diversity of various care continua. In addition, the emphasis should be on the non-technical aspects of the care that the patients value mostly. Studies on PSM in

integrated care are still rare. Therefore, it should be interesting to explore PSM by considering the care continuum the patient experiences as a single system, an approach that may highlight issues and improvement opportunities hard to identify in the traditional measurement. A useful PSM tool can be ISO 10004:2012, which is yet to be applied in health care.

2.3 Patient feedback handling

Feedback from patients is an important element that helps in understanding the perception of care and in identifying problem areas and improvement opportunities. Feedbacks are defined as *"the opinions, comments and expressions of interest in the products or the complaints-handling process"* (ISO 10002:2004, sub-clause 3.6). The feedback can be solicited, i.e., obtained through surveys or focus group discussions, or unsolicited, i.e., conveyed by patients in writing or by oral communication. The patient family and friends, who are considered as health care customers as well (O'Malley *et al.*, 2008), may provide useful feedback. Numerous studies can be found on the importance of feedback in health care (e.g., Levine *et al.*, 1997; Seelos, 1994; Stichler and Schumacher, 2003). Complaints are considered as a useful indicator of service quality (Kline *et al.*, 2008; Seelos, 1994). However, because the traditional health care is provider-centered and focused on systems rather than patients (Friedman *et al.,* 2001; NHS, 2003), the feedback-handling can be isolated and discontinuous. It is possible that patient feedback can be obtained and used more effectively and efficiently in an integrated care system than in a traditional system.

The significance of patient feedback, use of feedbacks in health care quality improvement and effectiveness of systematic feedback-handling were studied and are included in Appendix M.

2.3.1 Means for conveying feedbacks

In addition to the well-known means such as filling feedback forms, telephone and emails, customers may use the social media in leaving feedbacks. In the case of patients, complaints are sometimes conveyed by a third party such as a relative (Anderson *et al.,* 2000). Patients may refrain from raising their concerns fearing negative consequences (NHS, 2003). Through research on elderly patients' concerns on hospital care, Anderson, Allan and Finucane (2000) and Siyambalapitiya *et al.* (2007) found that the majority of complaints (73% and 87%, respectively) were made through advocates of patients. Therefore, patients, as well as their family and friends, need the encouragement and assurance to leave feedbacks, and this issue was considered while designing the Feedback-Handling System (FHS). Moreover, the "unsolicited" feedback should be indirectly "solicited", i.e., patients should easily be able to leave their feedback without hassles or the fear for any negative consequences.

2.3.2 Ways of handling feedbacks

Handling complaints may not be tedious and expensive. Many complaints can be resolved and patient satisfaction can be enhanced when patients are offered something as simple as "We are sorry" or an explanation to why the service failure occurred (Baker and Bank 2008; Friele and Sluijs, 2006; Siyambalapitiya *et al.*, 2007). For instance, based on a study on 183 complaints in inpatients care, Siyambalapitiya *et al.* (2007) reported that 99% patients were satisfied when an explanation or apology was provided. Friele and Sluijs (2006) showed that 65% of the complainants considered an explanation and 41% apology, respectively, as the most important actions regarding feedback-handling. Baker and Bank (2008) discussed how to respond with an apology to patients who have complained regarding various types of issues and situations. Simply by listening to patient complaints with compassions or acting to fix an error are crucial parts of the service recovery and can reduce patient stresses (Baker and Bank, 2008).

According to Friele and Sluijs (2006), complaints-handling should be motivated toward positive change, which is something patients expect anyway. It should encompass not only a committee or body responsible for handling complaints, but also all parties involved in the delivery of the care (Friele and Sluijs, 2006). The care providers should listen to patients and should lead the resolution of complaints in a proactive way (Stichler and Schumacher, 2003). Care providers must realize that “complaints are just problems put in words” and “problems don’t solve themselves” (Ramsey, 1998, pp. 16). Stichler and Schumacher (2003) advocated the need for creating a “complaint-friendly” environment that treats customer complaints as a gift and an opportunity to amend the wrong and turn a dissatisfied customer into a loyal and satisfied customer. Hence, a change in culture may be as essential as to have an effective feedback-handling system.

2.3.3 Complaints-handling systems

In the literature, there are examples of complaints handling models, as well as tools for the collection and analysis of feedback and its use (e.g., Zairi, 2000). Health care specific examples are discussed in Allen *et al.* (2000), HQCA (2007), Hsieh *et al.* (2005), NHS (2003), Nordlund and Edgren (1999), Osborne (2004) and Smith and Swinehart (2001). The only well-known international standard on complaints handling is ISO 10002, a “guideline standard” that is not intended for certification. It includes guidance on the planning, designing, operation, maintenance and improvement of a complaints-handling process. An overview of the standard is included in Appendix M. Surprisingly, studies specific to the application of ISO 10002 in health care are still rare. Applications of ISO 10002:2004 can be found in the literature in various areas, including an electrical utility (Hughes and Karapetrovic, 2006), fast-moving consumer goods (Ang and Buttle, 2012), university education (Karapetrovic, 2010; Honarkhah, 2010), health insurance (Ang and Buttle, 2012) and health care (Ang and Buttle, 2012; Fernandez *et al.*, 2010; HQCA, 2007).

Research on standardized feedback-handling within integrated care is still rare, providing the motivation for this research.

2.3.4 Summary

Based on the above discussions, useful conclusions that can be made are:

- Only a small number of customers actually leave feedbacks. Moreover, customers may not be aware of the existence of a complaints-handling process. Therefore, absence of complaints is not always an assurance of good quality.
- Customers need encouragement from the employees in order to leave feedback.
- Employees from various levels need to be engaged in the improvement of the product and process based on the collection and analysis of complaints. A successful feedback-handling system may require a change in the organization culture in realizing that complaints should be considered as a positive practice, and not a means to getting back at the employees.
- Feedbacks should be examined carefully and systematically to identify the root causes of any potential ineffectiveness that can subsequently be eliminated.
- Just as the direct measurement of patient satisfaction, research on handling unsolicited patient feedback within the integrated care setup is rare. Nonetheless, it is an interesting problem to explore because the benefits of integration should also be realized in feedback-handling.
- Although there are evidences of its application in health care, no study on the application of ISO 10002 in integrated care has been done. A standardized approach in handling patient feedbacks is even more relevant in integrated care that focuses on the continuum of care.

2.4 The relationship among customer satisfaction standards

ISO 10001, 10002 and 10004 are parts of the ISO 10000 series of quality standards (International Organization for Standardization, 2015) that originated from ISO 9001 with the focus on various aspects of customer satisfaction. This series also includes:

ISO 10003: 2007 - Guidelines for Dispute Resolution External to Organizations;

ISO 10008:2013 - Guidelines for business-to-consumer electronic commerce transactions.

A key feature of the ISO 10000 standards is that they can be used together as “a broader and integrated framework for enhanced customer satisfaction” (ISO 10004:2012, sub-clause 0.4). Another useful feature, as discussed already, is that the standards can also help in augmenting each other by applying guidance from two or more of them in an integrated way. This aspect has been analyzed in prior research, for example, in Dee e*t al.* (2004) who explained how ISO 10001, 10002 and 10003 can form a “Customer Satisfaction Complaint System”. The introduction of ISO 10004:2012 and ISO 10008:2013 has provided an exciting avenue to explore how these standardized systems can work together.

Health care applications of ISO 10001 or ISO 10004:2012 are yet to be reported in the literature. Examples can only be found on ISO 10002 in patient feedback handling. Therefore, their applications in health care are still under-studied and under-reported, not realizing their potential benefits and improvement opportunities.

2.5 Motivation

A framework for patient satisfaction that considers a continuum of care as one system can make useful contribution to the health care research on patient satisfaction. Such a framework may include methods for establishing promises made to patients as a means of proactively improving the performance and enhancing satisfaction. It may also include methods for handling both

solicited and unsolicited feedbacks on patient satisfaction. The supporting processes to establish a promise can include obtaining and using solicited and unsolicited feedback from patients. Handling of such feedbacks can be accommodated within the same framework in an effective and efficient way. Such a framework should help in filling the research void in the study of patient satisfaction in integrated health care. Due to the diversity and complexities of various care continua, conceptualizing such a patient satisfaction framework is challenging.

Nonetheless, designing and developing such a framework appeared to be an interesting avenue to explore, which provided the motivation for this research. Quality management tools such as the ISO standards can be potentially useful in addressing the research gaps already identified. The ISO 10000 series of quality standards (ISO, 2015) can be usefully applied in building various components of the framework by focusing on various aspects of patient satisfaction. Such a framework is currently missing in the integrated care literature and can be useful in analyzing patient satisfaction along a continuum of care. A patient satisfaction framework with options for the direct measurement of satisfaction, feedback handling and promises made to patients can lead to useful synergy and obtain a more complete picture of patient satisfaction. Moreover, the learning can be useful in other areas and industries, such as education, retail and hospitality.

2.6 Objectives

The objective of this research was to conceptualize a patient satisfaction framework based on the ISO 10000 standards, and then suggest how the framework can be applied in integrated health care. The framework focuses on three key components: a customer satisfaction promise, a feedback-handling system to handle unsolicited feedbacks from patients and a patient satisfaction measurement system to handle the solicited feedbacks from patients. To develop the framework, an application of ISO 10001, ISO 10002 and ISO 10004 was investigated in

systematically developing a customer satisfaction promise, a feedback-handling system and a patient satisfaction measurement system. The research focus was on the study of the internal handling of patient satisfaction, and not on the resolution of patient concerns involving a third party or ombudsman. Hence, the use of ISO 10003: 2007 was not studied. ISO 10008:2013 was excluded because e-commerce was also not within the focus of the research problem.

The broad research objective has been broken down into further details below:

1) Construct a “customer satisfaction promise” made to the patients of inpatients (hospital) care.
    a. Plan, design and develop promises by applying and adapting guidance from ISO 10001.
    b. Design and develop the supporting processes for implementing promises.
    c. Implement a customer satisfaction promise in inpatients care.
    d. Verify the performance of the customer satisfaction promise through performance data from various sources.
    e. Suggest potential improvement of the processes and applications of the learning.
2) Develop a patient satisfaction measurement system for a continuum using of care.
    a. Develop a patient satisfaction measurement system by applying and adapting guidance from ISO 10004:2012.
    b. Verify the patient satisfaction measurement system through inputs from the research participants.
    c. Suggest potential improvement of the developed system and its applicability in other integrated care cases.
3) Develop a feedback-handling system for a continuum of care.
    a. Develop a feedback-handling process for integrated care by applying and adapting guidance from ISO 10002:2004.

b. Develop the maintenance and improvement of the feedback-handling process.

c. Verify the feedback-handling system through inputs from the research participants.

d. Suggest potential improvement of the developed system.

4) Conceptualize a patient satisfaction framework to be applied in integrated care.

a. Define the interconnections among the promise, feedback-handling and patient satisfaction measurement.

b. Analyze the synergy that can be attained through such a comprehensive framework.

3. Research methodology

3.1 Introduction

This chapter illustrates the overall research methodology to develop and implement a CSP, develop a PSM system and a feedback-handling system. Based on a service agreement between Capital Health (now Alberta Health Services) and the University of Alberta (Capital Health, 2008), a hospital in Alberta is considered as the Case Study Organization (CSO) in developing the various components of the framework. The CSPs developed in this research focus on the inpatients care. However, the PSM and the feedback-handling systems focus on the Emergency Department (ED) and inpatients care continuum, i.e., the care received by patients who visited the ED, were admitted in the hospital's inpatients care and got discharged. Because of the rarity of an actual integrated care case, the selected care continuum is assumed as an example integration case.

3.2 Overall Methodology

"Patient centeredness" (O'Malley et al., 2008; Suter et al., 2009; Friedman et al., 2001) and "Comprehensive service across the continuum of care" (Suter et al., 2009; Friedman et al., 2001) were focused in this research because of their importance and relevance to patient satisfaction. Other principles on integrated care that are not directly relevant to PSM (e.g., "geographic coverage" and "physician integration", Suter *et al.,* 2009) were not included. The entire continuum was considered as a system of care services. The focus on patient expectations and needs was maintained by investigating the patient expectations, the service encounters and the aspects of care valued by patients.

The overall methodology follows the scientific method, and includes the following steps:

- Understanding the care continuum;

- Identifying whether there are any promises made to patients, as well as any activities regarding patient satisfaction measurement and feedback handling;
- Developing the framework based on the applicable ISO standards;
- Verifying the usefulness of the developed components.

Figure 3.1 demonstrates the interconnections among the three components of this research, e.g., the CSP, PSM system and FHS, which is followed by the explanations of each component.

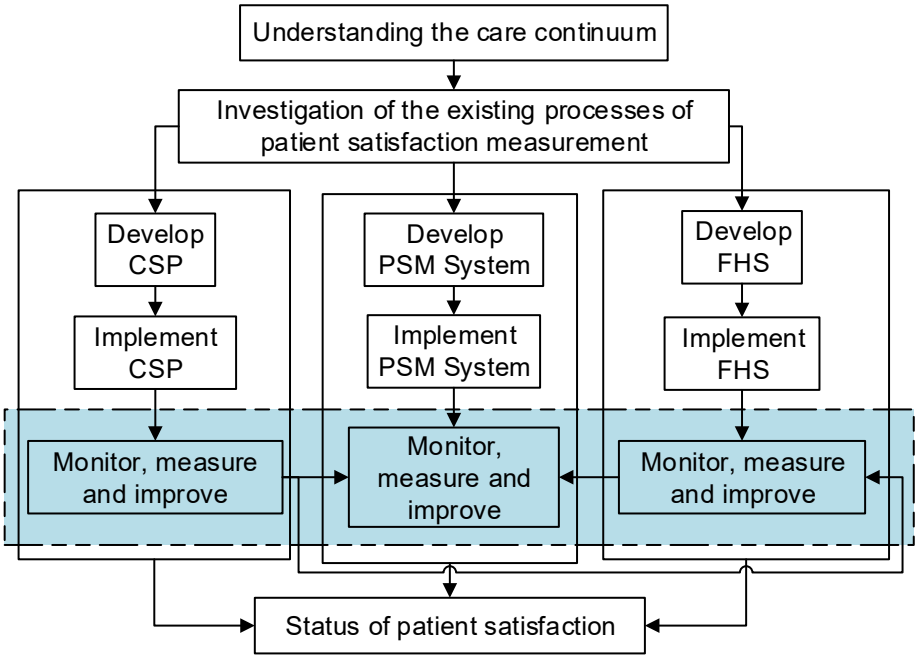


Figure 3.1: Interconnections among promises, feedbacks-handling and measurement

An understanding of the care processes within the continuum of care was obtained by interviewing research participants, as well as by reviewing the relevant publicly available information and internal documents. The research participants included care providers, such as the nurses, Unit Managers (UMs) and the Program Manager (PM) involved with the selected care continuum, and experts from the provincial feedback handling department and performance measurement teams. The experts were recruited based on their knowledge and experience as care providers and patient feedback managers. Research ethics approval from

the Research Ethics Board was obtained in order to facilitate the interviews with the research participants. Appendix A, D and H include the approved application.

Based on the inputs from the research participants, care flowcharts were developed (see Appendix C), depicting the care process steps and the service encounters between a patient and a care provider or support staff. The flowcharts detail

- which activity is performed at what stage,
- who are the personnel involved,
- how patients proceed from one activity to another, and
- what are the service encounters.

The CSO's internal documents and publicly-available reports were studied and interviews of caregivers and experts involved in obtaining and using solicited and unsolicited feedbacks from patients, were performed.

For the interviews, sets of questions were developed (appended with the research ethics applications). Additional follow-up questions were also asked as deemed necessary. Various groups of participants were interviewed separately. The data obtained were written down and electronically sent to the participants for their feedback on the accuracy, suggestions and clarifications. The review of internal documents included information on the care continuum and the existing practices regarding patient satisfaction measurement. The learning was encompassed in the methods and models developed in this thesis.

The application of the three standards was investigated in developing the three components of the framework, i.e., ISO 10001 in constructing CSP, ISO 10004 in a PSM system and ISO 10002 in an FHS. Each component was then verified for usefulness and effectiveness through

interviews of the research participants. One CSP was implemented as a pilot. The actual implementation of the FHS and PSM system, however, was beyond the scope of this research.

Notable in the framework are the interconnections among the three components. The CSP supporting activities include handling CSP performance feedbacks and a survey on patient satisfaction regarding the CSP. Feedbacks on the CSP can be handled through the FHS that can be designed for handling general feedbacks. On the other hand, the PSM system includes a patient satisfaction survey focused on the continuum of care with specific questions on the performance of the FHS and the CSP. Therefore, useful streamlining and synergy can be attained by integrating the monitoring and measurement activities related to all three components (as highlighted in Figure 3.1).

A number of quality management tools and methods were applied in this research. For instance, care flowcharts were developed based on interviews with the expert research participants in order to depict the entire journey a patient in the ED and inpatients care. The SIPOC (i.e., “Supplier-Input-Process-Output-Customer”, Miller and Ferrin, 2005) and caregivers for each activity within the flowcharts were identified. This analysis helped in obtaining a more comprehensive understanding of the care flow and developing the components related to feedback handling and patient satisfaction measurement.

Specific methodological details for each key component of the research are discussed below.

3.3 Development and implementation of the ISO 10001-based CSP

Through the input obtained in multiple interviews with the research participants, guidelines from the standard were applied in establishing a CSP and its support process. Then a pilot implementation of the selected CSP was performed in one inpatients care unit. In addition to the

interviews, a feedback follow-up form, a checklist and a number of additional tools were implemented as part of the performance measurement. A “CSP Checklist” was used in order to account for how many times the promise was implementing by the nurses. For the direct measurement of patient satisfaction, a patient satisfaction survey was developed. For the handling of unsolicited feedback, a feedback form for patients, as well as a follow-up form was developed. Additionally, a training manual was designed and applied to help the nurses in implementing the CSP,

Patients were also included in the CSP implantation. The validation of the CSP support processes included actual patient feedbacks through the feedback and survey forms. Both forms included detailed information letters, explaining the purpose of data collection and how the data and results would be used. The UM of the CSO unit where the CSP was implemented distributed and collected the forms. The patient remained anonymous and there was no option for leaving any identification information on the forms. However, if a patient wanted, he or she could contact the researcher directly to question the use of his or her input and the derived results.

3.4 Development of the ISO 10004-based PSM System

For the direct measurement of patient satisfaction, a patient satisfaction survey was developed. Choosing a survey over qualitative research methods seemed feasible and convenient within the available resources in the care continuum. Because the subjects are patients, a survey can be administered on a sample of patients more easily and quickly than a qualitative method such as focus group discussion or face to face interviews. The infrastructure for a survey was already available as part of the CSO’s existing measurement activities. Additionally, the CSP and the FHS include two separate surveys for the performance evaluation. Therefore, integrating the

items from these surveys in a single survey that also includes the aspects of patient satisfaction along the continuum of care minimizes redundancy and demonstrates the streamlining of measurement activities, which is consistent with integrated care philosophy.

While developing the survey questions or items, guidance and examples of available surveys were reviewed, as found in the literature (e.g., Baalbaki *et al.,* 2008; Billing, Newland and Selva, 2007; Ford, Bach & Fottler, 1997; Garratt, Helgeland and Gulbrandsen, 2010; Hedges, Trout and Magnusson, 2002; Steiber and Krowinski, 1990; Trout, Magnusson and Hedges, 2000; Vavra, 1997; Ware and Hays, 1988). The survey includes both open and closed-ended questions. The open-ended questions are useful in identifying silent issues that may or may not be included in the closed-ended questions (Vavra, 1997) and provide patients the opportunity to express their views (both positive and negative) in their own words. The closed-ended questions focus on specific aspects the measurement is focused on. In addition to specific items focused on patient centeredness and the continuum of care, the survey include items adapted from two other surveys that were being administered within the ED and inpatients care of the CSO. These two surveys are the HQCA (Health Quality Council of Alberta, 2009) survey on EDs and the HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems, 2010) survey on hospital patients. Both are about the care patients receive from the two stages of the care continuum.

The developed survey was verified for feasibility and usefulness in an iterative way based on interviewing a Program Manager (PM), three Unit Managers (UMs), four Registered Nurses (RNs) from the ED and inpatients care, as well as two personnel involved with data analysis. A participant was presented the developed survey, and questions were asked about the usefulness, improvement and feasibility of the survey items. The learning from the responses was incorporated into the survey, followed by interviewing the next participant.

3.5 Development of the ISO 10002-based FHS

The ISO 10002-based FHS was developed for the ED and inpatients care continuum of the CSO, an approach that is different from the traditional feedback-handing at each individual stage. In ISO 10002, maintenance activities such as the validation of the feedbacks or the communication and reporting of the results from the feedback analysis are not provided in detail. Therefore, ISO 10004 was also applied in further defining these activities. Thus, the latter standard was applied in augmenting the application of the former.

Based on the ISO 10002 guidance, as well as the study of the literature and reports and findings from the interviews of the research participants, the FHS was initially developed. Subsequently, its usefulness in handling feedbacks within a continuum of care was verified by interviewing each group of research participants. Based on the responses from a group of research participants, the FHS was modified and passed to the next group prior to the succeeding interviews. This allowed the learning from ones round of verification to be incorporated into the FHS before the next run. This loop went through three iterations.

Additionally, the follow-up component of the FHS was tested through tracking actual patient feedbacks by one of the participants. Results from the research are reported and analyzed in the rest of the chapter.

3.6 Summary

In this chapter the overall research methodology, as well as the specific methodological details on developing and implementing the CSP, the PSM and FHS systems, is discussed. The connections among these three components in conceptualizing the proposed Customer Satisfaction Framework are also illustrated.

4. Establishment of an ISO 10001-based CSP for inpatients care

4.1 Introduction

In this chapter, the construction of CSPs for the patients of the CSO's inpatients care is described, including the planning, designing and development of the CSP and its supporting activities. The applicability and usefulness of ISO 10001 in constructing CSPs are analyzed and conclusions are drawn.

4.2 Planning, designing and development of the CSP

ISO 10001:2007 sub-clauses 6.1 to 6.4 were adapted in planning designing and developing CSPs. The CSP supporting activities were suggested based on sub-clauses 6.5-6.8. According to ISO 10001:2007, sub-clause 6.4, a promise is a component of a "CS code". Because "code" has different connotations in health care, it was replaced by the term 'CSP' and was also used when the research participants were interviewed. For the purpose of consistency, "CSP" is used in the rest of this thesis as well.

Guidance provided by ISO 10001:2007, Clauses 4 and 6 was applied through multiple interviews of the research participants, which included one Program Manager (PM), two Unit Managers (UMs) and two Registered Nurses (RNs). These Clauses were interpreted and applied in light of Clauses 1, 2, 3, and 5, which detail the scope, normative references, definitions and the code framework provided in the standard. Clause 7 provides guidance on the implementation of the CSP and its application is discussed in Chapter 3. The participants were chosen based on their association with, and knowledge of, the inpatients care. Because of the involvement of human subjects, a research ethics approval from the university's Research Ethics Board has been obtained. Appendix A includes the approved application, including an "Information Letter" (Appendix A1), "Consent Form" (Appendix A2), "Sample interview questions for the research participants" (Appendix A3-A4), "The CSP Checklist (Appendix A5), "The CSP

Performance Spreadsheet" (Appendix A6), "Sample Survey Questions to the Patients" (Appendix A7) and "Sample Patient Feedback Form" (Appendix A8).

During the development of CSPs, the meeting discussions were noted down and then the manuscripts were sent to the participants via email for their verifications, additions and suggestions. Their feedbacks were incorporated into the work before the next set of meetings. Although initially four meetings were planned with defined action items, not all activities were performed in the planned order. In total, there were five meetings in which activities suggested in ISO 10001:2007, Clause 6, were developed and verified. In the initial meetings, participants were interviewed and requested to discuss and determine the CSP objectives (sub-clause 6.1) and provide inputs on potential CSPs (sub-clauses 6.2-6.3). During these meetings, the CSP selected for implementation was developed (sub-clause 6.4). Subsequently, the CSP performance indicators (sub-clause 6.5), procedures (sub-clause 6.6) and communication plan (sub-clause 6.7) were defined. In the following meetings, the developed items were presented to the participants, who discussed the feasibility and potential improvement of the items. Such feedback was considered in improving the items.

The ISO 10001 framework (based on sub-clause 6 and Annex F) was adapted for the CSP planning, design and development activities as well as the supporting processes. According to the context and need of the CSO, the standard guidance was adapted, new activities were introduced and some sub-clauses broken down into a level of detail not specified in the standard were added. These activities are illustrated in Figure 4.1. The corresponding ISO 10001:2007 sub-clauses are provided in parenthesis. Activities performed in an order different from the standard are indicated in italics. Activities that were additions to the existing ones in the standard are shown in bold text.

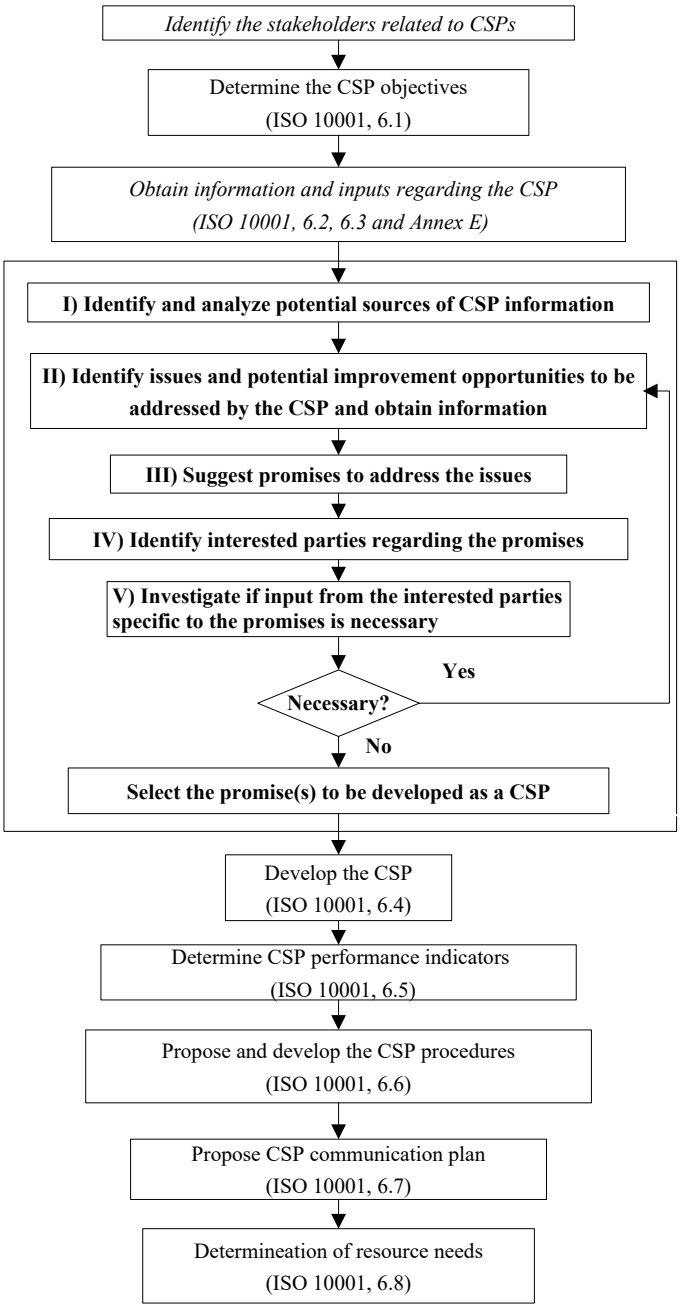


Figure 4.1: Planning, designing and development of CSPs

4.2.1 Identification of the stakeholders of CSPs

The first step was to ask the research participants to identify the stakeholders who are directly ("technical" and "support") or indirectly ("non-technical" and "others") connected to the care-providing activities and would actually take part in the implementation of CSPs, excluding

stakeholders such as the patients or the government. Although input from the interested parties is part of sub-clause 6.3, the identification of the parties was performed as the first step because this would be helpful in determining the CSP objectives and subsequent activities that depend on the choice of stakeholders. More specifically, to make a promise to patients that through a CSP that involves more than one care-providing or support groups might not be useful or value-adding because such a CSP, as well as its performance measurement and monitoring, would be too complex. Table 4.1 illustrates the findings from this analysis.

Technical	Support	Non-technical	Others
1)Nursing staff a) Nursing Assistant (NA) b) Registered Nurse (RN) *c) Licensed Practical Nurse (*LPN*)* 2)Physicians 3)Dietician 4)Therapist	1) Testing staff a) Lab b) Diagnostic Imaging (DI) c) Electrocardiogram (ECG) d) Electroencephalogram (EEG) 2) Social worker 3) Bed coordinator 4) Pharmacist	1) Unit Clerk (UC) 2) Porter 3) Dietary staff 4) House-keeping	1) Volunteer 2) Career students

Table 4.1: List of care providers and support staff

4.2.2 Determination of the CSP objectives

Based on the discussions with the research participants, the CSP objectives set are stated below with the relevant standard clauses in parenthesis.

i) The CSPs should help in improving the care and having a positive impact on patient satisfaction (ISO 10001:2007, sub-clause 8.3).

ii) The CSPs should be simple, easily implementable and attainable within the available resources (sub-clause 6.4), such as time, personnel and systems already in place.

iii) Patient complaints and concerns should be focused while deriving CSPs, which may help in preventing the complaints from occurring as part of continual improvement (sub-clause 8.5).

iv) Fulfillment of the CSP should easily be measured (sub-clause 8.2).

According to the participants, the overall objective should be to attain patient satisfaction and provide better patient care, comfort and pain management.

4.2.3 Information gathering

As per sub-clause 6.2, various sources of information were identified and the sources were assessed. Inputs from the interested parties were obtained by following sub-clause 6.3, as well as the guidance provided in Annex E. Since both these sub-clauses are about information gathering and assessment, they were performed together, an approach that is consistent with the "code framework" in Annex F (ISO 10001:2007). These are divided into five steps, as already shown in Figure 4.1 (steps I to V). These are not suggested by ISO 10001, and are enhancements that have been made to the standard's method during the course of this research. They are detailed below.

Step I: Identification and analysis of potential sources of CSP information

Figure 4.2 shows examples of sources of information on potential CSPs.

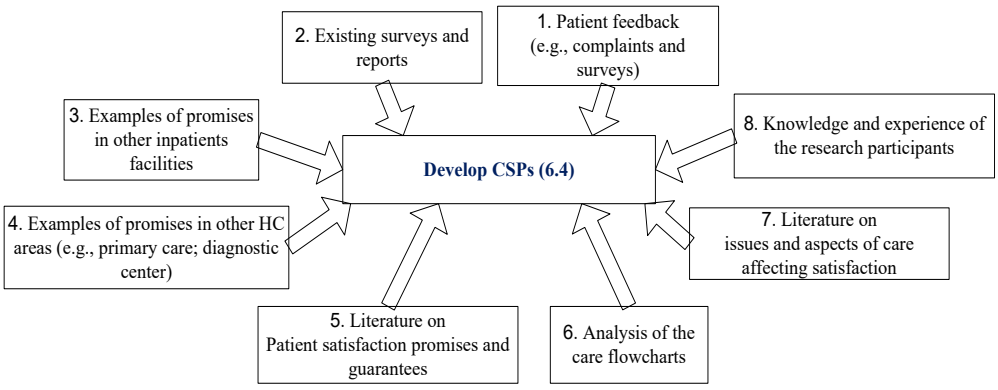


Figure 4.2: Various sources of information for CSP content and use

This list was compiled by considering the possible internal and external sources of CSP information. The list was then presented to the research participants in order to help them choose an area or issue based on which a CSP would be proposed. While explaining the sources, examples were provided to the participants that illustrated how promises can be derived from the obtained information.

The CSO's existing patient feedback surveys are the primary resources from which, inputs for CSPs can be obtained. As an example of how a patient's feedback can lead to a CSP, the following example can be considered. A patient who was asked to comment about his/her hospital stay, stated:

> *"I am from the old school. I find that with the casual nurse uniforms, you can't tell the difference between a nurse and a cleaner. In my opinion, they could dress more professional"* (Alberta Health Services, 2010).

It was confusing for the patient to distinguish nurses from other personnel. A CSP, therefore, can include a promise that the care provider or support staff would introduce himself or herself to the patient before staring a procedure or activity. Participants were presented examples of sources 3, 4 and 5 in Figure 4.2, which are already discussed within the literature review (see 2.1.3 – "examples of promises in health care").

Examples of how potential promises can be drafted based on the sources were presented to the participants. For instance, Figure 4.3 depicts the activities and steps a patient handed off from the ED may experience while being admitted into the inpatients care.

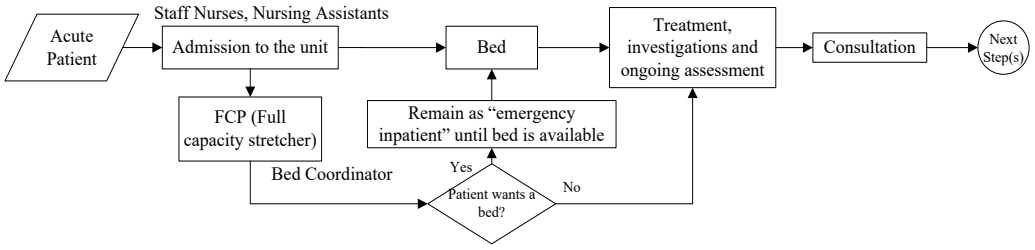


Figure 4.3: Excerpt from the inpatients care flowchart

Supposing a patient in the inpatients care is waiting because there is no bed available, a potential promise can be: *"Within 10 minutes of arrival, a patient will be informed by the bed coordinator or UM of the expected time for a bed to be available."* Thus, from the analysis of the

care flowchart (see Appendix C), it was presented, and participants agreed, that handing-off a patient from one stage to another (e.g., from emergency to inpatients care) is a point where many issues can occur.

In the literature, there is ample research on aspects of care that may affect patient satisfaction. A potential CSP can be connected to any of the following aspects of care:

- Waiting time to see a physician (Amyx and Bristow, 2001)
- Response time of the nurses (Andaleeb *et al.,* 2007; Baalbaki *et al.,* 2008)
- Empathy (Andaleeb *et al.,* 2007); staff sensitivity (Baalbaki *et al.,* 2008)
- Communication (Andaleeb *et al.,* 2007); explaining a procedure (Baalbaki *et al.,* 2008)
- Hospital support functions (Baalbaki *et al.,* 2008)
- Food (Carman, 2000; Carr-Hill, 1992)
- Noise, room temperature, privacy, and parking (Carman, 2000)

The participants provided inputs related to the potential CSPs by considering the CSP objectives and sources of information based on their knowledge and experience, although the remaining sources obviously contributed (e.g., they would often mention 'the literature shows' and 'found in surveys').

Step II: Determination of what issues the CSPs should address

While analyzing the information in order to determine the CSP content (based on ISO 10001:2007, sub-clause 6.2), the participants were requested to focus on answering the following questions:

- Which issues and improvement opportunities would be addressed by the CSP?
- How do these issues arise?
- How should they be dealt with?

- How is the CSO currently dealing with the issues?
- How are organizations similar to the CSO dealing with them?
- What resource might be needed to deal with these issues through the use of the CSP?
- What statutory and regulatory requirements are associated with the use of the CSP in dealing with the issues, and how would such requirements be addressed?

Most of the issues the participants identified and discussed were related to nurses, the stakeholders who are the closest to patients and the most active in the delivery of care. The participants identified specifically three areas of improvement that could be focused in the CSP:

a. Communication between the nurses and the patients;
b. Administration of on-time medication and the “PRN”s (pro re nata, medications that are provided on request);
c. Sanitization of hands between patients to minimize infections.

Details of the improvement areas, based on the interviews of the participants, are provided below.

a. Communication - Nurses are expected to properly introduce themselves to the patients and explain the care plan, which is sometimes not done properly. Hence, some patients are left confused or unaware regarding the details of the care they receive. The participants discussed and identified the reasons behind this issue, which are:

- Nurses often forget to introduce themselves to patients;
- Their focus on the particular care procedure can make greeting and introducing themselves to patients secondary matters;
- They are probably really stressed, or rushed to pay attention to complaints related to discomfort and pain (than greeting and introducing themselves);

- Different nurses may take care of the same patient at various shifts, which makes such communication challenging.

It was also learnt from the participants that:

- Greeting and introducing themselves to patients is what they are taught at the nursing school right from the first year;
- Most nurses introduce themselves and explain the care roles from their own initiatives;
- This communication is an expected and normal practice among caregivers;
- There is no procedure for nurses ensuring such communication. There is no statutory or regulatory requirement associated with nurses introducing themselves to the patient;

b. On-time medication and "PRNs" (medication that is provided as requested) – PRNs are medicines that are provided on request and according to need. There can be delays in supplying PRNs to the patients. Participants identified the following reasons for the delay:

- change in nurses' shifts;
- late night requests;
- inadequate number of on-duty nurses;
- unawareness of a patient's medication schedule;
- the assigned nurse is unavailable on occasions.

The delay can cause anxiety to patients and prolong their pain, and may lead to dissatisfaction.

c. Sanitizing hands before visiting patients – Nurses are required to sanitize/wash their hands before visiting each patient to prevent potential infections. However, according to the participants, many nurses do not do it, which continues to be a recurring reason behind the number of infections in the inpatients care of the CSO.

Step III: Suggestion of promises to address the issues

The participants were explained the concept of a CSP and its components as per sub-clause 6.4, and were requested to think about potential promises that could be developed further into complete CSPs. The participants came up with the promises illustrated in the first column of Table 4.2 that were aligned with the CSP objectives and related to the identified issues and areas of improvement. However, these were simply promise statements without the other components of a standardized CSP based on ISO 10001, 6.4.

Promise	Reason for selection or rejection
a) A nurse will identify him/herself with name and designation, and explain his/her role in the care process	Performance measurement not challenging.
b) The nurse will explain the procedure to the patient within the scope of practice	Not possible in many cases. Performance measurement is complex and challenging.
c) The nurse will obtain the patient's consent before undertaking the procedure	
d) The nurse will communicate to the patient the plan of care for the day	Similar to promise a), but the implementation might be harder.
e) PRNs are provided within 15 minutes of the request	Performance measurement is challenging.
f) Nurses will provide medications as per the schedule	Participants mentioned ambiguity about the definition of *"as per the schedule"*. Resource needs are also high.
g) Between patients, the nurse will clean/sanitize/wash hands	Participants could not come up with a clear process for recording if a nurse actually washed hands.
h) Dietary needs/requests will be met regardless of the time of the day, for GI patients who are waiting for a procedure or test with empty stomach	The dietary service is outsourced, hence, beyond the scope of the research.

Table 4.2: Potential promises as suggested by participants

Step IV: Identification of interested parties regarding the promises

Although already included in the list of stakeholders, additional personnel specific to the suggested promises may or may not be impacted by the implementation of the CSPs, but are potential users of results. The participants identified the following interested parties:

- Nurses;
- “The Infection Prevention (IP)” department of the CSO;
- The dietary/food and nutrition services.

Interestingly, IP was not included in the initial list of stakeholders, which shows the difference between the identification of general stakeholders, on one hand, and the additional stakeholders specific to a problem, on the other. The finding becomes useful in the next step where additional inputs from stakeholders may (or may not) be needed in selecting a promise.

Step V: Investigate additional inputs from the interested parties

Although the standard suggests collection of inputs regarding the potential CSPs from all interested parties (sub-clause 6.3), inputs from the nurses, UMs and the PM were adequate because the selected CSP related only to nurses. If additional inputs from interested parties are considered as necessary, the activity cycle from I) to V) can be repeated. The CSPs could have been related to other professionals such as physicians, dieticians, care coordinators, and support personnel involved in meal-delivery and cleaning. However, none of these personnel are under the authority of the CSO’s inpatients care. Hence, their participation, commitment or accountability could not be assured if the CSPs were actually implemented. The research, therefore, focused on only the nurses to contain the scope within the research constraints, resource availability and the management authority. The research participants demonstrated commendable knowledge of the duties of other parties and were able of providing useful inputs on their behalf.

4.2.4 Selection of a promise to be developed as CSP

The participants were requested to choose one of the eight promises listed in Table 4.2 to be developed as a CSP based on sub-clause 6.4-6.8. They were advised to determine selection criteria by considering the potential merits and demerits of each promise based on the CSP

objectives. In addition, it was suggested to the participants to also consider if one or more promises would be selected and what would be the method of selection, i.e., would the selection be based on managerial judgment or a structured approach?

The participants agreed upon selecting one promise by considering the following issues:

a) Pick an issue that is “already being managed”, i.e., the corresponding data is being collected.

b) Consider the operational aspects such as feasibility, resource availability and labor involved.

c) Consider the priorities and concerns that relate to any of the following three stakeholders:

i. the staff
ii. the management
iii. the patients

Based on the discussions of the participants, the reasons for selecting not selecting a promise are included in the second column of Table 4.3.

Initially, the participants chose promise e) in Table 4.2 for further development, focusing on the care improvement. However, this promise was not finally selected as some obstacles were revealed during the development of the supporting activities. For instance, a CSP performance indicator (ISO 10001:2007, sub-clause 6.5) could be “the number of times the CSP is not fulfilled”. Hence, the time between a PRN request and its delivery needs to be measured to verify whether or not the PRN was delivered within 15 minutes of the request. However, a patient can convey a PRN request to the assigned nurse, the front desk, the physician or any other personnel. Therefore, accurate recording of the times can be difficult. Even though the exact delivery time of a PRN is recorded, the risk of error in the recording of the time of the

request cannot be easily mitigated. Moreover, a nurse may miss the 15-minute deadline to deliver the PRN because of an emergency or unavoidable circumstance. The participants stated that typically a PRN is never entirely missed, but a nurse may not remember when the request was made. Therefore, a CSP related to the PRN may enhance patient expectations, but is likely to fail to deliver what it promises. Hence, the CSP may serve as of yet another example of a poorly designed promise without the supporting processes, and a potential contributor to dissatisfaction. After considering these issues and challenges, this CSP was not selected.

The learning from promise e) was useful in the final selection of the CSP. The participants considered the feasibility and challenges for each of the remaining promises and selected promise a). The promised action is typically done and expected of the nurses, although the literature (Andaleeb *et al.*, 2007; Baalbaki *et al.*, 2008) and the CSO's internal surveys show that nurses not introducing and not explaining the procedure to patients were included among the issues that lead to patient dissatisfaction. To elaborate on the issue of communication, it is considered as a common aspect of service quality that impacts customer satisfaction (Andaleeb *et al.*, 2007; Baalbaki *et al.*, 2008; Naidu, 2009). In a hospital, there are various care providers, trainees, support staff and volunteers. It is possible that these personnel wear scrubs or have uniforms, which can be confusing even for a regular person, let alone a patient under medication who is experiencing weak cognitive functions. Many patients may want the comfort of knowing who the care providers are and what they are doing. Baalbaki *et al.* (2008) emphasized the communication skills of care providers and *"shaping their way in treating customers as human beings that have needs rather than taking them for granted"*. Poor communication, on the other hand, can account for the majority of all complaints, as reported in a study involving inpatients care (Siyambalapitiya *et al.*, 2007). Many of the complaints can be prevented with proper communication and information, which also have a positive impact on satisfaction (Baalbaki *et al.*, 2008; Billing *et al.*, 2007). Therefore, a CSP focused on promise a)

seemed not only feasible, but also useful and value-adding. Before finalizing the CSP, its consistency with the CSP objectives and the selection criteria were checked.

4.2.5 Develop the CSP

The participants were asked to define components of the selected CSP according to sub-clause 6.4, as illustrated in Figure 4.4.

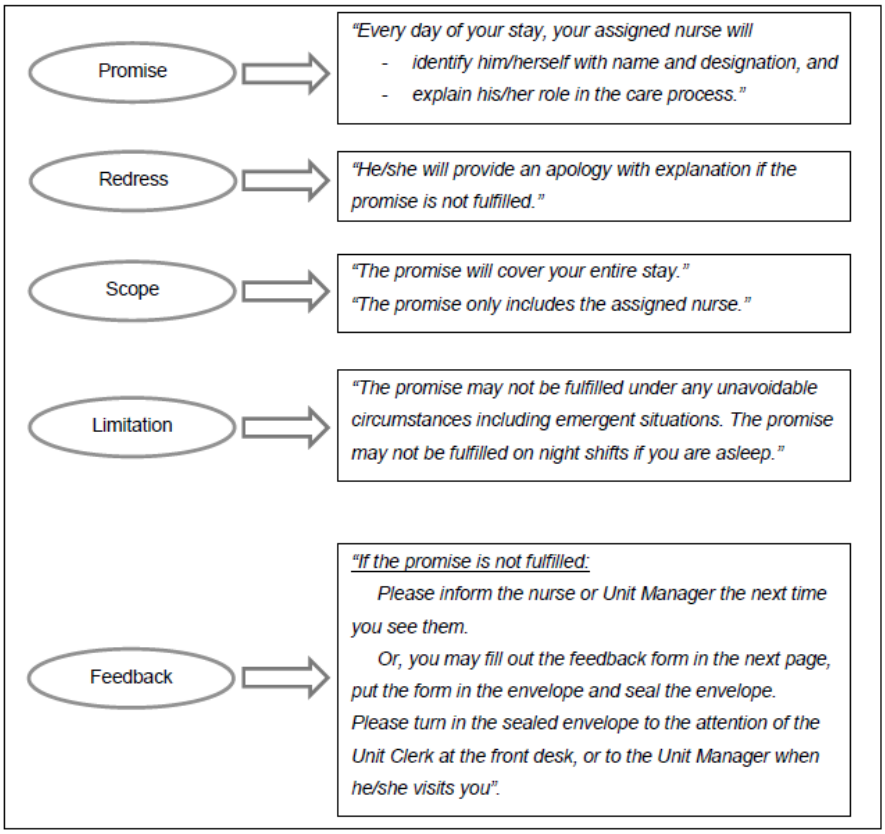


Figure 4.4: The CSP with its components

In the following sub-sections, the support activities related to the CSP are illustrated.

4.3 Development of the CSP supporting activities

The CSP supporting activities were developed based on ISO 10001:2007, sub-clause 6.5 to 6.8, and their appropriateness was verified through discussions with the research participants. The support activities are illustrated below.

4.3.1 Determination of the performance indicators

According to the guidance in ISO 10001:2007, sub-clause 6.5, on the performance indicators, two sets of indicators were suggested to examine the fulfillment of the CSP and its objectives. Specific indicators were determined based on the examples given in ISO 10001:2007, Annex A. Based on the indicators, a combination of qualitative and quantitative data on CSP performance would be collected from the nurses and patients. An illustration of the indicators is provided below.

Fulfillment of the CSP - The number of times the CSP undertaken every day would be recorded using a "CSP Checklist" (see Appendix A5). An excerpt is shown in Figure 4.5.

Date:

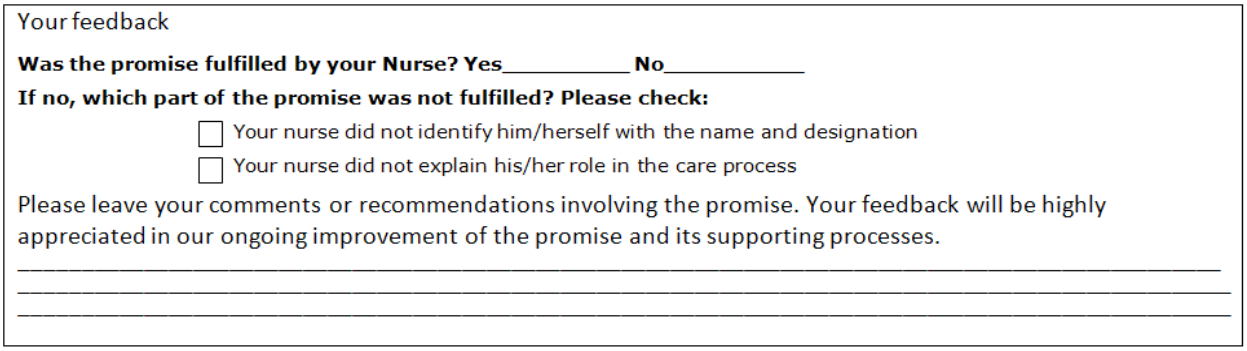
The CSP (Customer Satisfaction Promise) Checklist

Bed # of the Patient	*"Have I identified myself to the patient with my designation?"* ***(If yes, please check. If no, leave blank)***	*"Have I explained my role in the care process?"* ***(If yes, please check. If no, leave blank)***	Reason for non-fulfillment of the promise ***(Please check. Leave blank otherwise)***		
			Patient was asleep	An emergent situation	Other

Total

Figure 4.5: The CSP Checklist

From the checklist, the "number of times the CSP was not fulfilled" in a certain time period would be calculated. Patients might leave their feedback, including complaints when the CSP is not fulfilled, by filling a "CSP Feedback Form" (see Appendix A6), an excerpt of which is given in Figure 4.6. The "number of complaints" and the "number of complaints per patient" for a time period would be calculated, monitored and compared with other periods. Graphical presentation of the data can be used in order to illustrate the fulfillment and non-fulfillment of the CSP over a period.


Your feedback

Was the promise fulfilled by your Nurse? Yes_____ No_____

If no, which part of the promise was not fulfilled? Please check:

☐ Your nurse did not identify him/herself with the name and designation

☐ Your nurse did not explain his/her role in the care process

Please leave your comments or recommendations involving the promise. Your feedback will be highly appreciated in our ongoing improvement of the promise and its supporting processes.

_____

_____

_____

Figure 4.6: CSP Feedback Form

Fulfillment of the CSP objectives - Ten performance indicators were suggested, and for each, questions for patients, nurses and the UM were prepared. These questions were part of a patient survey and interviews of the nurses and UM. A combination of open and short-ended type questions would be used for patients. Table 4.3 illustrates the indicators for the related CSP objectives, and the corresponding questions for the UM and nurses, and patients.

Objective 1: The CSP is simple and attainable within the available resources.
Indicator 1: Time to perform the CSP actions.
Question to UM and nurse: Was it time consuming for you to fulfill the CSP? Please explain.
Indicator 2: Difficulty performing the CSP actions.
Questions to UM and nurse: Have you faced any difficulty in fulfilling the CSP? Please explain. What is your overall comment on the CSP? Please explain.
Objective 2: The CSP enhances patient satisfaction regarding communication with nurse
Indicator 3: Usefulness to nurses
Questions to UM and nurse: How has the CSP helped your communication with the patient? In addition to the feedback forms and orally conveyed feedback from patients, what other ways patients left their feedback? How else would you suggest a patient's feedback regarding the promise can be communicated?
Indicator 4: Usefulness to patients
Questions to UM and nurse: How useful was the patient feedback form? Are the patients aware of the promise? Has any patient told you that he was not informed of the existence of the promise? Was the CSP clear to the patient? Has any patient complained that it was not? Have you ever received a complaint from a patient who did not find a CSP feedback form?
Questions to patients: From Strongly Disagree to Strongly Agree I know about the existence of the promise. The promise is clear to me. The feedback form was available when I needed it. The promise has helped in my communication with the nurse. The feedback form is useful in communicating my feedback regarding the promise. Everyday, my nurse has identified him/herself to me. Everyday, my nurse has explained to me his/her role in the care. The nurse or the Unit Manager apologized to me when the promise was not fulfilled. I am satisfied with the apology provided to me when the promise was not fulfilled. The nurse or the Unit Manager provided an explanation when the promise is not fulfilled.
Indicator 5: Patient satisfaction perceived by the nurse
Questions to UM and nurse: How is the CSP contributing to patients' satisfaction with the care? Has any patient expressed to you his satisfaction regarding the CSP?
Indicator 6: Patient satisfaction
Questions to patients: From Strongly Disagree to Strongly Agree I am satisfied with the explanation provided when the promise is not fulfilled The promise increased my satisfaction with the received care.
Objective 3: Fulfillment of the CSP can easily be measured.
Indicator 7: Times the CSP was not fulfilled per week **Indicator 8: Times the CSP was not fulfilled per week per patient** **Indicator 9: Number of complaints per week** **Indicator 10: Number of complaints per week per patient**

Table 4.3: CSP performance indicators and corresponding questions

4.3.2 The CSP procedures

Establishing the CSP is based on ISO 10001:2007, sub-clause 6.6, and includes the implementation of the promise made to patients and the support activities that deal with the patient feedback regarding the promise. Both sets of activities are illustrated in Figure 4.7. The flowchart is “task-level” (Jacka, 2009), showing that the nurse is implementing the promise and the UM performing the feedback-handling activities (the corresponding sub-clauses from ISO 10002:2004 are in parenthesis).

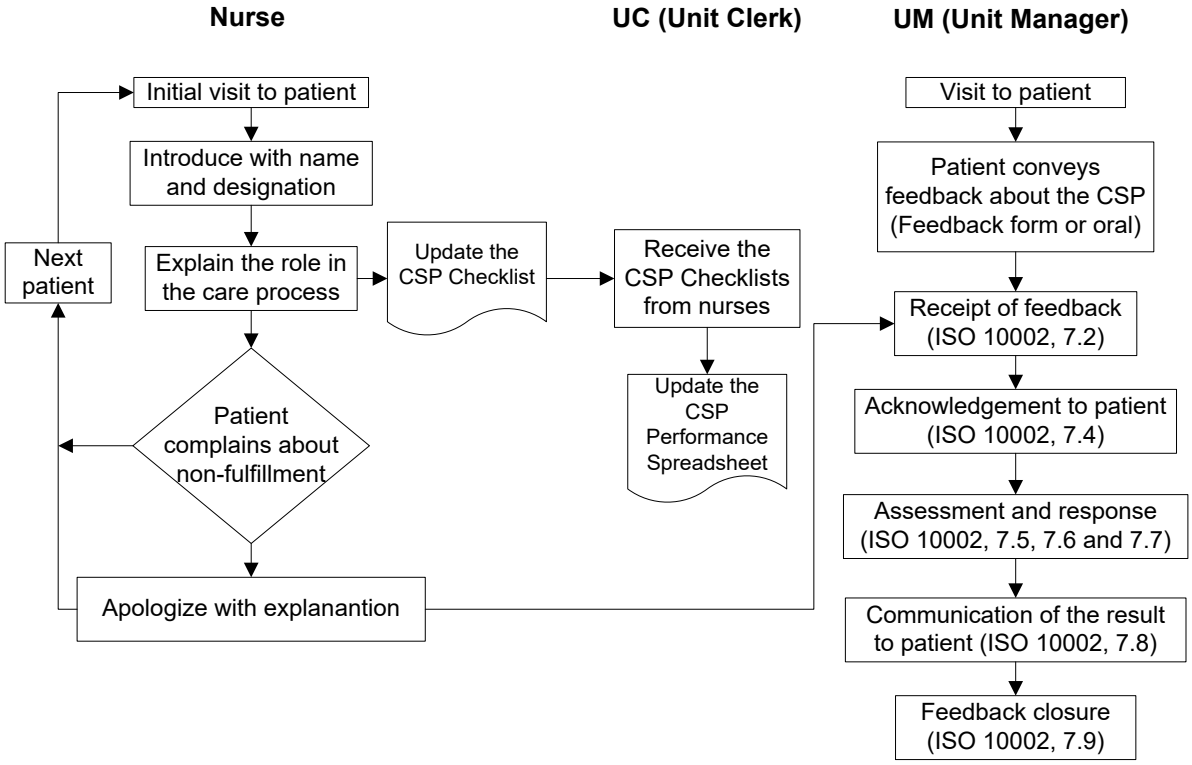


Figure 4.7: The CSP implementation and feedback-handling activities

Each nurse would be carrying a “CSP Checklist” (see Figure 4.5) during the initial visits to patients, identify him/herself to the patient and explain his/her role in the care process, then note the bed number and check the corresponding boxes on the checklist. If the CSP was not fulfilled, the nurse would leave the corresponding boxes blank and note down the reason by checking one of the three given choices. In case the patient informs the nurse that the CSP was

not fulfilled in the previous visit, the nurse would apologize with an explanation. If a patient wants to convey feedback using the “Sample Patient Feedback Form” (see Appendix A8), the nurse would inform the UM who would collect the form from the patient. The first two pages of this form include an information letter to the patient, explaining the CSP and the use of the data to be obtained. The third page is for the actual feedback, which is shown on Figure 4.6.

The collection and handling of feedback on the CSP performance was based on Clause 7 of ISO 10002:2004. The right-hand side of Figure 4.7 illustrates the feedback-handling activities, including the ISO 10002:2004 sub-clauses in parentheses. The process starts with a patient conveying a feedback to the UM, either orally or by filling the feedback form. The patients are provided envelopes in which they can put the filled form and seal it, thus maintaining their privacy. The UM may also receive the patient feedback via a nurse or other personnel within the unit. After receiving the feedback, the UM acknowledges and thanks the patient (sub-clause 7.4), assesses the feedback and determines the actions it requires (sub-clause 7.5). Issues or recommendations identified from the feedback may need further investigation or delegation of the duties to the appropriate personnel (sub-clause 7.6). A response is determined in terms of correcting a problem or preventing it from recurring, and/or an improvement activity (sub-clause 7.7). For instance, a patient complains that her nurse starts a procedure without any explanation of the care plan. The UM can resolve the matter in different ways. The UM, in the next few team meetings, may read this feedback to nurses and emphasize the importance of informing the patient of the procedure to be undertaken. The UM can ask nurses for their own recommendations regarding the matter, which may make them feel involved and empowered, and at the same time may send a message to the ones who are not explaining the care plan to patients. The actions resulting from the assessment are communicated to the interested patient and to the nurses in the unit (sub-clause 7.8). After performing these activities, the feedback is considered closed (sub-clause 7.9).

4.3.3 The CSP communication plan

Based on ISO 10001:2007, sub-clause 6.7, the UM would inform patients about the CSP, its scope, limitations, redress actions and the feedback process during the admission and daily visits. The UM would inform the nursing staff about the CSP and the study objectives, and distribute a 'CSP Manual' (See Appendix B) detailing the CSP and its supporting activities.

4.3.4 Determination of resource needs

Based on ISO 10001:2007, sub-clause 6.8, the UM would mentor the nursing staff regarding the CSP implementation. The PM, UM and nurses would have brief discussions on the CSP performance and share good practices among colleagues. Records of performance meetings and information obtained from the patient feedback forms and checklists would be preserved. These records help in future actions that include corrective, preventive and improvement initiatives. The CSP implementation (Clause 7) and maintenance and improvement (Clause 8) are detailed in Chapter 5.

4.4 Conclusions

Systematic establishment of a CSP and its supporting activities for inpatients care as well as activities needed for its actual implementation, were presented in this chapter. The work presented in this chapter exemplified how to use the available information on an existing issue within the CSO (e.g., communication between the patient and nurses) in designing CSPs that should help mitigate or prevent an issue (e.g. the lack of communication between the patient and nurse), which is one of the key objectives of ISO 10001:2007 (sub-clause 0.1).

This chapter shows the first example of applying ISO 10001 as a standardized method for establishing promises in health care, which helps in filling the gap in the lack of the related conceptual models. During the design and development stages, activities suggested by the

standard were further defined, suggesting a potential improvement of the standard. For example,

- A new activity named “select the promise to be developed as a CSP” was introduced with five action items or steps to perform this activity.
- A number of promise statements were first proposed, followed by selecting the promise to be developed as a CSP, which was an efficient approach. However, ISO 10001 does not specify developing a number of promises together or one promise at a time.
- The latter approach was adopted in this research because of its efficiency. When the research participants answered questions regarding information on potential promises, the next logical activity was to ask them to come up with potential promises. Hence, the research participants suggested a number of promises. They were then guided to develop the promises as CSPs with their components according to sub-clause 6.4, which revealed the challenges in implementing them. This methodological step was not specified in the standard.
- Additionally, after suggesting potential promises, the list of interested parties related to each promise were revisited, which revealed IP as an additional interested party. This showed how the interpretation and application of the standard guidelines can bring additional benefits

In another case, the method can be slightly modified. For instance, if “the service provider lacks empathy” needs to be proactively addressed by a promise, a list of promise statements may not be required. The development can focus on the issue itself and the promise that addresses it.

In the literature, the integrated use of the ISO 10000 series of CS standards was analyzed (e.g., Dee *et al.*, 2004) and exemplified (e.g., Karapetrovic, 2010). This chapter illustrates a similar integrated application for the first time in health care, demonstrating how specific guidance of

ISO 10001:2007 (e.g., sub-clause 6.6 on preparing the CSP procedures) can be ‘augmented’ by using ISO 10002:2004 (e.g., Clause 7 on handling feedback).

The learning from the adaptation of the standard should benefit the health care practitioners in similar future applications. The participating care providers can feel empowered to be involved in the care quality improvement, demonstrating “employee involvement” (Daily and Bishop, 2003), an additional but implicit feature of ISO 10001. The learning from the research could be more comprehensive by including research participants from the management hierarchy, as well as the stakeholders such as patients and physicians who had been listed but were not included in the interviews. The standard does suggest inclusion of such interested parties. Although inputs from the existing participants can be considered adequate for the scope of this research, a wide-scale application of the CSP encompassing all inpatients care units of the hospital may require the participation of mid-level managers. Such an implementation may help in a more comprehensive investigation of the usefulness and appropriateness of the CSP.

It should be interesting to investigate the effectiveness and usefulness of the ISO 10001-based method in other health care cases (e.g., emergency care), and by including additional care givers and support staff (e.g., physicians and nurses) and other interested parties, such as government policy makers in the planning, design and development. The examples of promises that came out of this research were mostly connected with the non-technical aspects of the care. It should be interesting to explore how to make a promise related to the technical aspects, a research area that has not seen much work as of now. Furthermore, the integrated application of ISO 10001, ISO 10002:2004 and ISO 10004:2012 involving multiple patient care units and a higher number of participants can be investigated. Currently the standard does not specify how to handle the development of multiple CSPs at a time, or how to select a promise from a list of potential ones. The procedure on selecting a promise to be developed as a CSP is a useful contribution and should be considered to be included in the standard.

5. Implementation of an ISO 10001-based CSP in inpatients care

5.1 Introduction

Following up from Chapter 4, which involved the construction of CSPs and the selection of one CSP (see Figure 4.4) for actual implementation, this chapter details a pilot implementation of that CSP in one inpatients care unit of the CSO. The selected CSP addresses the communication between the patient and the nurse in inpatients care. An overview of the CSO and the inpatients unit in which the CSP was implemented is first provided. The CSP implementation process is described. The CSP performance data obtained during the implementation is analyzed. In addition, the integrated use of ISO 10001 and ISO 10002 in defining the CSP maintenance and improvement activities is demonstrated and analyzed. The results help in validating the promise supporting processes suggested in chapter 4. Finally, improvement suggestions are made and the learning that can be replicated in implementing similar CSPs is discussed.

5.2 Implementation of the CSP

Two standards, ISO 10001 and ISO 10002, were used in the implementation of the CSP, i.e., establishment of the promise and its supporting processes. Guidance from Clause 7 of ISO 10001:2007 was applied in the CSP implementation and from Clause 8 in defining the maintenance and improvement activities. Guidance from Clause 8 of ISO 10002:2004 was also applied in the CSP maintenance and improvement activities, which included

- the collection of the CSP performance data (based on ISO 10001:2007 sub-clauses 8.1) and its evaluation (sub-clause 8.2),
- the administration of a survey to evaluate the CSP fulfillment and patient satisfaction (based on ISO 10001:2007, sub-clause 8.3),
- the collection and analysis of patient feedback (based on ISO 10002:2004, Clause 7), and

- the continual improvement of the CSP (based on ISO 10001:2007, clause 8.5).

The CSP was intended for inpatients care. As already detailed in sub-section 4.3.2 (also see Figure 4.7), the CSP was implemented by the nurses in the inpatients unit. The UM managed the CSP implementation, including training the nurses in carrying out the CSP, handling the challenges and collecting the data on the CSP performance. In the following sub-sections, a brief overview of the CSO's inpatients care is provided, followed by the detailed implementation process, including the sources, collection and analysis of the CSP performance data.

5.2.1 An overview of the CSO's inpatients unit

The research participants informed that the inpatient care has a number of independent units for specific care categories (e.g., "Medicine", "Gastro-intestinal", "Geriatrics", "Mental Health" and "Pain"). The unit chosen for the implementation had a capacity of 30 patients with a typical turnover of two patients per day with about 18 to 22 different nurses working.

5.2.2 The CSP implementation process

Before the CSP was implemented, the UM informed the patients about the existence of the CSP. The UM informed each nurse of the CSP and its implementation and encouraged their participation, which was voluntary. The UM worked as a mentor and trainer for the nurses in the unit who would be carrying out the promise and addressed any questions they had. The UM handed nurses a hard copy of a "CSP Manual" (see Appendix B), detailing the CSP's pilot implementation. As a reminder, the UM would put white stickers on the clip file the nurses carry with them with the message: *"Do not forget to fulfill your promise today, and do not forget to take your CSP Checklist out when you visit your patients"*.

The CSP was implemented as per the CSP implementation and feedback-handling activities illustrated in Figure 4.7 (see 4.3.2). The UM facilitated the collection of performance data from

both patients and nurses. At the end of the shift, each nurse submitted the completed checklist to the Unit Clerks (UCs). Accounting for all checklists submitted each day, UCs recorded on a spreadsheet the total number of times nurses implemented the CSP (see Appendix B2). This spreadsheet containing the CSP performance data was sent to the researcher. The various sources of performance data, which were obtained and used in assessing the fulfillment of the CSP objectives, the appropriateness, usefulness and performance of the CSP and improvement opportunities, are detailed in the following sub-section.

5.2.3 Sources of CSP performance data

This sub-section is based on ISO 10001:2007, sub-clause 8.1. The four sources of performance data were:

- The CSP Checklist;
- CSP Feedback Forms;
- CSP Surveys;
- Interviews of the UM and nurses.

The data generated from the “CSP Checklist” showed, for each day, the number of beds visited by the nurses who filled their checklists, the number of times they introduced themselves to patients and explained the care plan, and the reasons for non-fulfillment of the CSP.

As already described in the CSP procedures (see 4.3.2), patients could leave their feedbacks by filling the Feedback Form, which was collected by the UM. The UM also distributed among patients a “CSP Survey” that includes specific questions regarding the CSP performance. The survey included a two-page information letter, followed by a questionnaire. The items included both Likert-type and open-ended questions. The survey was intended to

- Assess the fulfillment of the CSP objectives,
- Verify the appropriateness, usefulness and performance of the CSP, and

- Identify potential improvement opportunities.

To pretest the questionnaire, the UM was requested to verify its usefulness, conciseness and appropriateness. The UM's response was incorporated in the final survey. The UM considered the ability of a patient before approaching him/her for participation, because many patients within the unit were not cognitively and/or physically able to participate.

Because the feedbacks were about the performance of the nurses, there was a concern regarding patients' potential uncomfortable feeling or fear of retaliation. Therefore, both the CSP Feedback and CSP Survey Forms came with an envelope in which a patient would insert a filled form and seal it, and then hand the envelope to the UM, who would pass it to the researcher for analysis. Each form included an information letter for patients and was assigned a unique number. Patients who left feedbacks or completed the survey form were requested to note this unique number in case they wanted to track their feedbacks or even remove it from the research (in such a case, the researcher would identify the form with the requested number). The forms did not have an option for the name, address or any other identifier of the patient, and included multiple warnings against putting such information anywhere on the forms. Therefore, neither the UM nor the researcher were able to identify who the patient was. The details of this process of securing the confidentiality of patients based on the requirements of the research ethics approval can be found in Appendix A7 and A8.

Interviews of the nurses and the UM were performed to assess the fulfillment of the CSP objectives; the appropriateness, usefulness and performance of the CSP and potential improvement opportunities. The questions that were asked in the interviews were open-ended, and are illustrated in Table 4.3 (the questionnaire with the information letter is included in Appendix A). The interviews of nurses were performed on weekdays before lunch when the work load was lower. In total, eight nurses participated in the interviews. In the interviews of the

UM, in addition to questions similar to what was asked to nurses, specific questions were asked about the management of the pilot implementation. By analyzing of the data, the performance of the CSP was evaluated and improvement actions were suggested. Additionally, the UM discussed with the nurses the CSP implementation and resolved any issues as part of the continual improvement of the CSP and its supporting processes (ISO 10001:2007, sub-clause 8.5). The UM would inform the researcher about the contents of these meetings. Keeping written records of the meetings, specifically the key issues and their solutions, was suggested, but was not performed because both the UM and nurses were occupied.

The findings from the survey and feedback forms were summarized and discussed with the UM, who shared the findings with the nurses for the purpose of learning and future implementation of the good practices.

5.3 Analysis of the results

This sub-section details the analysis of the data obtained from the four sources in order to evaluate the CSP performance as per ISO 10001:2007, sub-clause 8.2.

5.3.1 CSP Checklist

Table 5.1 shows a summary of the data generated from the CSP Checklists. The implementation spanned 65 calendar days.

Item	Total	Per day average	Percentage of Fulfillment
Beds visited	700	14.29	-
Times nurse introduced him/herself to the patient	665	13.57	95.00
Times nurse explained the care plan	604	12.58	86.29

Table 5.1: A Summary of the CSP Checklist data

A total of 174 CSP Checklists were filled and turned in. No checklist was turned in for 16 days, which included the days the UM was away for vacation and training, statutory holidays and weekends on some occasions. As learnt from the UM, some patients might have been sleeping or cognitively incapable of comprehending the CSP or the care plan. Figure 5.1 provides a run chart using the obtained data on the three items in Table 5.1, excluding the data points corresponding to days when no CSP Checklist was turned in.

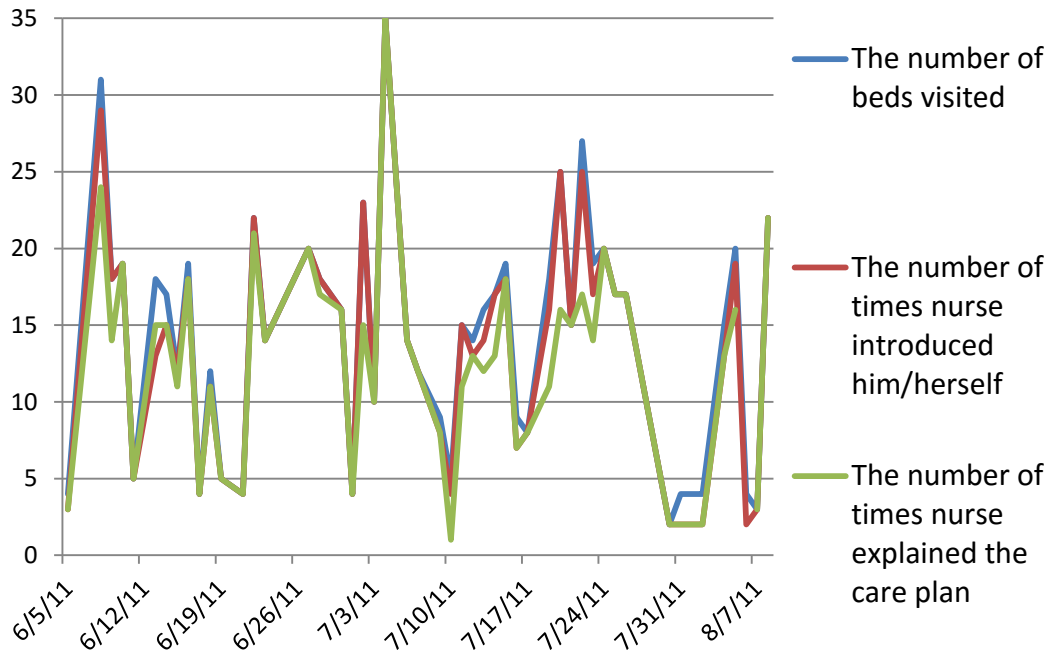


Figure 5.1: Run chart detailing the CSP Checklist data

As seen in Figure 5.1, the number of beds visited per day was low, considering 20 different nurses working every day and 4 or 5 patients assigned to each nurse. Table 5.2 organizes the collected data into 10 weeks, and also includes the percentage of times the nurse did not introduce him/herself and did not explain the care plan to the patient. The 10th week had only two days of data because of the end of the pilot.

Week	The number of beds visited	The number of times nurse introduced him/herself	The number of times nurse explained the care plan	% of times nurse introduced him/herself	% of times nurse explained the care plan
1	77	74	65	96.10%	84.42%
2	82	73	74	89.02%	90.24%
3	45	45	44	100.00%	97.78%
4	81	81	72	100.00%	88.89%
5	80	79	79	98.75%	98.75%
6	95	88	75	92.63%	78.95%
7	112	106	81	94.64%	72.32%
8	56	56	56	100.00%	100.00%
9	47	38	33	80.85%	70.21%
10	25	25	25	100.00%	100.00%

Table 5.2: Weekly summary of the collected data

The bar chart in Figure 5.2 presents a summarized view of the three items of Table 5.1 based on the 10 weeks implementation time depicted in Table 5.2.

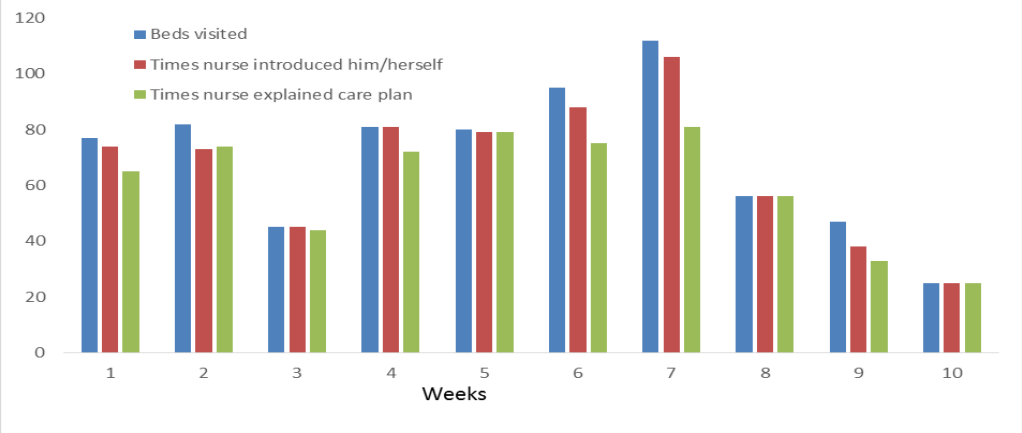


Figure 5.2: Weekly summary of the CSP Checklist data

As seen in Figures 5.1 and 5.2, the number of times nurses introduced themselves was typically higher than the times they explained the care plan, possibly because nurses may have only introduced themselves, but not explained the care plan to those patients who were cognitively incapable at the time of the visit. The variation in the number of beds visited explains the varying

rate of the participation of nurses. Based on the discussions with the UM, the following reasons for the low number of bed-visits were identified:

- Patients might have been sleeping, or unconscious, or cognitively incapable of communication.
- Because participation was voluntary, many nurses might not have filled CSP Checklists.
- A nurse might have forgotten filling and/or turning in the CSP Checklist.
- The “floating” nurses may not be as committed as the “regulars” in implementing the CSP.
- Whenever the UM was away, the number of turned in CSP Checklists went down.

No CSP Checklist was filled on the night shift because typically patients are asleep or are non-responsive. It is also evident from both Figures 5.1 and 5.2 that all three items, i.e., the number of beds visited, the times a nurse introduced and the times a nurse explained the care plan, reached a peak around weeks six and seven and then dropped significantly. Possibly the peak was reached when, after five weeks of reinforcements and practices, the learning curve effect led to more nurses participating in documenting the CSP on the checklist. The dip in week three can be attributed to the fact that the UM was away for a vacation for three days. The decrease after week seven can be due to the fact that the nurses lost their initial enthusiasm and the UM’s reinforcement actions may have subsided. Such a decline is not unusual because the pilot was about to end.

Figure 5.3 provides a run chart depicting the percentage of times the CSP was not fulfilled, excluding the days when no CSP Checklist was turned in.

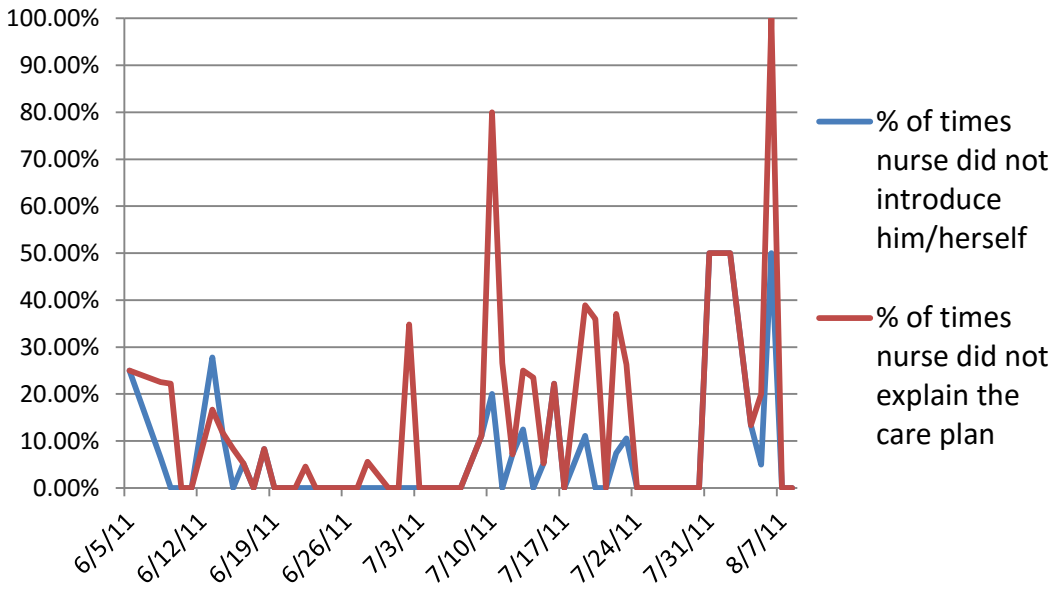


Figure 5.3: Percentage of times the CSP was not fulfilled

This figure helps in explaining the significant effect of the UM's absence on the CSP performance. Excluding the days when five or less CSP Checklists were turned in, the average number of beds visited by the nurses per day was 17.62, which is 23.33% higher than the average including all data. Investigating the two spikes in Figure 5.3 revealed that both instances happened on Sundays with only five and four bed visits recorded, respectively. Perhaps only one or two nurses turned in CSP Checklists those days and/or have encountered multiple patients who were cognitively challenged.

As for the reasons for non-fulfillment, the CSP Checklist (see Figure 4.5) had three columns titled "Patient was asleep", "An emergent situation" and "Other", respectively, and nurses would check the reason as appropriate. Nurses put a number of recurring reasons in the 'Other' column, as listed in the first column of Table 5.3. During the interview, the UM explained these reasons, as summarized in the second column of Table 5.3.

Reasons reported in the “Other” column	Explanation of the UM
“Confused”	Patients - may not be able to think rationally, - are forgetful of their recent experiences, and - may not realize where they are at the moment
“Language barrier”	Patients incapable of speaking and understanding English
“Off unit”	Patient is out of the unit because of: - Out of the unit for the day - a diagnostic test or to see a doctor - waiting at home for test results
“Drowsy”	Patient’s condition or the effect of medication
“Unresponsive”	

Table 5.3: Explanations of “Other” reasons for CSP non-fulfillment

This information is useful in understanding the various conditions of the patients that would make them unable to express whether or not the assigned nurses carried out the CSP.

Based on the obtained data on the CSP Checklists, several research conclusions can be made. First of all, the CSP Checklist worked as a reminder that the nurses have to introduce themselves and explain the care plans to the patients. On 21% of the days the pilot implementation was on, no checklists were turned in. This does not automatically mean, however, that the nurses did not introduce themselves and did not explain the care plan. These were mostly days when the UM was away, and therefore, could not remind them of the CSP. This may indicate a lack of motivation for the nurses in documenting the CSP. It was also noticeable that many of the patients were in various types of confused states, due to their condition or the medication they were on. For this reason, explaining the care in a number of cases was neither meaningful nor possible. Cases such as these pose a challenge in implementing the CSP and in reaping its benefits.

Overall, the CSP Checklist was effective in documenting the fulfillment of the CSP.

5.3.2 CSP Feedback Form

The UM handed out the CSP Feedback Form to the patients after they were admitted into the inpatients care. This form was intended to provide the option for the patients to leave unsolicited feedbacks on the CSP and its performance. Additionally, the information letter included with the form helped in building awareness on the existence of the CSP.

The UM handed out 28 CSP Feedback Forms and seven were filled and returned (25% response). One was discarded because it was improperly filled (the patient simply placed check marks at the end of all lines). The remaining six patients replied ‘yes’ when asked if the promise was fulfilled. Five patients provided comments or recommendations, as reported in Figure 5.4.

Patient 1: "Excellent care. No matter what I asked, they were very good."
Patient 2: "Provides technical skills with kindness and empathy."
Patient 3:
"1. The nurse identified herself to me, explained the promise to me.
2. My nurse was caring - to the point of making sure I took my medication on time.
3. She made sure that U had an extra blanket when I asked for one.
4. She gave me over + beyond care, at all times, including at night
5. Her caring and compassion were very much appreciated - particularly at night."
Patient 4: "They do a good job"
Patient 5: "(The nurse) lets the patient know where she is, which simplifies communication."

Figure 5.4: Feedbacks from patients

From these results, it is evident that there were no complaints on the non-fulfillment of the CSP. The feedbacks mostly consisted of positive comments. Overall, these patients had positive impressions regarding communication with their nurses. However, many patients were unclear about the intent of the feedback that was specifically collected to measure and improve the CSP and the support activities. It is possible that the response rate was not higher because the non-responding patients were perhaps cognitively incapable to understand the purpose of it, or feared repercussions if they expressed any concerns, or simply did not care. It can be concluded, however, that the form effectively served its objective, which was to help obtaining unsolicited feedbacks on the CSP from patients.

5.3.3 CSP Survey

The UM handed out a CSP Survey to the patients after they were admitted, which allowed them to leave solicited feedbacks on the CSP and its performance by answering the open-ended and close-ended questions. The survey worked as the third tool to obtain CSP performance data, as well as a potential source of improvement ideas that may stem from the patient feedbacks. Just as the feedback form, the information letter included with the survey also helped in building awareness on the existence of the CSP. The UM handed out 24 CSP Surveys (see Appendix A7), but only four were returned (16.67% response). Two patients did not answer all Likert-type questions and two did not attempt any open-ended questions. Table 5.4 shows the patient responses to the open-ended questions.

Item	Item
13.	In addition to the feedback form and oral communication with the nurse, would you like to suggest any other way of leaving your feedback about the promise? Respondent 1: "Send her later for comments". Respondent 2: "No".
14.	Are there any issues about the promise? Please explain. Respondent 1: "No issues". Respondent 2: "No".
15.	Is the promise relevant to your expectations during your hospital stay? Please explain. Respondent 1: "Not relevant" Respondent 2: "Yes"
16.	What are your recommendations regarding the promise and its improvement? Respondent 1: "No recommendation". Respondent 2:
17.	What is your overall comment on the promise? Respondent 1: "No comments". Respondent 2:

Table 5.4: Summary of patient responses on the open-ended items

It is evident that the respondent 1 may have wished to discuss the matter with a nurse at a later time. However, the process was not designed to involve nurses in collecting the patient feedback. Besides, neither the nurse nor the UM would be aware of such a wish until after the received feedback are reviewed. Thus, no immediate action to this response could be facilitated.

From such a small number of responses, it is not possible to derive significant conclusions. However, through these responses from patients, it can be concluded that the survey was effective as a data collection tool to help evaluating the CSP performance compared to its objectives. With more responses over a period of time, the survey can work a useful means for evaluating the CSP's usefulness and its effective implementation, as well as identifying the CSP improvement opportunities.

5.3.4 Interviews of the nurses and the UM

Interviews of the nurses and the UM were used as the fourth source of performance data. The previous three tools helped in obtaining data collected from the nurses and the patients on the CSP fulfillment and performance. The interviews, however, provided additional information on the CSP performance through qualitative data from the users (e.g., the nurses) and managers (e.g., the UMs) perspectives.

While discussing the results, the UM stated that it may not be fair to expect an apology from the UM when the nurse does not fulfill the CSP because the UM may remain unaware of the issue if the patient does not inform the UM. The UM also pointed out that:

- The UM does not visit every patient everyday as part of daily routine. There may have been patients with a feedback but did not call the UM to come collect it.
- It was not always possible for the UM to inform and train the floating nurses about the CSP and its implementation.
- Some dissatisfied patients might have not bothered to complain (in this case, through filling the feedback form), which means the feedback would remain unknown.

Table 5.5 below presents key findings from the interviews of the nurses and the UM.

Difficulty in CSP Implementation:
Nurses: All nurses indicated that the CSP was “Not difficult”, and “What was promised is already part of the job”.
UM: It was time consuming for the UM to train nurses about the CSP, distribute CSP Feedback and Survey forms to patients, and explain the purposes of the CSP and the forms.
Patient awareness about the CSP:
Nurses: Nurses carried out the promised actions, but did not explain the CSP to the patients.
UM: The UM informed patients about the existence and the use of the CSP.
CSP’s impact on communication and patient satisfaction:
Nurses: Most nurses commented that there was no direct impact of the CSP on improving patient-nurse communication. However, some stated that the CSP is a good reinforcement for those who forget introducing or explaining the care procedure to patients. Nurses agreed that explaining the care procedure made patients happy, satisfied and more comfortable. One commented that patients would like to see that their privacy is respected, and that someone simply should not walk in and start doing a procedure without an explanation.
UM: The UM felt no direct impact of the CSP on improving the patient-nurse communication, and stated that what was promised was already part of the job.
Usefulness of the CSP Checklist and its improvement:
Nurses: Most suggested that documenting the implementation of the CSP was not really helpful. However, it might help the forgetful and new nurses and nursing students. For the confused patients, a separate category under “Reasons for non-fulfillment” can be included.
Additional ways of obtaining patient feedback about the CSP:
Nurses: One nurse suggested involving the patient family in obtaining feedbacks.
UM: The UM suggested not to depend entirely on the survey and feedback forms because the response rate was very low. Instead, a staff member can be assigned to visit the patients and ask questions orally.
Recommendations:
Nurses: The CSP may be more appropriate for the other staff that may not introduce themselves or explain to patients the care plan, such as physicians, occupational therapists (OTs), physical therapists (PTs), discharge and care coordinators, and social workers.
UM: The CSP can include the medical staff (e.g., resident physicians and medical students) as a form of early training. The CSP Manual should be limited to one page to make it easy for nurses.

Table 5.5: Summary of interviews involving nurses and the UM

The interviews helped in revealing crucial information on the feasibility, usefulness and challenges of the CSP implementation. They also allowed the option of asking questions on understanding the data obtained through the three prior tools and helped in shedding light on the questions that were not asked. It can be concluded that all four tools can be utilized together to obtain a comprehensive picture of the CSP performance, as well as the potential improvement and enhancement of the CSP and its implementation process.

5.4 Discussions on the CSP implementation

Investigating the implementation and obtained results, gaps between the planned activities and the actual practices were identified. Similarly, there were a number of improvement opportunities that could help in refining the implementation of the CSP not only limited to the CSO but also in other areas and cases. In this section, both the gaps and opportunities for improvement are discussed.

The identified gaps are as follows:

I) Nurses filled CSP Checklists after visiting all patients instead of after each patient visit as planned. Potential errors, such as inputting wrong data or forgetting to fill it up or to turn it in, can be avoided if data about each visit is entered sequentially. Even though this may initially seem to the nurses as an additional work, with time and motivation this may become habitual without an extra burden.

II) Details of the informal meetings between the UM and nurses regarding the CSP meetings were not recorded as planned because of the lack of resources. For the purpose of continual improvement of the CSP and for future reference, the key points of the meetings need to be recorded.

III) Although the CSP procedures described in 4.3.2 suggest that the UM is the lead of receiving the CSP feedbacks and survey forms from patients and then handling them, during the implementation the UM did not open the sealed envelopes containing the feedbacks. Instead, the UM handed the sealed envelopes to the researcher who recorded the feedbacks and then shared them with the UM. This created an additional step in the feedback handling process, which was necessary to maintain patient confidentiality and perhaps can be considered in future implementation.

IV) The fact that the feedback form was solely about the CSP needed to be clear to patients. This will require continuous reminders to patients about the purpose of the feedback.

V) The interviews of nurses were planned to be done twice: a few weeks into the CSP implementation, and after the end, with the intention to implement the learning and recommendations from the first interview and investigate potential change in performance at the end. However, the interviews were performed close to the end of the pilot implementation because of its relatively short duration and a lack of time the participants had. In the case of future full scale implementation of the CSP, the interviews can be performed as planned.

Additional recommendations to improve the CSP, as well as its overall method of implementation, are discussed below:

i) The CSP Manual can be cut down to one page that would provide a very concise idea on the nurses' responsibilities regarding the CSP. Thus, the manual may actually be a useful reference point to refresh the idea of the CSP for nurses, and at the same time not become another long document that nurses may tend to avoid referring to.

ii) On the CSP Checklist, additional columns titled "Confused", "Language barrier", "Off unit", "Unresponsive" (which may also include "drowsy") can be included, which may make the recording of the CSP implementation easier for nurses. This example shows that for another application for this CSP, the CSP Checklist can be modified to make it more appropriate and effective.

iii) Because the reminder on using the CSP Checklists was effective, the UM should continue reminding the nurses and, when away, assign duties to the person in-charge. The less can be replicated in future cases of implementation.

iv) Not all nurses participated in undertaking the CSPs. Additionally, when the UM was away, the number of CSP Checklists submitted was lower than when the UM was present. There can be several reasons contributing to this result. Some nurses could be too busy to fill the checklist. Some may just not like a change. Because participation was voluntary for the

nurses, some nurses might have had lower level of commitment on using the CSP Checklist. Regardless, if filling of the CSP Checklist were a part of nurses' job, the participation would have been higher. Therefore, during a future implementation, special focus should be placed on improving the participation.

v) In the case of a future implementation, if a person(s) independent of the nursing staff (in the case of the CSO, someone other than the UM) distributes the CSP Survey and Feedback Forms to patients and collects them back, a better impression of "objectivity" and "confidentiality" on the feedback-handling process (based on ISO 10002:2007, Clause 4) and more assurance to patients against any negative implication can be rendered.

The UM of the CSO unit was asked whether this independent feedback collector can be a nursing student, volunteer, or UM from another unit. The UM agreed with all these choices and stated: "It doesn't matter who collects the survey and feedback data as long as the person is not carrying out a formal investigation about one's work that may get ones' license cancelled", and "This is a teaching hospital that is doing experiments and constantly trying to improve to make patients better, and it is not a private laboratory where things are restricted".

Therefore, it is advisable to involve personnel according to the culture of a particular organization for the collection of such feedbacks.

vi) Understanding that many patients may be too reluctant or cognitively incapable to fill the survey or the feedback form, the feedback collector may collect oral responses from patients on the same questions, which may help in improving the response rate.

vii) Both the CSP Feedback Form and Survey contain a two-page information letter, which is necessary for the patient awareness and consent, but can be uninteresting or unimportant to an ailing patient. Consolidating the two instruments into one form might be useful and

efficient, allowing patients to fill the entire form or one part of it and having to read the information letter just once.

viii) The CSP Survey can be integrated into any existing survey within the CSO. An additional section specific to the CSP can be included at the end of the existing survey, which may lead to better efficiency as it will not require any additional resources to administer. In Chapter 6, the development of an example survey is discussed, which includes survey questions on a CSP (the complete survey is included in Appendix F and the items specific to the CSP are included in Part F of the survey).

ix) Continuous collection of CSP Checklists may not be required. Instead, it may be more efficient if the CSP Checklists are collected once after a set interval, such as once every quarter, for the purpose of monitoring and performance improvement.

x) Although many nurses already introduce themselves to patients and explain the care plan, it can be expected that a high percentage of the CSP fulfillment should further improve the communication between the patient and nurse and help in avoiding dissatisfaction caused by poor communication.

5.5 Conclusions

This research showed an example of how to implement an ISO 10001-based promise in the health care area. In this research the use of tools that are generic (e.g., a CSP Survey and a CSP Feedback Form), as well as specific to the promise (e.g., CSP Checklist), has been presented. It also exemplifies the use of CSP as a means to address an existing issue within the care. The chapter demonstrated how in practice ISO 10001 and ISO 10002 can be applied in an integrated way in augmenting the maintenance and improvement activities related to the former by using the guidance on feedback-handling activities from the latter. So far, this is the first work on such integrated use in health care. There are a few examples of such use of these standards

(Honarkhah, 2010; Karapetrovic, 2010; Karapetrovic, 2008a; Karapetrovic, 2008b), but none of them are specific to health care.

The learning from the CSP development and implementation can be replicated in other such implementations within the same area, as well other areas under the health care domain. For instance, this chapter shows how a standardized CSP can be used in mitigating an existing issue with the care (i.e., communication between the patients and nurses), providing a practical example of how to use promises in health care as a care improvement tool. Lack of communication between the care provider and the patient is an issue, as identified through the interviews of the research participants from the CSO, as well as the research reported in the literature. The systematic development and implementation of the CSP presented has provided a useful and comprehensive method that can be applied in proactively resolving an issue through patient promises. The learning can also be replicated in implementing such CSPs in other applications involving other care providers (such as the physicians) and support staff (such as the dietary staff). With minor modifications, this method for implementing CSPs can be applied, without much difficulty, in an area different from the inpatients care, as well as personnel other than just the nurses.

A limitation of this research is that the data obtained from nurses and patients could have been richer by including multiple units with higher number of participants. Pre-testing the CSP Survey questionnaire should have been performed by collecting responses from a sample of patients, which could not be done because of the short duration of the CSP implementation and a small number of patients in the unit.

As for further research, additional CSPs can be developed and implemented intending to address contemporary issues that need to be mitigated. Some examples are – “long waiting

time at the ED" (HQCA, 2009) and "dissatisfaction about how complaints were handled" (HQCA, 2010). By implementing relevant CSPs, recurrence of an issue may be prevented and patient complaints reduced (ISO 10001:2004, sub-clause 0.1). The CSP presented can be implemented in all inpatients units of a hospital and can include other care providers and support staff. The CSP's scope can be broadened by including physicians, medical students and nursing students. The CSP can be included as a training module for the trainee nurses and medical students. A multidisciplinary research team can plan, design and develop a CSP and investigate its application, feasibility and usefulness. Potential impact of the CSP on the communication can be measured by investigating performance before and after implementation. Constructing the CSP Survey can be performed by applying ISO 10004, which provides guidance on customer satisfaction monitoring and measurement. Such a study can be example of the integrated application of the two standards in health care and also illustrating how ISO 10001 can be augmented by ISO 10004.

6. Patient satisfaction measurement along the ED and inpatients care

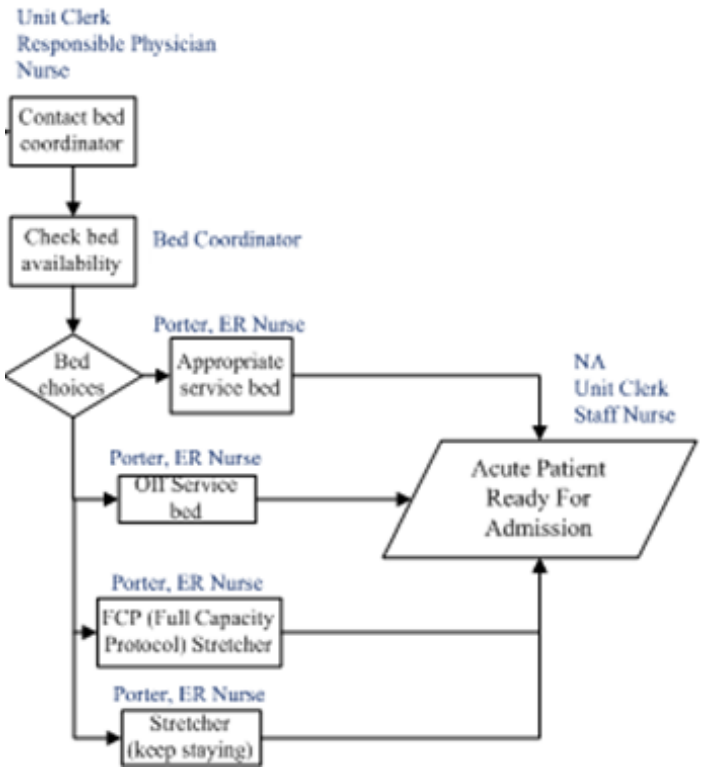
6.1 Introduction

This chapter illustrates the development of Patient Satisfaction Measurement (PSM) system for integrated care based on the relevant guidelines from ISO 10004:2012. The ISO 10004-based PSM activities for the ED and inpatients care are defined. Through interviews of experts including care providers from the continuum and the managers, the existing measurement activities were identified. As an example of a direct measurement tool, a patient satisfaction survey is designed by adapting relevant items from surveys already established within the CSO, as well as by developing new items focused on the continuum of care and patient centeredness. Verification of the PSM system was performed through a second set of interviews with the same group of experts. Finally, suggestions are made on the potential implementation of the PSM system and its applicability in other continua is discussed.

6.2 Investigation of the care continuum

The development of the care flowchart was one of the core results of the study of the care continuum, which helped in the subsequent research. The flowcharts actually helped in understanding the care steps a patient experiences and the health care personnel involved. For each care activity, the “SIPOC” elements, i.e., “Supplier-Input-Process-Output-Customer” (Miller and Ferrin, 2005) and caregivers were identified. As an example, an excerpt from the ED care flow is provided in Figure 6.1, illustrating the bed allocation process while handing patients off from ED to inpatients care, and listing the personnel involved with each activity, which helped in understanding of the SIPOC elements. The intent was to focus on a patient’s journey from the initiation to the end of the care, as well as to identify “moments of truth” i.e., the service encounters during which a patient makes judgment on the quality of care (Osborne, 2004). This analysis helped in the understanding of the patient’s care experience and service encounters

(e.g., a patient meeting the triage nurse in the ED), as well as the connections among the care stages (e.g., admission to the inpatients care from the ED).



ER – Emergency
NA – Nurse Assistant

Figure 6.1: Bed allocation process: handing off from ED to inpatients care

The learning was useful in understanding customer expectations and determining which aspects of care should be the focus of the measurement. For instance, patients may have service encounters with the Emergency Medical Services personnel on their way to the ED, and with the security personnel right after arriving at the ED. These encounters may happen long before the triage, and may have an impact on the patient's satisfaction. Similarly, when the bed coordinator makes the decision on where the patient should be placed in the inpatients care, a nurse does the paperwork for the handing-off and the porter takes the patient to the destination. It is possible that all three personnel may have interaction with the patient. An understanding of such details was useful in the design of the PSM system.

6.3 Study of the existing CS measurement and monitoring activities

Identifying the existing PSM activities can help reduce duplication of efforts. It is expected that as part of PSM, the CSO should have in place processes for obtaining and using both solicited and unsolicited patient feedbacks. It was found that within the CSO, there is an ED patient experience survey conducted by the HQCA, which had been performed in 2007 and 2010. The HQCA survey is mailed to patients. There is also a yearly provincial survey (HCAHPS, 2010) that involves telephone interviews, although the CSO might be selected for the HCAHPS survey once every three years. For handling unsolicited feedbacks, the CSO is also included within the scope of a provincial feedback-handling department, which established a system that encompasses all health care facilities within the province (their process is detailed in Chapter 5). It was also found that the CSO makes no promise or guarantee to patients regarding the services offered, although such promises could be a useful component of the service that can influence patient satisfaction.

The learning was incorporated in the development of the PSM system that includes a survey as key component, in which items related to the performance of a potential promise and a feedback handling system are added.

6.4 Development of the PSM system

As already identified, the CSO's existing patient satisfaction measurement activities focused on the individual care stages in an isolated and disconnected way without considering the patient's experience along the continuum. Therefore, the PSM system was intended to "provide a broad overview" (Deffenbaugh, 1994) of patient satisfaction within the continuum of care and "reduce fragmentations" (Ouwens *et al.*, 2005) in the measurement processes. The components of the PSM system are described below, including the determination of patient expectations, identifying the focused aspects of patient satisfaction, developing a survey as the instrument for

the direct measurement of patient satisfaction, and the verification and improvement of the survey based on inputs from the research participants.

While the PSM system was developed based on the applicable clauses of the standard, a number of clauses were not used. The planning in ISO 10004:2012, Clause 6 suggests defining the PSM system objectives, scope and implementation methods, all of which have been determined as part of the objective of the overall research. A number of clauses, such as analysis of the data (7.4), communicating the results (7.5), monitoring (7.6) and maintenance and improvement (8) were not applied in the PSM system because they are all related to the actual implementation of the PSM system, which was beyond the scope of this research.

6.4.1 Determination of patient expectations

ISO 10004:2012, sub-clause 7.2.2 suggests determination of patient expectations. Sub-clause 7.3.2 also lists examples of existing sources for such information. Based on the interpretation of the sub-clauses, a number of sources from which information on patient expectations can be obtained were developed, and are shown in Figure 6.2.

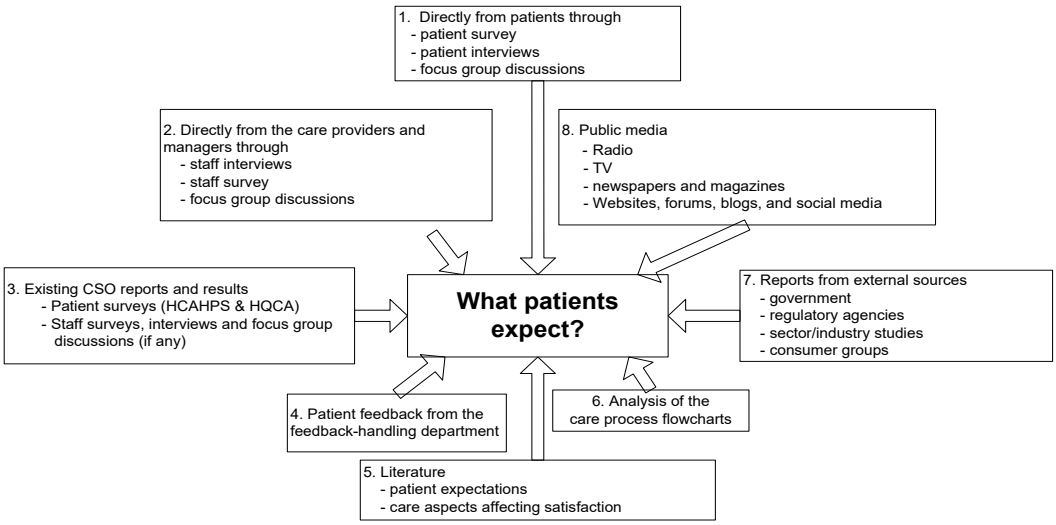


Figure 6.2: Sources of information on expectations

The items were developed by considering the internal and external sources of information regarding patient expectations. This list, which is not exclusive, shows examples of the multiple of ways one may obtain information on what patients expect. These sources of information are very similar to the sources illustrated in Figure 4.2.

In Figure 6.2, items 2, 3, 4, and 6 are internal sources of information on patient expectations. Doctors, nurses and managers can take part in individual interviews, surveys, or even focus group discussions to determine what the customers expect. The open-ended questions in the existing surveys (e.g., the HCAHPS and HQCA) provide additional information. Unsolicited patient feedbacks can generate department and unit-level reports and summaries, which may contain patient expectations specific to the continuum of care. Analysis of care process flow can help in identifying the service encounters and can reveal potential and concurrent issues. All these sources together can well be less risky when compared to the challenges of direct data collection from patients (e.g., costs, response rates and patient privacy).

External sources of information include direct data from patients through surveys, interviews and focus group discussions. Existing literature can be an extremely useful source because patient expectation is a well-researched topic. Reports and studies done by external organizations such as the government, regulatory agencies, as well as industry experts and consumer groups can contain useful information. Public media can be another very useful source. Patient expectations may be conveyed with the help of radio, TV, newspapers, magazines, online forums, blogs, social media and websites.

In a patient-centered health system, the knowledge of patient expectation is crucial, and their collection and analysis are necessary in the development of the PSM system.

6.4.2 Identifications of the patient satisfaction aspects to be measured

This subsection is based on (ISO 10004:2012, 7.3.1). The participants may find it too unattractive to attempt when a survey is too long, which may result in a poor response rate (Stauss and Weimlich, 1997). This fact was considered in the development of the survey component of the PSM system. A literature study was performed to identify the care aspects impacting patient satisfaction. Six care aspects were selected as part of the measurement activities based on their connections with the integrated care principles, patient centeredness and continuum of care, focused in this research. These six aspects have impacts on satisfaction according to the literature (Baalbaki *et al.*, 2008; Carr-Hill 1992; Goldwag *et al.*, 2002; Naidu, 2009; Tucker, 2002) and the hospital's internal reports. Table 6.1 shows a summary of the findings, including the items or questions related to each of the six aspects in a patient survey (which was developed as part of the PSM system and is detailed in the following sub-section).

Aspect	Relationship with Kano's dimensions	Relationship with integrated care concepts	Number of items	Item number in the survey
i) Communication between the patient and care provider (Anderson, Allan and Finucane, 2000; Siyambalapitiya *et al*., 2007; Baalbaki *et al.*, 2008; Naidu, 2009; Taylor, Wolfe and Cameron, 2002; Trumble *et al.*, 2006)	One-dimensional	Patient centeredness	12	2-7 and 11-16
ii) Patient involvement in decision making (Suter *et al.,* 2009)	One-dimensional	Patient centeredness	2	8 and 17
iii) Quality of service encounters (Baalbaki *et al.,* 2008; Blouin, 2011)	Can be any of the Kano's dimensions	Patient centeredness, continuum of care	11	1 to 6, 11 to 15,
iv) Handing off and discharge (Baalbaki *et al.,* 2008; Steiber and Krowinski, 1990)	Expected	Continuum of care	3	10,19 and 20
v) Existence of a feedback handling process (Blouin, 2011)	Expected	Patient centeredness	4	21 to 24
vi) Existence of a customer satisfaction promise (Hart, 1988; McDougall, Terrence and VanderPlaat, 1998)	Attracter	Patient centeredness	4	25 to 28

Table 6.1: Aspects of care selected for measurement

The selected care aspects and the integrated care principles were assumed to be connected with Kano's quality dimensions (ISO 10004: 2012, Annex B.4; Kano, 2001; King, 1994). The purpose of using Kano's dimensions was to link each care aspect and the "degree of satisfaction" (ISO 10004: 2012, Annex B.4). The simplicity of Kano's dimensions should be helpful for the caregivers to understand and use the results, as commented later by a research participant who was a part of the verification of the PSM system. However, the connections among the selected aspects and Kano's dimensions are not empirically proven as part of this research, and can change based on the analysis of the data obtained from the survey. Tools such as correlation analysis can help in finding if a selected aspect is actually "expected" or an "attracter". As for example, the Table 6.1 shows that 11 items in the developed survey are connected to aspect i), which is "communication between patent and care provider". If the analysis shows that improved communication increases the overall satisfaction and poor communication decreases it, this aspect of care can be termed as "one-dimensional". Such a finding is useful for the caregivers because they can set the appropriate strategy and tactics focused on improving the communication.

Aspect ii) can also be considered as part of patient-centered care, hence "one-dimensional". Aspects iii) and iv) can be considered as non-technical, peripheral elements of care (Baalbaki *et al.*, 2008), all of which are more likely to be "dissatisfiers" (hence, "expected" attributes). Aspect iii) can be broken down into multiple sub-aspects as the service encounters can be vast and complex when all of them are considered. Handing-off of patients from one stage to another is a point of potential problems and complaints (Blouin, 2011), and hence, was assumed to be "expected". Aspect v) provides the means for patients to communicate concerns and recommendations, thus empowering them to work as an example of patient-centeredness. Since complaints can be an indicator of dissatisfaction (Osborne, 2004), a well-organized feedback-handling process can act as a source of satisfaction, because properly-handled

feedback can increase satisfaction and loyalty (Davidow, 2003; Gingold, 2011; Stichler and Schumacher, 2003; Seelos and Adamson, 1994). Hence, it can be considered “one-dimensional”.

Regarding aspect vi), a well-designed and implemented CSP enhances customer loyalty (Hart, 1988; McDougall *et al.*, 1998) and satisfaction (Levy, 1999; McDougall *et al.*, 1998) by communicating to patients what to expect and the organization’s commitment to meeting those expectations (Hart, 1988; Hogreve and Gremler, 2009; McDougall *et al.*, 1998). Therefore, a CSP can be an “attracter”, if not currently existent (which was the case with the CSO’s ED and inpatients care).

6.4.3 Measurement of patient satisfaction

This subsection is based on (ISO 10004:2012, 7.3.3). Qualitative methods such as interviews and focus group discussions involving patients and the staff can be performed to measure patient satisfaction. As already discussed, considering the need to have one instrument that can also include the performance measurement of a feedback-handling system and promises made to patients, a patient satisfaction survey was developed instead (See Appendix F). This survey works as an example of an instrument for measuring patient satisfaction along the care continuum. The focus was kept on the selected integrated care principles. The term “inpatients care” was replaced by “hospital” in the survey, considering the patient’s unfamiliarity with the former. For the same reason, “CSP” was not used in the survey. The survey is divided into six parts with a total of 28 items, including 17 items adapted from HQCA (2009) and HCAHPS (2010) (see Table 6.2).

Part	Total number of items	Number of items adapted from HQCA survey	Number of items adapted from HCAHPS survey	Number of new items
A. At the Emergency Department (ED)	9	6	1	2
B. Move from the ED to hospital	1	0	0	1
C. At the hospital	8	2	5	1
D. Discharge from hospital	2	0	0	2
E. Feedback Handling Process	4	0	3	1
F. Customer Satisfaction Promise	4	0	0	4

Table 6.2: The organization of the developed survey

The benefit of adapting items for existing surveys, an approach similar to Braun et al. (2010)'s, is that they are already validated, familiar to the users and allow the possibility of comparison of results. Parts A to D follow the patient's journey along the continuum, while parts E and F include items related to feedback-handling activities and CSPs made to patients respectively.

Part A relates to the ED and includes nine closed-ended questions. The questions are ordered the same way as a patient may experience the service, based on the study of the care flowcharts. Questions 1 and 6 are the originally developed ones, while questions 2 to 5, 7 and 8 were adapted from the HQCA (2009) survey and 9 was adapted from the HCAHPS (2010) survey. A patient may have service encounters with a number of support personnel, such as various technicians, bed coordinators, volunteers and porters. Hence, question 1 relates to a patient's potential service encounters with the EMS (Emergency Medical Services) and security personnel at the ED entrance and includes a rating from 0 to 10 (0 being the worst and 10 being the best possible service). Question 6, similarly, asks about the quality of the service encounters with two additional groups of personnel, the technicians and other, such as the bed coordinator, volunteer, and porter. This question has three parts, asking the patient about whether the

person introduced him or herself, listened to what the patient had to say and explain his/her role clearly. It is important to investigate these initial service encounters. The HQCA (2009) survey, however, does not have items specific to encounters with any support personnel.

Questions 2 to 5 are related to the patient's encounter with the nurse and the doctor and were adapted from HQCA (2009). However, in HQCA (2009), the same questions were used with the response choices including both the nurse and doctors. The response choices are kept separated, which helps in differentiating the two caregivers' individual performance. Questions 2 to 5 together and question 6 are presented in tables, which helped in taking less space (hence, the perception of short length) and making them convenient to read.

Questions 7 and 8 were adapted from HQCA (2009) and relate to the sharing information with patients and their involvement in decisions. Question 9 was adapted from HCAHPS (2010) survey to inquire about the overall rating of the received ED care and includes a rating from 0 to 10. Data obtained with the help of these nine questions should provide a snapshot of the overall performance of the ED care, as well the performance of the caregivers and support personnel, in shaping patient satisfaction.

Part B relates to patient handing-off from the ED to the inpatients care and includes one open-ended question: "Did you experience any problems in getting a hospital bed? Please specify". Therefore, additional information can be obtained on waiting time and patient expectations.

Part C is related to the inpatients care, includes questions 11 to 18 and follows the same pattern as Part A, with questions 11 to 14 on the treatment of doctors and nurses, question 15 on the treatment of the support personnel, question 16 on information sharing, question 17 on patient involvement and question 18 on overall hospital care. Only question 15 is an originally developed one, which relates to service encounters with other inpatients personnel, such as therapists, people who deliver food, cleaning and housekeeping, social workers, volunteers and

porters. The remaining questions in this part are adapted from HCAHPS (2010) and HQCA (2009) surveys.

Part D includes two new questions, asking patients what problems they faced during and after their discharge from the inpatients care. These are open-ended questions in order to obtain additional information on patient expectations. Discharge can be a long and tedious process that may include multiple patient encounters and, therefore, should be deal with.

Part E relates to the patient's knowledge and use of a feedback-handling process detailed in Chapter 7, and includes one original questions. Question 21 asks patients if they knew about the existence of such a process, and if yes, from whom. It is useful to know if the patient learnt about the feedback-handling process from the care providers or other support staff to understand the performance of the communication activities. Questions 22 to 24 were adapted from HCAHPS (2010) survey and are related to the patient's experience on leaving feedback, as well as overall satisfaction with the process.

Part F also includes originally developed questions, which relate to the patient's knowledge and use of a CSP. The construction and implementation of CSPs has already been detailed in Chapters 4 and 5. Within the survey, the CSP and its components are stated. Question 25 is close-ended, inquiring patients if they were aware of the existence of the promise and the usefulness of their feedback on the promise. Questions 26 to 28 are open-ended questions on the improving the promise, their overall comments on it and suggestions on additional promise that the ED and inpatients care should implement.

In the survey, two questions (e.g., number 9 and 18) on the overall measures of patient satisfaction within the ED and inpatients care were included, although they are not directly related to the selected care aspects and were not accounted for in Table 6.1. However, together

they help in obtaining an overall picture of patient satisfaction with the ED and inpatients care. It is also noticeable that the “communication between the patient and care provider” and “quality of service encounters” relate to the highest number of items on the survey (12 and 11 respectively).

Additional parts can be added to the survey if patients experience additional care stages. For instance, if a patient is handed off from the inpatients care to rehabilitation, a number of questions can be added on the quality service encounters with various personnel, communication between patients and care providers, patient involvement in decision making and discharge from rehabilitation. Hence, additional seven or eight questions can be added for this extra stage, although the pattern of the questions will be very similar and consistent with the previous two stages.

6.4.4 Verification of the survey

Participants were interviewed to verify the usefulness of the developed survey. Appendix G includes sample verification questions that were used. Two participants from the ED, three from the inpatients care and two from the data analysis group responded with their comments and improvement suggestions. Some of the suggestions, which were incorporated in the survey, are:

- Acknowledging the suggestion of the research participants that many of the patients who receive care within the care continuum do not have a high education level, the reading level was kept low to 7.4 (Flesch-Kincaid Grade Level, Readability Statistics, Microsoft Word 2010) by simplifying the sentence structures, using simple words and streamlining instructions.

- Additionally, a number of terminologies were clarified or further explained. For instance, “Dietary staff” was replaced by “People who deliver food” and “Personnel” by “People”. “Porter” was explained by “someone who pushed your wheelchair”.
- Transition from one stage of care to another was made distinct in the survey by using clear titles and texts, thereby clearly demonstrating the focus on the patient’s journey.

The initial version of the survey that was sent to the research participants included more than 40 items. The participants raised concerns about the length as a long survey can be unattractive to many patients. Therefore, a number of items were left out and streamlined without losing the focus on the core aspects of the PSM system. For instance, the initial version of survey included a number of questions regarding the overall performance of the triage nurse, the doctors and nurses in the ED and in the inpatients care and the overall rating of the ED and inpatients care. In the final version, all these questions were streamlined into one overall rating question each for the ED and inpatients care. The initial version also included questions on interaction of the patient with volunteers, social workers, care coordinator, unit clerk and porter. Based on the feedbacks of the research participants, the unit clerk was omitted from the question and the rest of the support staff were lumped into one category named “other”. The survey shown in Appendix F is the final version after making improvement based on the verification process, and now includes 28 items.

The developed survey was not, however, validated by testing it on a sample of patients who went through the ED and inpatients care continuum. Ideally, this could have improved the survey and strengthened the validity of the PSM system. A number of reasons led to not exploring that avenue. First, the objective of this research was to investigate how two other aspects of patient satisfaction (e.g., promises and feedback-handling) can be integrated in the same PSM system, keeping the focus on the patients and the continuum of care. This research

fulfilled that objective. Second, this research helped in conceptualizing a framework for patient satisfaction, focusing on the patient and the care continuum, by using the ISO 10000 standards. Hence, the novelty of the work is established, considering no such framework exists in the integrated care research. Third, the results from the verification interviews of the experts were considerably decisive in predicting the usefulness, practicality and feasibility of the PSM system. Forth, testing the survey on a sample of patients comes with substantial costs, such as the required resources, disclosure of patient information, commitment from various levels of the CSO management and extension of the scope of the existing research ethics approval from the University of Alberta (currently it does not include collecting patient information and obtaining patient data). Comparing the potential benefit in further improving the PSM system and the substantial costs it might incur, the validation of the survey though a sample of patients was postponed.

6.5 Conclusions

In this chapter, the first application of ISO 10004:2012 in health care is presented. As evident in the literature, PSM in integrated care has not yet been explored, Braun et al. (2010) being the only example to date. This work addresses the gaps by applying ISO 10004:2012 as the conceptual framework for PSM, as well as in defining the PSM activities. Therefore, this research is not a simple implementation of an ISO standard. Rather, it demonstrates the adaptation of the standard as a model that was missing in the research on integrated care.

Because ISO 10004 is not specific to integrated care, new activities and additional concepts were introduced along with the existing standard guidance. For instance, the first two of the four steps mentioned in the methodology (i.e., studying the care continuum and determining its existing PSM activities) are not explicit in the standard, although a study of the existing system should typically be performed while applying a standard. However, by performing these steps,

useful understanding was obtained about the existing system that helped in the effective development of the PSM system. This can be considered as an example of adapting the standard according to context of the case instead of taking the standard guidance as a checklist.

In the developed survey, a number of items were adapted from two currently administered surveys, demonstrating the streamlining achieved through including items that can be considered useful under the context. The new items included in the survey were based on examining the care flow and existing PSM activities with the focus on the patient and their experience. This approach should reduce fragmentations and discontinuity seen in traditional measurement activities and can be considered as an example of the potential streamlining that can be achieved in integrated care.

The learning from this research should be applicable in other organizations with minimal modifications. The selected continuum is common in most hospitals. Therefore, the method and the developed survey should be applicable in such a continuum without much effort. The steps followed in developing the measurement activities, as well as the applied principles (e.g., patient centeredness) and approaches (e.g., following the patient's experience along the continuum and the "SIPOC and care provider" analysis) are all generic, and therefore, should be replicable in other continua. In the case of a health care service that has no dedicated measurement activity, this PSM system can provide useful method that can be conveniently implemented keeping the patient and continuum of care under the focus. For a totally different continuum, such as maternal health or chronic disease management, the survey items might be substantially different. However, the measurement activities are generic and should be very similar. In case a continuum includes more stages, such as five or six, the length of the survey can be a concern. In such a case, similar questions on each stage can be bundled together in

tables to reduce the length of the survey, as demonstrated in the developed survey. For instance, questions on the service encounters between the patient and doctors at various stages of the care can be put together in one table. Therefore, the developed survey is flexible in providing a useful baseline for different continua with more stages.

The developed survey, when administered, should help in providing an overview of patient satisfaction along the continuum by considering the individual scores from each care stage and the handing-off from one stage to another. The survey can help the care managers to get together as a team to analyze the results and determine the improvement actions and implementation, as well as disseminate the results to the related care stages. Such use of the survey results can also help in determining future initiatives regarding the quality of care in a coherent and comprehensive manner where professionals from all care stages can work together with the clear picture of the overall patient satisfaction with the care.
The connections hypothesized among the survey items, measurement aspects, the integrated care principles and Kano's quality dimensions (see table 4.2), according to an expert participants, is one of the most valuable practical parts of this research because these connections are not commonly demonstrated in the CSO's existing measurement activities. Lack of connections between the PSM indicators and the various aspects of quality may lead to unclear understanding of the obtained patient satisfaction information, as well as ineffective, inefficient and out-of-focus improvement actions.

The HQCA (2009) and HCAHPS (2010) surveys did not include specific items related to the support staff (e.g., the therapist and dietary, cleaning, EMS and security personnel), all of whom were identified in the "SIPOC and care provider" analysis and included in the developed survey as part of investigating the service encounters. This is a useful contribution in the PSM research considering the fact that often, the support staff is not focused on the measurement activities,

which leads to exclusion of the useful service encounters when patients may make judgment on the quality of care. By including the staff performance in the measurement, the patient focus through the service encounters is reinforced.

This research shows how the measurement of patient's care experience and the performances of a feedback-handling process and promises made to patients can be brought together in one instrument. This serves as the first example of the integrated use of ISO 10004:2012 and two other ISO CS standards (ISO 10001 on code of conduct and ISO 10002 on complaints handling) as a comprehensive customer satisfaction framework that can be applied in integrated care.

A limitation of the developed PSM system is that the selected care continuum was not actually "integrated". The PSM system was designed by keeping the patient focus and studying the patient experience along the continuum of the care. Another limitation is that the connections between the aspects selected for measurement and Kano's quality dimensions were only hypothesized as an example, but were not empirically proven. Instead, a number of examples were provided to explain how the connections could be empirically established when the PSM system is actually implemented. A third limitation, as already discussed, is that the developed survey was verified by experts but not by a sample of patients, which could have helped in validating and further improving the survey. Finally, patient satisfaction monitoring activities were not included in the PSM system, although ISO 10004:2012 does include detailed guidance on the monitoring. This is because the actual implementation of the PSM system was not performed as it was beyond the research scope.

Further research can include a number of ideas that can augment the scope and use of the PSM system. A study can be performed to empirically show the correlation between the

selected aspects and Kano's dimensions. Such a study should strengthen the understanding of how the care aspects and Kano's dimensions are connected, which should be a useful analysis tool for both the practitioners and the researchers of integrated care. A pilot study can be undertaken by involving a sample of patients in validating the survey component of the PSM system. A pilot implementation can help in further improving the survey in developing the monitoring component, which is currently missing in the PSM system. It should be also interesting to investigate the applicability of the PSM system in other care continua.

7. An ISO 10002-based FHS for the ED and inpatients care

7.1 Introduction

This chapter illustrates the application of ISO 10002 in developing a Feedback-Handling System (FHS) by considering an ED and inpatients care continuum as an integrated care case. The existing feedback-handling activities within the ED and inpatients care are identified and analyzed based on interviews with the research participants, which included care providers and feedback-handling personnel. The systematic development of the ISO10002:2004-based FHS is discussed, including details of the operational and maintenance processes. In addition to using the existing guidance of ISO 10002, the FHS maintenance is further augmented by using applicable guidance from ISO 10004. The feasibility, usefulness and potential implementation of the FHS are analyzed based on inputs from the research participants. The follow-up component of the FHS is validated by investigating actual feedbacks that were documented in a developed form. Conclusions from the learning are discussed and future research directions are proposed.

7.2 Investigation of the care continuum

Just as it was done in developing the PSM system (see 4.5), the care flowcharts were investigated to focus on a patient's experience within the continuum and identify the service encounters. The learning from this analysis was important in the development of the FHS as well because every patient encounter with the health care provider or organization can have the potential for feedback (Osborne, 2004). Because the higher the clinical complexity, the higher the likelihood that concerns may occur (Kline *et al.,* 2008: 350), patients who go through multiple procedures and stages are more likely to have feedback. For instance, the study of the care flowchart helped to identify two points in the continuum for which there is a potential for concerns. They were: (1) patients waiting in the ED and (2) patients being handed-off from the ED to inpatients care. Patients wait for the next step of care at both these points and a long waiting time can initiate complaints.

7.3 Determination of the existing feedback-handling activities

Based on the interviews of the participants and the study of the available reports, the existing ways of feedback-handling within the CSO was identified. As shown in Figure 7.1, the feedbacks received in the units were typically handled by the UMs and the care providers.

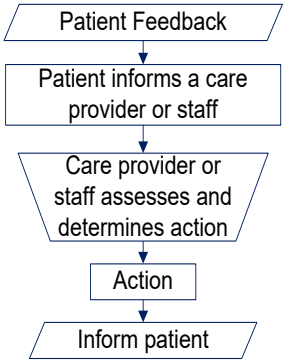


Figure 7.1: Handling of feedbacks from patients and families

The ED and inpatients care patients might leave feedbacks with a feedback-handling department within the province, which conveys the received feedback to the related health care unit of a hospital and records the follow-up activities, as illustrated in Figure 7.2.

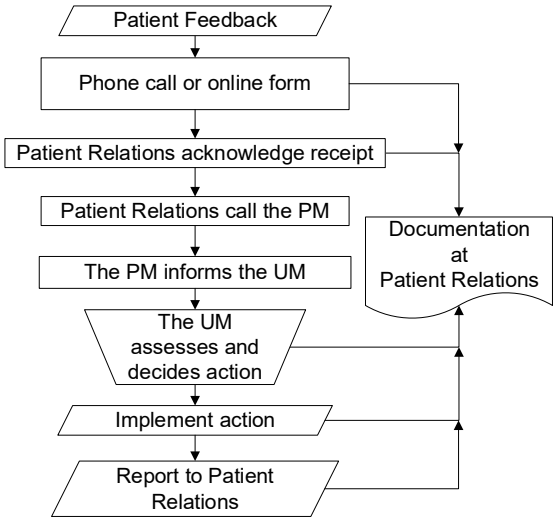


Figure 7.2: Handling of feedbacks involving the feedback-handling department

However, neither the ED nor the inpatients care units in the hospital had their own defined system of handling feedbacks. No defined process existed for the collection and follow-up of orally-conveyed feedbacks, although, in Alberta, a large number of patients with serious complaints complain orally (HQCA, 2010). Moreover, no defined feedback monitoring or feedback-based improvement activities within the ED and inpatients care units could be identified. It was also found that the feedbacks might not effectively and consistently be followed upon when they were conveyed to physicians, therapists, social workers and dietary staff and personnel who are outside of the chain of command of the ED and inpatients care units. Obviously, many issues can arise when the follow-up activities are not properly undertaken and documented.

A number of scenarios can be hypothesized to understand the impact of such gaps. For example, a patient might convey a concern to a physician, who passes it to the Unit Clerk (UC). The UC passes it to the UM to look into the matter. However, the UM may be away, and her fill-in may be unaware of the concern or its exact status. The physician may never see the particular patient again. As a result, the patient may feel seriously dissatisfied and may perceive that the care providers are being heedless, although the case was simply regarding a disconnection between the personnel within the same stage of the continuum involved in the follow-up activities. Issues might happen at the handing-off from one stage of the continuum to another. A feedback received in the ED may not be communicated to the inpatients care even though the patient is handed off to the inpatients care. This exemplifies a lack of coordination and communication between two stages of a care continuum.

The UMs of ED and inpatients care were responsible for their own units' feedback follow-up activities. However, no defined process existed to coordinate among the UMs in their handling of feedbacks. No data could be obtained from the CSO indicating the cost of unresolved issues.

It is a well-known fact that the earlier an issue is resolved, the less the cost it incurs. Studies support that the proper culture of, and process in-place for, complaints-handling may lead to improvement in the financial performance (Johnston, 2001). Proper handling and solving of an issue at its source can save resources. This saving should be even more in integrated care, which has its focus on reducing redundancies and increasing coordination among stages.

As identified above, the CSO's existing feedback-handling activities were found to be discontinuous and isolated with gaps in the existing feedback-handling activities and issues related to the continuum of care. These findings are consistent with the idea of a provider-centered health care system, which typically cannot offer a complete view of a patient's care experience along the entire care continuum (Lamb, 1997). Therefore, a unit-level FHS along the care continuum appeared to be useful and efficient in addressing both the identified gaps and the continuum issues. The following sub-sections illustrate the development of the FHS.

7.4 Development of the FHS

Guidance from ISO 10002 was used in developing an FHS, with the focus on the unit-level handling of feedback. Even though the standard is focused on complaints, the FHS included both complaints and recommendations from patients as inputs. Thus, the FHS exemplifies how the scope of ISO 10002, which is specific to complaints only, was enhanced. The FHS includes a standardized process for handling feedback. The FHS components, which are illustrated below, include a policy (based on sub-clause 5.2, ISO 10002:2004), objectives (sub-clause 6.2), responsibility and authority of the personnel (sub-clause 5.3), the feedback-handling process (Clause 7) and maintenance and improvement processes (Clause 8). The latter process was further augmented by applying guidance from ISO 10004:2012.

7.4.1 The FHS Policy

During the time of the research, the hospital did not have a specified feedback-handling policy. The half-page policy, as shown in Figure 7.3, was intended to build a culture of listening to the voice of patients and enhancing satisfaction.

The FHS Policy

The ED and inpatients care team is working together to maintain an effective and efficient Feedback Handling System (FHS), which obtains and acts upon feedbacks from patients and families. The FHS is based on the following principles:

- Visibility is achieved by placing the feedback forms and drop boxes in visible locations.
- Accessibility is maintained by making the FHS and information about it available, easily understandable and useable for patients and families.
- Responsiveness is achieved by acknowledging and addressing a feedback promptly and keeping patients and families informed of the status of the feedback.
- Objectivity is maintained by handling each feedback in an equitable and unbiased manner.
- Confidentiality is maintained by protecting personally identifiable information of the patient (and family).
- Patient focus is emphasized by encouraging and facilitating the collection and follow-up of patient feedback, sincerely committing to resolving issues, implementing corrective, preventive and improvement actions, and replicating the good practices and recommendations.
- Accountability and commitment of the management and staff is maintained by encouraging proper handling of the feedback and nurturing their active involvement.
- Continuous improvement of the FHS, as well as the care quality, is maintained through the measurement and monitoring of the received feedbacks.

Figure 7.3: The proposed feedback-handling policy

As per the guidelines on ISO 10002:2004, sub-section 5.2, an FHS policy was developed, and was worded based on the ISO 10002:2004 guiding principles in Clause 4. The policy included statements on the “visibility”, “accessibility”, “responsiveness”, “objectivity”, “confidentiality”, “customer-focused approach”, “accountability” and “continual improvement” of the FHS. “Charges” was the only principle not included, because no money is involved in the process of patients leaving feedback. For instance, the policy’s “patient focus” is actually based on “Customer-focused approach” illustrated in sub-clause 4.8. Patient focus is also a core principle of integrated care. “Responsiveness” and “accountability” pertaining to the FHS are relevant to

the continuum of care, both being improved by the integrated and collaborative handling of feedbacks by the personnel involved in multiple stages of the care.

7.4.2 The FHS objectives

As per the guidelines on ISO 10002:2004, sub-section 6.2, a number of FHS objectives were proposed by considering the integrated care principles (i.e., patient centeredness and the continuum of care), as well as the developed policy. The FHS objectives are

- to obtain feedbacks by involving the care providers closest to the patients in quick resolution of concerns within the care continuum,
- to use the results in improving the care, and
- to obtain a snapshot of patient satisfaction regarding the received care.

The objectives are measureable through the FHS performance indicators suggested in sub-section 7.4.5.1, which includes a discussion on the connections of the objectives and indicators.

7.4.3 Responsibility and authority

The UMs from ED and inpatients care are responsible for leading and managing the feedback tracking activities. For a different setup, this responsibility can be assigned to other personnel as necessary. Thus, ``accountability`` is established, which is a principle of ISO 10002:2004 (sub-clause 4.9). Communication and collaboration between the UMs of the two stages should help making the feedback-handling “seamless” and “coordinated” (Mur-Veeman *et al.*, 2003: 237) along the continuum, which are the attributes of integrated care that distinguish it from the traditional care.

7.4.4 The feedback-handling process

Based on ISO 10002:2004, sub-clause 7.1, the UM and nurses can inform the patients of the ways to leave feedback and the manner in which the feedbacks would be used. This

communication includes informing them of a feedback form (see Appendix K), which is designed to obtain written feedbacks, and the locations of the feedback drop boxes. The UM can check the drop boxes regularly for feedbacks left by patients, or assign the duty to an assistant, such as the Unit Clerk.

One important point to note is that the FHS is intended to obtain and use feedbacks from not only patients but also from the family. As discussed in the literature review, patients can be unable to convey feedbacks for a variety of reasons. Therefore, the family members can voice the patient concerns (Anderson, Allan and Finucane, 2000; Siyambalapitiya *et al.* 2007) and the conveyed feedbacks should be handled in a similar way. Therefore, the feedback form (see Appendix K) reaches out to the patient family as well. Similarly, the "Feedback Follow-up Form" (see Appendix L) also includes "Optional details of the patient (or family)". However, for the purpose of brevity and simplicity, only "patients" are mentioned instead of "patients or family" from here on in this thesis.

The locations of the feedback drop boxes were determined based on the study of the care continuum that revealed the service encounters as well as potential points when it would be possible for the patient to leave feedback. Therefore, for the ED, the drop box would be placed in the waiting room because it provides patients with opportunities to leave feedbacks while waiting between various care processes. Moreover, the layout of the ED may be such that at the end of the care process the patient leaves through the waiting area. If they decide to submit feedbacks before they leave, the drop box avails that option.

For the inpatients care, the locations chosen for the drop box were next to the reception desk, inside a ward and on the wall of the corridor within the unit. In all three locations, as seen in Figure 7.4, an excerpt of the care flowchart illustrated in Appendix C, patients may have to wait or are between procedures, and therefore, have opportunities to leave feedback.

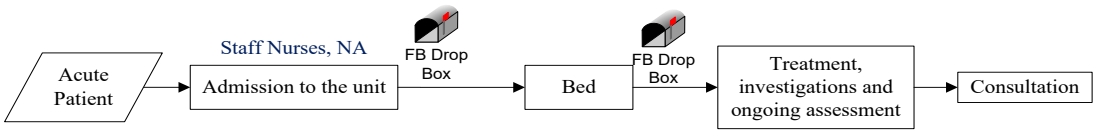


Figure 7.4: Inpatients unit locations of the feedback drop boxes

Figure 7.5 illustrates the FHS's operation with the ISO 10002:2004 sub-clauses in parenthesis.

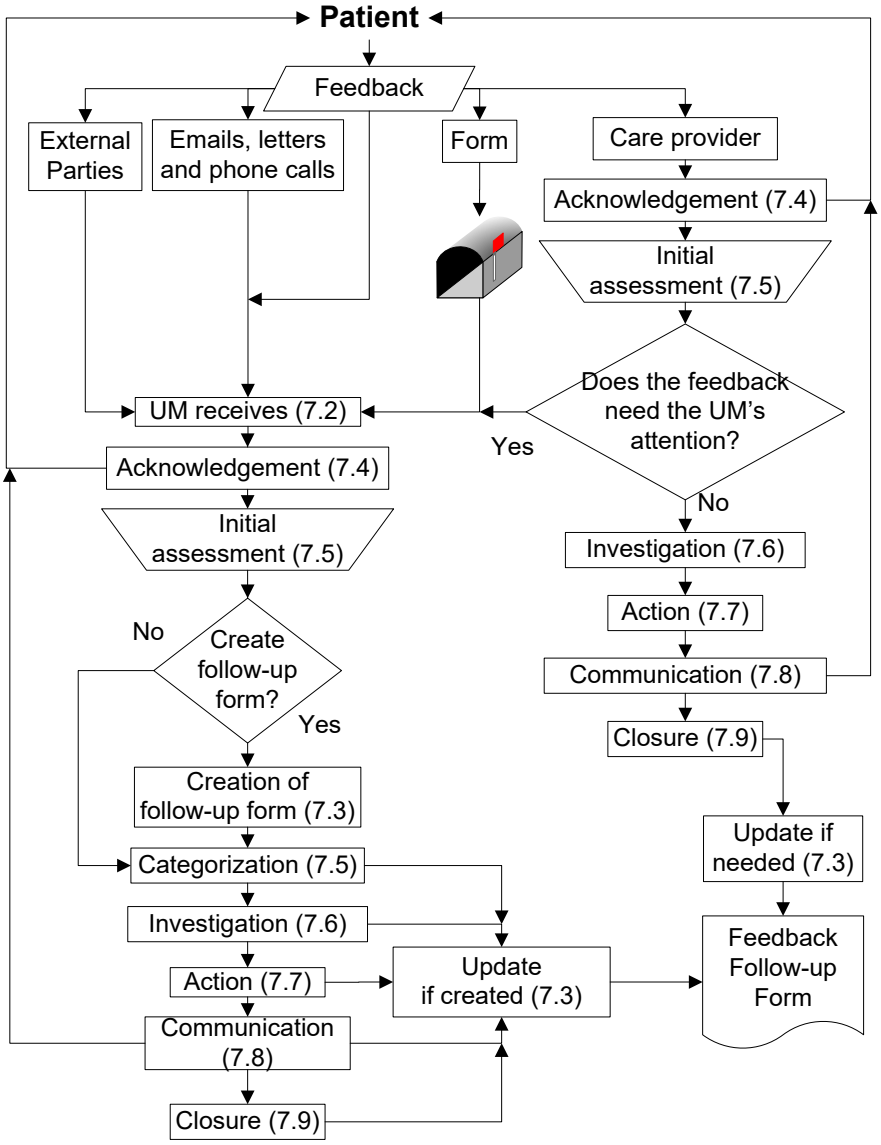


Figure 7.5: The FHS operations

It is also noticeable in Figure 7.5 how feedback-handling is different than the existing practices within the CSO (see Figures 7.1 and 7.2). The UM is at the center of the FHS, to whom most of

the feedbacks are funneled to. Thus, the system allows the support activities to be coordinated and organized, as well as keeps one person responsible as the “owner” of the support activities to establish accountability.

The existing feedback handling activities within the CSO were not entirely redesigned in the FHS. For instance, just as it is done currently, patients can leave feedbacks by informing the care provider (e.g., doctors and nurses), as well as by contacting external parties, such as the provincial feedback-handling department and the media. However, the FHS offers the option of filling the feedback form and dropping it into the feedback drop boxes, through emails, letters and phone calls, which are means that were not available at the time of this research. Consistent with the existing practices, the feedbacks are received (ISO 10002:2004, sub-clause 7.2) and handled by either the care provider or the UM, as shown on the left and right parts of Figure 7.5, respectively. However, additional activities are designed and/or clearly defined based on sub-clauses 7.3 to 7.9. The FHS suggests that when a care provider receives a feedback, he/she thanks the patient and assesses the issue (sub-clause 7.4). The care provider passes the feedback to the UM if it needs the UM’s attention. Otherwise, the care provider assesses (sub-clause 7.5) and investigates the issue and determines the action needed (sub-clause 7.6), performs the necessary action (sub-clause 7.7), communicates it to the patient (sub-clause 7.8), and closes the feedback (sub-clause 7.9). The care provider updates a “Feedback Follow-up Form” (sub-clause 7.3) if needed. This form is included in included in Appendix L.

Feedbacks from various sources eventually are conveyed to the UM, who tracks them until closure. After receiving a feedback (sub-clause 7.2), the UM acknowledges the receipt (sub-clause 7.4), assesses it initially (sub-clause 7.5), and determines the feedbacks for which subsequent activities should be documented and tracked in the follow-up form. The UM may not

be able to document all feedbacks because of the limited available time and resources. Therefore, a procedure to determine whether or not the follow-up form is to be created is developed, and is depicted in Figure 7.6.

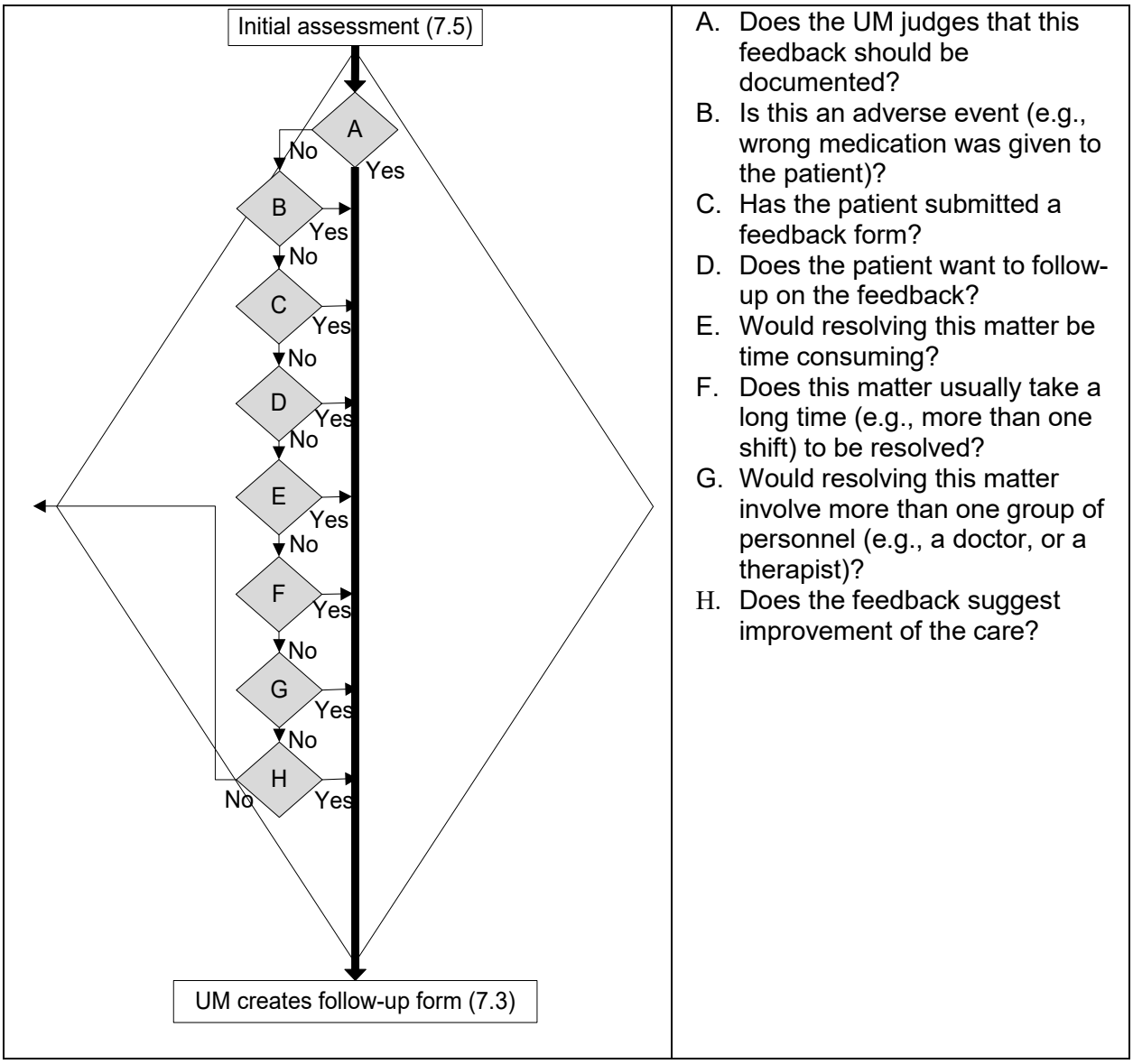


Figure 7.6: Decision procedure on creating a follow-up form

This procedure includes a number of successive questions that UM asks to make a judgment on whether or not a follow-up form should be created. The answers to each question can be either yes or no. If the UM considers the answer to a question to be “yes”, the form is created. If the answer is “no”, the UM moves to the next question. The first question, A, is included in order to

make use of the judgment of the UM, which is based on experience and practical knowledge of the continuum. The next questions are intended to help the UM to make the decision in case the UM is undecided. The questions were developed by considering the continuum of care (e.g., questions E, F, G and H) and patient centeredness (e.g., questions B, C and D). Out of the list of questions, only question B was suggested by the feedback-handling experts who participated in this research. However, during the verification, this question was suggested to be excluded by ED experts (discussed in Table 7.1).

Next, the UM categorizes the feedbacks (sub-clause 7.5) based on specific criteria. The UM investigates the feedback (sub-clause 7.6), determines and implements the required actions (sub-clause 7.7) and communicates to the patients the actions undertaken (sub-clause 7.8). Subsequently, the feedback is closed (sub-clause 7.9). If the patient is not satisfied and asks for further actions, the cycle is repeated. The follow-up form is updated with each activity (sub-clause 7.3).

The criteria for selecting the feedbacks to be documented for the follow-up (see Figure 7.6) is an addition to ISO 10002. The criteria used in the procedure were developed and improved based on the comments from the research participants. More items can be added to the criteria based on the results from the implementation, and through discussions among the UM and nurses.

The “Feedback Follow-up Form” (see Appendix L) is adapted from the “Complaint Follow-up Form” of ISO 10002, Annex D. Notable changes in the form from the original are:

- “Comment of the feedback receiver” is added, which should indicate the state of the patient and environment in which the feedback was conveyed. The person who received the feedback knows the environment under which the patient left the feedback and the way the

patient at that moment. This is another example of “moment of truth” (Osborne, 2004), which helps in understanding patient needs and feelings at the moment when the feedback was left, and using this knowledge in determining actions to resolve the particular issue. The feedback receiver may suggest how to ‘fix’ an issue as well. An additional benefit is that the feedback receivers can feel empowered when they witnesses how seriously their input is considered and subsequently acted upon.

- The 18-item checklist of “Complaint resolution” actions (ISO 10002: 2004, Annex D.6) is replaced by open-ended options to document “corrective”, “preventive” and “improvement” actions, thereby simplifying the use of the form. Explanations of these actions are included, and their definitions are provided as footnotes.
- To simplify and quicken the documentation of feedback assessment, the open-ended options for “Severity”, “Complexity” and “Impact” (ISO 10002:2004, Annex D.5) were replaced by a close-ended score ranging from one to five. The care providers at the unit level are usually extremely busy at work and may not have time to really detail their analysis about the “Severity”, “Complexity” and “Impact” of the feedback. A scale of five numbers, on the other hand, can be circled very quickly and can be easily quantified and used for future analysis.
- For the categorization of feedbacks, various options were considered. ISO 10002 includes its own 19 item “Problem category” (see ISO 10002:2004, Annex D, pp. 14-15). In the literature there are other examples (e.g., Allen, Creer and Leggitt, 2000; Baker and Bank 2008; Montini, Noble and Stelfox, 2008). Additionally, it was learnt from the research participants that the provincial feedback-handling department already developed its own categorization of feedbacks that includes four “primary” categories, which are “access”, “delivery of care”, “environment” and “finance”, and a number of sub-categories for each primary category. This list had been validated through its use over the preceding several years. Moreover, the CSO personnel are familiar with it. After considering the options, the

provincial feedback-handling department's list was adapted in the feedback follow-up form with a number of changes appropriate for the FHS were made based on the FHS validation, which is detailed in 7.5.

7.4.5 Maintenance and improvement

Evaluating the performance of the feedback-handling processes is highly recommended for their improvement and as a means to involving patients in improving the care services they received (Miller 1995). In designing these support activities, guidance from ISO 10004:2012 were also used in addition to ISO 10002:2004, and the clauses are mentioned in parenthesis. The support activities include the analysis and evaluation of feedbacks, the reporting and communicating the results and the monitoring of feedbacks.

7.4.5.1 Analysis and evaluation of the received feedback

Based on ISO 10002:2004, sub-clause 8.2, by investigating the care flowchart and results from the categorization, assessment and analysis of the received feedbacks, trends and systematic issues can be identified, which can help in eliminating the causes of the issues. For example, by studying the care flowchart, the specific point in the continuum where the waiting occurs can be identified (e.g., in the ED or at the handing-off to the inpatients). Waiting time at each of these points can be measured and monitored. A number of additional sources of "indirect indicators" (ISO 10004:2012, sub-clause 7.3.2), which should be useful in comparing against the results from the FHS, are:

a) Reports and survey results already available (e.g., HQCA ED Survey, 2009);
b) Media reports; this can also include the social media.
c) Sector studies (e.g., CIHI, 2014),
d) Government and regulatory agency reports and publications (e.g., CAHPS Hospital Survey, 2014; CIHI, 2014)

The indicators can be used in calculating proportions of feedbacks in terms of units, time, and the number of patients, which can be used as performance measures.

As part of the continuous monitoring of the performance of the FHS, guidelines from both ISO 10002:2004 (Annex G.3.3) and ISO 10004:2012 (sub-clause 7.3.2) were applied and nine indicators were developed. They are:

a) Number of feedbacks received for a period of time;
b) Number of feedbacks received per category and sub-category;
c) Number of concerns resolved;
d) Number of corrective, preventive and improvement actions resulting from feedback analysis;
e) Average number of personnel involved in handling one feedback;
f) Number of received complaints regarding service coordination at the points of handing-off and discharge;
g) Response time to acknowledge the feedback receipt;
h) Response time to take actions to resolve an issue;
i) Response time to communicate to the patient and staff about the action.

In addition to the FHS performance measurement, these indicators should help in judging the quality of care, as well as the three FHS objectives set in 7.4.2. For instance, indicators a) to f) are connected to “use the results in improving the care”. Indicators g) to i) are connected with the objective “to obtain feedbacks by involving the care providers closest to the patients in quick resolution of concerns within the care continuum”. These nine indicators can help in obtaining “a snapshot of patient satisfaction regarding the received care”.

In general, these indicators are focused on the patient experience and satisfaction along the care continuum. For instance, from indicator e), a high number of personnel involved in handling

one feedback can be an indication of the partnership in the process among the care providers and managers. Similarly, from indicator f), a small number of complaints received on the handing-off and discharge may be the result of coordination and continuity between the stages. Through the study of the indicators, one should be able to obtain an idea of the performance of the entire care continuum care, which may not be effectively possible in a traditional health care system because of its lack of focus on the continuum.

7.4.5.2 Monitoring of the feedback

As already identified in 7.3, there is no set process within the CSO in using the collected feedback for improvement purpose. Such a lack of monitoring can be a common problem in other organizations as well. To close this gap, specific action items need to be determined, illustrating the preparation and use of the obtained feedback effectively and efficiently.

Monitoring the feedback will include the details of actions that have been performed, identifying the personnel responsible and accountable for those actions (ISO 10004:2012, sub-clause 7.6.4). The performance of the indicators, as well as the documented follow-up activities, should be investigated to identify trends and recurring issues that can be related to patient satisfaction (ISO 10004:2012, sub-clause 7.3.2). Trends can reveal ongoing or developing concerns that need attention. Thresholds of various performance measures can be set, and then changes in the indicators can be compared. Control charts can be useful in analyzing the data and identifying trends.

The indicators should help in identifying corrective, preventive and improvement actions regarding the quality of care. For example, a high response time in resolving an issue can be the result of lack of interest or seriousness from the feedback-handling personnel. The cause may well be lack of resources, or proper training in handling and following-up of feedbacks, or

even lack of coordination among the care providers among stages. Depending on the cause, appropriate actions can be implemented to correct the issue, as well as remove the cause of the issue. For example, if a number of feedbacks for a time period points to a recurring issue, such as “the physician did not explain the problem to the patient”, the monitoring activity should focus on what actions were recorded in the Feedback Follow-up Form and what was the result of the actions. The results obtained on the performance indicator(s) (e.g., the number of complaints against physicians regarding lack of communication with patients) should reflect the improvement.

The consistency of results from the feedback analysis can be checked by comparing against the results from existing surveys, reports and documents that are regularly generated by the hospital, as well as by the media. For instance, the public report on the HQCA’s (2009) ED survey results includes the number of complaints received and any identifiable trends. The provincial feedback-handling department internally publishes its findings quarterly, which is another useful source of comparison. However, the results obtained from these reports are high-level and may only give the provincial averages of certain indicators, as opposed to the unit-level results obtained through the FHS proposed in this research. After collecting feedbacks a number of times, the subsequent feedbacks and results can be compared against the previous ones (ISO 10004:2012, sub-clause 7.6.5).

7.4.5.3 Reporting and communication of results

The UMs of both the ED and inpatients can discuss the results from the feedback analysis, and develop and implement the action plans together. The collaborations among the UMs and the dissemination of the findings among colleagues can demonstrate the coordinated effort without redundancy, which is a key benefit of integrated care (Ouwens *et al.*, 2005). The results should be reported with recommendations on areas for improvement (ISO 10004:2012, sub-clause

7.4.6). The results, recommendations and learning can be communicated to colleagues and the management according to their involvement and role in the feedback-handling actions (ISO 10004:2012, sub-clause 7.5). This will allow establishing evidence-based practices. For instance, when an improvement initiative is undertaken, its need or significance can be enhanced when supported by the already obtained patient feedbacks.

7.5 Verification of the FHS

To verify the usefulness and feasibility of the FHS, two personnel involved in feedback handling, one UM from inpatients care and three RNs (Registered Nurses) from the ED, were interviewed. Their responses are summarized in Table 7.1.

Participants	Summary of findings
i) Feedback-handling experts	• The FHS provides the unit-level care providers with a set of useful tools for handling feedbacks. • The challenge of its implementation is to prove its value and benefit to the care providers.
ii) Inpatients care	• Staff training specific to handling feedback should be conducted. • The feedback follow-up form can be helpful for a new UM to anticipate what is expected from patients and how feedbacks are traditionally dealt with.
iii) ED	• The staff should be convinced with answers to the following questions about the FHS: - What is the evidence from the literature to show the need of it? - What difference would it make? How big would be its impact? • The need for the level of technology use is limited, which is an advantage of the FHS. • It was suggested to omit the item related to adverse events from the decision procedure (Figure 7.6, “B”), because the hospital already has defined procedures for such events.

Table 7.1: Findings from verifications interviews

Not all suggestions from the experts were included in the FHS. For instance, the UM of the inpatients care preferred “concern” to “feedback”, although the proposed FHS is about not only concerns raised by the patients (and families) but also comments and recommendations from patients. Another downside of the word “concern” is that it has an inherent negative connotation that may put the care providers into a defensive mode, while the purpose of the FHS is to bring

out and address problems in a transparent manner and then communicate the good practices throughout the CSO to be replicated.

Based on the verification interviews, a lack of interest on the FHS was identified among the unit-level staff (RNs and UMs). Being occupied with many responsibilities, the staff may have viewed implementing the FHS as an additional work. However, the interviewed feedback-handling experts were optimistic that the FHS should provide the unit-level staff with useful tools to help in handling feedbacks, something they already do as a part of their jobs.

Additionally, two RNs from the ED and a UM from the inpatients care were requested to evaluate the FHS by using the follow-up form for tracking real feedbacks. Response was only obtained from the UM, who documented the follow-up activities regarding three feedbacks obtained from the patient. The findings helped in further improving the form validated the usefulness of the feedback follow-up process. For instance, a new primary category named “other (specify)” is introduced in order to account for the feedbacks that do not fall under the existing options (i.e., “access”, “delivery of care, “environment” and “finance”). Additionally, “billing” and “funding” as the secondary categories under “finance” were omitted, because they were not relevant to the particular care continuum. According to the UM, the overall performance of the follow-up process was satisfactory. As an improvement action, the form can be made further useful by making it electronic, thereby more agile and efficient for the UM. The final version of the feedback follow-up form is included in Appendix L.

An actual implementation of the FHS in multiple ED and inpatients units was not performed due to a number of reasons. First, the scope of the research included the design, development and partial validation (e.g., the follow-up process). The novelty of the work (supported by the lack of research in this area) and results from the verification interviews involving experts were

adequate in predicting the usefulness and feasibility of the FHS. Second, such a wide-scale implementation demanded substantial resources (e.g., personnel, time and funds) and commitment from various levels of the CSO management, as well as extending the scope of approval obtained from the research ethics office of the University of Alberta. After comparing the potential benefit (e.g., improving the FHS) and the aforementioned costs, it was decided that full-scale implementation of the FHS was not a required aspect of this work.

7.6 Conclusions

In this chapter, an FHS based on ISO 10002 is presented with the focus on the ED and inpatients care. The unit-level handling of patient feedbacks is demonstrated. As explained through the examples, the focus on the patient and the continuum of care was maintained while designing the FHS. The FHS provides a general set of tools that can make the feedback-handling actions and the documentation effective and efficient within the care continuum for the UM and the designated personnel.

Just as the PSM system discussed in Chapter 6, the FHS includes new activities and components that are not in ISO 10002. Because the standard is not specific to integrated care, these new activities and components were necessary to apply the standard as a method for handling feedback in integrated care. These additions, as well as adaptation of the standard for the development of a FHS, are some of the notable contributions of this research. The maintenance and improvement activities were enhanced by the using additional relevant guidance from ISO 10004. Another example is the decision procedure (see Figures 7.5 and 7.6), which may save time for the unit-level personnel in making prompt selections of feedback for the follow-up documentation. To acknowledge the “moment of truth” (Osborne, 2004), as well as focus on patient centeredness, the feedback follow-up form includes “comment of the feedback receiver”, which should help in capturing the state of the patient at the point when the

patient conveyed the feedback. Two additional changes made to the follow-up form in order to make the documentation and assessment of the received feedbacks more efficient. A different categorization of feedbacks is introduced because of its relevance to the ED and inpatients care and its exiting use within the CSO. The exhaustive list of complaint resolution actions from Annex D.6 (ISO 10002:2004) is replaced by the open-ended “corrective”, “preventive” and “improvement actions”. These actions should hopefully make the recording of the maintenance activities less cumbersome for the already busy UMs.

All but the last gap listed in section 7.3 is addressed in the FHS. The FHS now provides an organized system for the “unit-level” handling of feedbacks, which facilitates the orally-conveyed feedbacks as well. The gaps regarding the use of the feedback, as well as the monitoring and improvement actions, can be closed by the suggested integration of efforts of the UMs from both the stages of the care continuum. Directing all feedbacks from various sources and work groups towards the UM and keeping the UM responsible for the tracking should lead to effective, efficient and consistent handling of feedbacks. Having the UMs of the two stages discuss and share feedbacks left by patients who had care experience in both stages should result in better coordination and organization of the follow-up activities and less probability of lost feedbacks between stages. The last gap on the cost of unresolved issues was beyond the scope of this research. Nonetheless, it is expected that the overall costs of having the FHS implemented should be less than the cost of service failures through better coordination between stages. Overall, the FHS should provide “a broad overview” (Deffenbaugh, 1994) of patient feedbacks on the care, as well as reduce fragmentation and improve the continuity and coordination (Ouwens *et al.*, 2005), which are key benefits of integrated care.

The integrated use of ISO 10002 and ISO 10004 in health care is a novel approach, exemplifying how the maintenance and improvement activities in Clause 8 of ISO 10002 can be

“augmented” by sub-clauses 7.3 to 7.6 and Annexes D and E of ISO 10004. Examples of such integrated applications of the two standards have not yet been reported in the literature, which is a useful contribution of this work.

The FHS demonstrated how “patient centeredness”, a key principle of integrated care (e.g., Friedman *et al.,* 2001; O'Malley *et al.,* 2008), can be implemented by applying the ISO 10002 and ISO 10004. The FHS also showed how the integrated care principle regarding the “continuum of care” (e.g., Friedman *et al.,* 2001; Suter *et al.,* 2009) can be maintained by the application of ISO 10002, which should help integrate the handling of feedbacks at various stages of care that a patient experiences. Moreover, the literature still lacks examples of a comprehensive framework specific to integrated care for handling both solicited (e.g., through surveys and focused groups) and unsolicited (e.g., through feedback forms and cards) feedbacks. This work depicts the function of such a framework.

The implementation of the FHS can assist in closing the identified gaps in the existing feedback-handling activities of the hospital. Overall, a set of standardized processes are provided that should help the health care personnel in handling feedbacks efficiently. By following the steps suggested in the methodology, the FHS can be applied in other care continua (e.g., maternity, chronic disease management and primary care), and can include other groups of personnel (such as doctors and therapists). The FHS can be usefully implemented at the unit-level, as suggested by the interviewed experts, even without the presence of an overarching feedback-handling body. Keeping the UMs responsible for overseeing the feedback follow-up processes is not required, rather is an example of having one responsible person from each stage of the care continuum. This should help in maintaining the coordination and flow of the follow-up activities between stages. Moreover, after minor adaptation, the FHS should be applied in other care continua in the unit-level handling of feedbacks.

The selected care continuum was assumed to be integrated and the FHS was developed based on this assumption, which can be considered a limitation of the research. The implementation of the FHS was beyond the scope of the research, and was not performed. However, useful improvement opportunities could have been identified with a pilot implementation of the FHS. Physicians and support staff (such as technicians and dietary) were not involved in the FHS design and verification interviews. Their inputs may possibly have been useful in further refining the FHS.

Even though the FHS was not implemented, a number of suggestions on its maintenance and improvement, based on the ISO 10002, are provided below:

- The developed indicators can be regularly monitored in order to understand how the FHS is performing, and whether the objectives are being accomplished. More indicators can be included in this monitoring to increase its effectiveness.
- Training of the UMs and care providers on the collection and use of feedbacks should be provided. A training document detailing the FHS can be prepared. A pilot implementation can be arranged in one unit where the nurses and UMs create the feedback follow-up form based on actual feedbacks they handle, and document in it the actions they take. Based on the learning from managing a number of feedbacks, the training document can be improved. In addition, experts can be invited to provide training on feedback handling.
- The level of patient satisfaction on the FHS needs to be determined in order to get patients' perception of the FHS. Based on ISO 10002:2004, sub-clause 8.3, a patient satisfaction survey (such as the one in Miller, 1995) or interviews can be administered. While designing the survey, guidance from ISO 10004 specific to the collection and analysis of the customer satisfaction data, can be applied. The objectives of the survey or the interviews should be to comprehend how the FHS is performing, whether it is

useful for patients, and whether there are opportunities to improve the FHS and make it more effective and useful.

- Successful implementation of the FHS will require commitment from the care providers and support staff, who should be made aware of the significance of patient feedback and trained on its proper handling. Presenting evidence to the staff on how their recommendations are implemented should make them feel more involved and dedicated to feedback handling. If the FHS seems to increase the workload of the UMs, volunteers and nursing students can be recruited for documenting the follow-up activities under the supervision of the UM.

Using the work presented in this chapter as a baseline, it should be interesting to explore a pilot implementation by involving several ED and inpatients care units to further test the FHS's usefulness and feasibility. The composition and usefulness of the decision procedure can be more refined through the results from an actual implementation. Implementing the FHS in other care continua in the unit-level handling of feedbacks should be an interesting avenue for future exploration.

8. Conclusions

This chapter highlights the overall contributions and limitations, as well as a number of future research avenues.

8.1 Overall contributions

The overall contributions of this thesis can be divided in two general areas: standardized quality management systems for customer satisfaction and applications of quality management techniques in health care. The learning contributes to the conceptualization of a patient satisfaction framework for integrated care, the first of its kind.

8.1.1 Standardized quality management systems for customer satisfaction

While applying the three standards, activities additional to the standard guidelines were developed and performed. For instance, a new activity was introduced to select a promise to be developed with its components and supporting processes. A decision procedure was added to the feedback-assessment process of the proposed FHS. This procedure illustrates the application of the selection criteria to determine which feedbacks should be documented on the Feedback Follow-up Form, and should be a useful tool for many UMs and care providers who often struggle to document the follow-up activities of the feedbacks they receive. Identifying the SIPOC and care providers at each stage as part of studying the care continuum helped in developing both the PSM system and FHS. The standards do not explicitly mention these additional activities and tools. The interpretation and adaptation of the standards demonstrated ideas and examples that are not only useful in health care but also in other industries and areas.

The integrated application of the ISO 10000 standards that was demonstrated in this thesis is a novel research approach. For instance, ISO 10001 and 10002 were applied in designing the CSP supporting processes. ISO 10004 helped in enhancing the maintenance activities in the

ISO 10002-based FHS. Both the examples provide practical illustrations of the three standards augmenting each other. As of now, no example of the integrated use of the three standards is available, although the standards were developed in such a way that an organization should be able to apply them to augment various aspects of customer satisfaction.

Additionally, the integrated application of the standards helped in meeting a key objective of this research, which was to conceptualize a patient satisfaction framework that can be applied in integrated care. A visual depiction of the framework is given in Figure 3.1. The research helped in conceptualizing the framework and is a crucial contribution in the body of research in integrated care. The first two components of the framework are for obtaining a clear understanding of the care continuum and identifying if and how patient satisfaction is currently monitored and measured within the CSO. Next, the key components of the framework, e.g., the CSP, PSM system and FHS with their monitoring and measurement processes, can be developed and implemented. The results from the three components can provide a comprehensive picture of patient satisfaction within the care continuum. Additionally, the results from the measurement can work as inputs to developing new ideas. For instance, CSPs can be developed based on the findings of the measurement and feedbacks obtained from patients. Similarly, results from feedback-handling can lead to additional items in patient satisfaction survey. The framework can also help in integrating efforts to obtain and use the customer satisfaction information. For instance, the maintenance and improvement activities of the FHS and CSP can be performed in an integrated way by including items specific to the FHS and CSP performances in the patient satisfaction survey, as illustrated in this research. Similarly, the CSP feedback can also be obtained through the FHS provisions. Hence, redundant performance measurement activities can be minimized, which should lead to a higher level of efficiency. By implementing and maintaining one measurement tool as the proposed survey, three aspects of the patient satisfaction can be covered effectively and efficiently. Additionally, administering the

survey can provide a holistic view of patient satisfaction. Thus, applying the framework as a whole in managing the CSP, PSM and feedback-handling should help in realizing the benefits and potential synergy expected in integrated care.

There is no restriction in developing the CSP, FHS and PSM system components simultaneously or separately, i.e., one after another. In the latter case, however, it is perhaps logical to develop the CSP and FHS first, followed by the PSM system because it includes inputs from the first two. The connections among the framework components are not complicated. Therefore, the learning from the framework, as well as the tools developed as part of the research, can be adapted and applied not only in other health care areas (e.g., maternal health and chronic disease management) but also in other industries and sectors (e.g., hospitality and education).

8.1.2 Applications of quality management techniques in health care

In this research, the systematic design, development and implementation of promises in health care, which is still rare in the body of literature, was presented. Research on unsolicited feedback from patients is abundant in the literature, so is the application of ISO 10002. The novelty of the FHS presented, however, is in the focus on the patient experience along a continuum of care and the unit-level handling of feedbacks. The work presented on the ISO 10002-based FHS showed how patient feedbacks can be obtained and used in a continuum of care, the learning from which should help in conceptualizing feedback-handling in integrated care.

The PSM system marks not only the first application of ISO 10004 in health care, but also an attempt to conceptualizing a framework that can be applied in integrated care. Researchers took

keen interest in the philosophy and organization part of integrated care, but patient satisfaction in integrated care has not been extensively studied, as evident in the literature. This research contributes to the integrated care research by providing the methods and tools specific to systematically obtain, analyze and use both the solicited and unsolicited patient feedbacks in improving the care and enhancing patient satisfaction.

Another key contribution is in demonstrating the practical application of the integrated care principles. These principles and their applications in integrated health care delivery systems have been extensively studied and reported. However, the literature is still lacking evidences of how these principles can actually be applied in patient satisfaction measurement and feedback handling, a gap that is address in this thesis. This thesis focused on two relevant principles of integrated care, e.g., “continuum of care” and “patient centeredness”, and demonstrated their operationalization in a replicable way.

The research work was conducted within the CSO, which is part of the AHS, a public health care system. However, the research learning can be applicable in the private health care with the assumption of relative ease, considering some key challenges of a public health care system (e.g., the lack of competition among health care providers and lack of incentives to improve) may not be as prominent in a private health care system.

8.1.3 Summary of contributions

In Table 8.1, the contributions to each of the focused research areas are illustrated.

Area/concept	Contribution
Customer Satisfaction Promise	• The first example of standardized design, development and implementation of promises in health care through an ISO 10001-based method is presented. • The CSP implementation illustrated how to mitigate a persisting communication issue between the nurse and the patient by establishing a promise. The finding is a contribution in the study of promises in health care. • The ISO 10001-based method, validated through the CSP implementation, and the overall learning should be replicable in establishing standardized CSPs in other health care areas. • Additionally, the ISO 10001-based method was modified and improved. Hence, they contribute in the improvement of the standard. For instance, ○ The CSP stakeholders were identified (sub-clause 6.3) before determining the objectives of the CSP (sub-clause 6.1), which actually helped in this case since the variety of stakeholders in health care makes it challenging to narrow down the choice of codes and the subsequent objectives. This is a modification to the ISO 10001-based method. ○ The “Information gathering” activity was broken down into five steps and decision making actions, thereby further defining the standard sub-clause 6.3. This is an addition to the ISO 10001-based method. ○ An activity named “selection of a promise” is introduced. This activity demonstrated how from a number of promises, one can be finally selected to be developed as a CSP. This is an addition to the ISO 10001-based method.
Patient Satisfaction Measurement	• This work marks the first application of ISO 10004 in health care quality management in measuring patient satisfaction in the area of integrated care. • The patient focus of integrated care was demonstrated by including in the patient satisfaction survey items specific to the support staff and personnel, acknowledging the “moments of truth” (Osborne, 2004). • The streamlining and synergy expected of integrated care were demonstrated by including in the survey items specific to the promise and feedback handling, depicting how a single tool can be applied in the performance measurement for multiple processes.
Feedback Handling	• Through an ISO 10002-based method, a system for handling feedbacks for ED and inpatients care continuum is presented, focusing on the patient experience along the continuum of care. The system was designed to help the UMs of the two care stages work together in handling feedbacks, leading to a higher coordination and synergy that is expected of integrated care (Shaw *et al.*, 2011; Ouwens *et al.*, 2005). • The FHS specifies the processing of orally conveyed feedbacks, which are often not accounted for or focused on. • Additions to the ISO 10002-based method were made. For instance,

Area/concept	Contribution
	○ A decision procedure to evaluate which feedbacks should be selected for the follow-up documentation was introduced. ○ In the Feedback follow-up form, an option for the comment of the feedback receiver was introduced, acknowledging the “moment of truth” (Osborne, 2004) and applying it for potential improvement.
Integration of standardized systems for establishing promise, handling feedback and measuring patient satisfaction	• The research demonstrated the operationalization of how the standards can augment each other. For instance, ○ The activities for handing feedbacks on promises suggested by ISO 10001, sub-clause 6.6 were augmented by applying ISO 10002, Clause 7. ○ The maintenance and improvement of the ISO 10002-based FHS was augmented by applying ISO 10004, Clause 7. • In the patient satisfaction measurement system, the first example of the integrated use of ISO 10001, 10002 and 10004 is presented, which demonstrated that ○ The results from feedbacks and surveys act as inputs to establishing promises. ○ The performance measurement of established promises and feedback handling systems can be included in the same system.

Table 8.1: Summary of research contributions

8.2 Limitations

The patient satisfaction survey was not tested through a sample of patients of the care continuum. Instead, a group of research participants who are caregivers, managers and experts in feedback handling was interviewed as part of the verification of the developed methods and tools. Ideally, a group of patients could be recruited as a sample of research participants and their feedbacks could help in further improving the survey.

A pilot implementation of the FHS could have provided further improvement opportunities. The same is true for the patient satisfaction survey, which was developed as an example PSM tool for integrated care and verified by the research participants, but was not actually conducted.

Although the proposed framework has a broad scope, it could have been even more comprehensive if a detailed monitoring process for patient satisfaction was included. Finally, the

framework as a whole with its three focused components could not be implemented in an actual integrated care example, which was not available within the CSO.

8.3 Future research

In this research, one CSP was implemented in the inpatients care. It should be interesting to implement it in ED as well, thereby providing useful learning from an entire care continuum. The methods used in this research can be applicable with minor adjustments in constructing and implementing CSPs in other health care cases, as well as in other industries. For instance, an application of ISO 10001-based promise in engineering education was reported (e.g., Karapetrovic, 2010), and other areas of education can be also considered for CSPs. The PSM system provides an example of how to develop a direct measurement tool for patient satisfaction along the ED and inpatients care continuum. The FHS developed for the unit-level handling of patient feedbacks in the ED and inpatients care. The methodology followed in both these cases can be applied in other care continua and health care areas, with minor adjustments.

The CSP performance measurement process includes an ISO 10002-based feedback-handling process, as well as a patient survey for the direct measurement of the CSP performance. The process can be further improved by applying the guidance of ISO 10004:2012 in the standardized development of the survey. Such an implementation of the CSP can be interesting, illustrating yet another integrated use of ISO 10001, 10002 and 10004.

The PSM system developed in this research does not include a comprehensive monitoring and maintenance process, which can be developed by applying ISO 10004. The FHS and PSM systems were not actually implemented in this research, but were verified through the inputs

from the research participants. Therefore, the next logical step is their implementation and improvement through the findings.

The patient satisfaction framework was conceptualized after its various components were developed and verified separately. As a future exploration, applying it “as a whole” in a continuum of care can help in further refining it. Because a continuum of care was assumed as integrated in this research, it should also be interesting to apply the framework in an actual integrated care case. The experience and learning should provide a baseline for applications in other integrated care cases. The flexibility of the framework can be further examined by applying it in areas outside health care, such as education and hospitality, in which customers and their experience along the continuum of service are the focus.

References

Alberta Health Services (2010), “Provincial HCAHPS General Information”, Internal Document.

Allen, L.W., Creer, E. and Leggitt, M. (2000), "Developing a patient complaint tracking system to improve performance", *Joint Commission Journal on Quality Improvement,* Vol. 26 No. 4, pp. 217-26.

Amyx, D. & Bristow, D.N. (2001), "An empirical investigation of customer satisfaction with health care services", *Marketing Intelligence & Planning*, Vol. 19 No. 7, pp. 515 - 525.

Andaleeb, S.S., Siddiqui, N. and Khandakar, S. (2007), “Patient satisfaction with health services in Bangladesh”, *Health Policy & Planning*, Vol. 22, No.4, pp. 263-73.

Anderson, K., Allan, D. and Finucane, P. (2000), “Complaints concerning the hospital care of elderly patients: a 12-month study of one hospital's experience", *Age and Ageing*, Vol. 29, pp.409-12.

Ang, L. and Buttle, F. (2012), "Complaints-handling processes and organisational benefits: an ISO 10002-based investigation", *Journal of Marketing Management*, Vol. 28 Nos. 9-10, pp. 1021-42.

Anonymous. (2010), “'No wait' policy has broad goal”, *ED Management*, Vol. 22 No.9, pp. 106-7.

Anonymous. (2004), ”Want to improve service? Promise a 30-minute wait”, *ED Management*, Vol. 16 No. 5, pp. 52-3.

Anonymous. (2002), ”See an MD in 30 minutes or your money back”, *Healthcare Benchmarks*, March, pp. 33-4.

Armitage, G.D., Suter, E., Oelke, N.D. and Adair, C.E. (2009), "Health systems integration: state of the evidence", *International Journal of Integrated Care,* Vol. 9 June, pp. 1-11.

Baalbaki, I., Ahmed, Z.U., Pashtenko, V.H. and Makarem, S. (2008), “Patient satisfaction with healthcare delivery systems”. *International Journal of Pharmaceutical and Healthcare Marketing*, Vol. 2 No. 1, pp. 47-62.

Baker, S.K. and Bank, L. (2008), *"I'm sorry to hear that..." : Real life responses to patients' 101 most common complaints about health care*, Fire Starter Publishing, Gulf Breeze, FL.

Banner Ironwood Medical Center (2012), “Promise to Patients, available at: http://www.bannerhealth.com/Locations/Arizona/Banner+Ironwood/About+Us/Promise+to+Patients.htm (accessed 16 June 2015).

Berry, L.L. and Bendapudi, N. (2007), “A Fertile Field for Service Research”. *Journal of Service Research*, Vol. 10 No. 2, pp. 111-22.

Bikker, A.P. and Thompson, A.G. (2006), “Predicting and comparing patient satisfaction in four different modes of health care across a nation”, *Social Science and Medicine*, Vol. 63 No. 6, pp. 1671-83.

Billing, K., Newland, H. and Selva, D. (2007), “Improving patient satisfaction through information provision”. *Clinical & Experimental Ophthalmology,* Vol. 35 No. 5, pp. 439-47.

Blouin, A.S. (2011), "Improving hand-off communications: new solutions for nurses", *Journal of Nursing Care Quality,* Vol. 26 No. 2, pp. 97-100.

Bosch, V.G. and Enríquez, F.T. (2005), "TQM and QFD: exploiting a customer complaint management system", *International Journal of Quality & Reliability Management,* Vol. 22 No. 1, pp. 30-7.

Braun, S., Kreimeier, S. and Greiner, W. (2010), "Measuring patient satisfaction in integrated healthcare projects--a pilot study with a modified ZAP questionnaire", *Zeitschrift fur Evidenz Fortbildung und Qualitat im Gesundheitswesen,* Vol. 104 No. 2, pp. 106-12.

Brown, P.A. (1986), “A patient satisfaction guarantee for diagnostic radiology”, *Radiology Management,* Vol. 8 No. 1, pp. 38-9.

CAHPS Hospital Survey (2014), *Summary Analyses*, Hospital Consumer Assessment of Healthcare Providers and Systems, available at: http://www.hcahpsonline.org/SummaryAnalyses.aspx#summary (accessed 16 June 2015).

Calabretta, N. (2002), "Consumer-driven, patient-centered health care in the age of electronic information", *Journal of the Medical Library Association,* Vol. 90 No. 1, pp. 32-7.

Cancer Treatment Centers of America (2014), “Our mission and commitment”, available at: http://www.cancercenter.com/about-us/mission.cfm (accessed 16 June 2015).

Capital Health (2008), "Project description: customer satisfaction for integration initiatives", Internal document, Alberta Health Services (from 2009 to current).

Carman, J.M. (2000), “Patient perceptions of service quality: combining the dimensions”, *Journal of Services Marketing*, Vol. 14 No. 4, pp. 337-52.

Carr-Hill, R.A. (1992), "The measurement of patient satisfaction", *Journal of Public Health*, Vol. 14 No. 3, pp. 236-49.

CIHI (2014), “Health Indicators”, Canadian Institute for Health Information, available at: http://www.cihiconferences.ca/indicators/2013/tables13_e.html (accessed 16 June 2015).

Coddington, D.C., Fischer, E.A. and Moore, K.D. (2001), "Strategies for integrated health care systems", *Healthcare Leadership & Management Report,* Vol. 9 No. 11, pp. 8-15.

Conway, T. and Willcocks, S. (1997), “The role of expectations in the perception of health care quality: developing a conceptual model”, *International Journal of Health Care Quality Assurance*, Vol. 10 No. 3, pp. 131-40.

Coyle, J. and Williams, B. (1999), "Seeing the wood for the trees: defining the forgotten concept of patient dissatisfaction in the light of patient satisfaction research", *International Journal of Health Care Quality Assurance Incorporating Leadership in Health Services,* Vol. 12 Nos. 6-7, pp. i-ix.

Daily, B.F. and Bishop, J.W. (2003), ”TQM Workforce Factors and Employee Involvement: The Pivotal Role of Teamwork", *Journal of Managerial Issues*, Vol. 15 No. 4, pp. 393-412.

Dagnone, T. (2009), "For Patients’ Sake. Patient First Review Commissioner’s Report to the Saskatchewan Minister of Health", available at: http://www.health.gov.sk.ca/patient-first-commissioners-report/ (accessed 5 November 2013).

Davidow, M. (2003), "Organizational Responses to Customer Complaints: What Works and What Doesn't", *Journal of Service Research,* Vol. 5 No. 3, pp. 225-50.

Davis, P., Lay-Yee, R. and Briant, R. (2008), "Patient dissatisfaction recorded in hospital notes in New Zealand: their occurrence and pattern", *New Zealand Medical Journal,* Vol. 121 No. 1273, pp. 51-9.

Dee, B., Karapetrovic, S. and Webb, K. (2004), "As Easy As 10001, 2, 3", *Quality Progress*, Vol. 37 No. 6, pp. 41-8.

Dee, B., Karapetrovic, S. and Webb, K. (2009), "Turning financial crises into opportunities – Customer satisfaction standards", *ISO Focus*, Vol. July-August, pp. 21-2.

Deffenbaugh, J.L. (1994), "Health-care Continuum", *Health Manpower Management,* Vol. 20 No. 3, pp. 37-9.

Doron, I., Gal, I., Shavit, M. and Weisberg-Yosub, P. (2011), "Unheard voices: complaint patterns of older persons in the health care system", *European Journal of Ageing,* Vol. 8 No. 1, pp. 63-71.

Eccles, G. and Durand, P. (1998), "Complaining customers, service recovery and continuous improvement", *Managing Service Quality,* Vol. 8 No. 1, pp. 68-71.

Eiriz, V. and Figueiredo, J.A. (2005), "Quality evaluation in health care services based on customer-provider relationships", *International Journal of Health Care Quality Assurance*, Vol. 18 No. 6, pp. 404-12.

Esmail, N. (2013), "Health Care Lessons from Sweden", Fraser Institute, available at: http://www.fraserinstitute.org/uploadedFiles/fraser-ca/Content/research-news/research/publications/health-care-lessons-from-sweden.pdf (accessed 18 February, 2015).

Fabien, L. (2005), "Design and implementation of a service guarantee", *Journal of Services Marketing*, Vol. 19 No. 1, pp. 33-8.

Fernandez, E., Karapetrovic, S. and Brooks, P.M. (2010), "ISO 10002 in health care: update on a case study", Proceedings of *The 14th International Conference on ISO 9000 & TQM*, Scranton, Pennsylvania, April 5-7, 2010, Paper 2-1, pp. 1-8.

Ford, R.C., Bach, S.A. and Fottler, M.D. (1997), "Methods of measuring patient satisfaction in health care organizations", *Health Care Management Review,* Vol. 22 No. 2, pp. 74-89.

Friedman, L., Goes, J., Coddington, D.C., Linenkugel, N. and et al. (2001), "Why integrated health networks have failed / Commentaries / Reply", *Frontiers of Health Services Management,* Vol. 17 No. 4, pp. 3-54.

Garratt, A.M., Helgeland, J. and Gulbrandsen, P. (2010), "Five-point scales outperform 10-point scales in a randomized comparison of item scaling for the Patient Experiences Questionnaire", *Journal of Clinical Epidemiology,* Vol. 64 No. 2, pp. 200-7.

Gingold, S.R. (2011), "The value proposition of patient feedback", *Journal of Medical Practice Management,* Vol. 27 No. 1, pp. 7-9.

Goldwag, R., Berg, A., Yuval, D. and Benbassat, J. (2002), "Predictors of patient dissatisfaction with emergency care", *Israel Medical Association Journal: Imaj,* Vol. 4, No. 8, pp. 603-6.

Goodwin, N., Smith, J., Davies, A., Perry, C., Rosen, R., Dixon, A., Dixon, J. and Ham, C. (2012), "Integrated care for patients and populations: Improving outcomes by working together", A report to the Department of Health and the NHS Future Forum. The King's Fund, available at: http://www.kingsfund.org.uk/sites/files/kf/integrated-care-patients-populations-paper-nuffield-trust-kings-fund-january-2012.pdf (accessed 16 June 2015).

Hallen, G. & Latino, R.J. (2003), "Eastman Chemical's success story", *Quality Progress,* Vol. 36 No. 6, pp. 50-7.

Hanning, M. (1996), "Maximum waiting-time guarantee — an attempt to reduce waiting lists in Sweden", *Health Policy*, Vol. 36, No. 1, pp. 17-35.

Hart, C.W.L. (1988), ”The power of unconditional service guarantees”, *Harvard Business Review*, Vol. July-August.

Hart, C.W.L., Schlesinger, L.A. and Maher, D. (1992), ”Guarantees Come to Professional Service Firms”, *Sloan Management Review*, Vol. 33 No. 3, pp. 19-29.

HCAHPS (2010), “Provincial Hospital Consumer Assessment of Healthcare Providers and Systems”, Alberta Health Services, Internal Document.

Health Canada (2015), “Patient Wait Time Guarantees”, available at: http://www.hc-sc.gc.ca/hcs-sss/qual/acces/guarantees-garanties-eng.php (accessed 18 February 2015).

Hedges, J.R., Trout, A. and Magnusson, A.R. (2002), "Satisfied Patients Exiting the Emergency Department (SPEED) Study", *Academic Emergency Medicine,* Vol. 9 No. 1, pp. 15-21.

Hogreve, J. and Gremler, D.D. (2009), ”Twenty Years of Service Guarantee Research”, *Journal of Service Research*, Vol. 11 No. 4, pp. 322-43.

Honarkhah, M. (2010), "An application of ISO 10001 and ISO 10002 in engineering courses", Proceedings of *The 14th International Conference on ISO 9000 & TQM*, Scranton, Pennsylvania, April 5-7, 2010, Paper 2-2, pp. 1-7.

Hoyer, R.W. and Hoyer, B.B.Y. (2001), “What is Quality?”, *Quality Progress*, Vol. 34 No. 7, pp. 53-62.

HQCA (2010), “Satisfaction and experience with health care services: a survey of Albertans”, Health Quality Council of Alberta, available at: http://www.hqca.ca/assets/pdf/Surveys/HQCA_SE_Technical_Report_2010.pdf (accessed 7 February 2014).

HQCA (2009), *“*Urban and regional emergency department patient experience report", Health Quality Council of Alberta, available at: http://www.hqca.ca/assets/pdf/ED%20January%202010/Urban_and_Regional_Emergency_Department_2009_FINAL.pdf (accessed 7 February 2014).

HQCA (2007), Patient concerns/complaints resolution provincial framework, Health Quality Council of Alberta, available at: http://www.hqca.ca/phpBB2/files/hqca_concerns_framework_2007_157.pdf (accessed 7 February 2014).

Hsieh, S.Y., Thomas, D. and Rotem, A. (2005), "The organisational response to patient complaints: a case study in Taiwan", *International Journal of Health Care Quality Assurance Incorporating Leadership in Health Services,* Vol. 18, No. 4-5, pp. 308-20.

Hughes, S. and Karapetrovic, S. (2006) "ISO 10002 complaints handling system: a study", *International Journal of Quality and Reliability Management,* Vol. 23 No. 9, pp. 1158-75.

International Organization for Standardization (2015), available at: http://www.iso.org/iso/home.html (accessed 26 September 2015).

ISO 9000:2005, "Quality Management Systems - Fundamentals and vocabulary", *International Organization for Standardization, Geneva.*

ISO 10001:2007, “Quality Management - Customer Satisfaction - Guidelines for Codes of Conduct for Organizations”, International Organization for Standardization, Geneva, Switzerland.

ISO 10002:2004, “Quality Management - Customer Satisfaction - Guidelines for complaints handling in organizations”, International Organization for Standardization, Geneva, Switzerland.

ISO 10004:2012, "Quality Management - Customer Satisfaction - Guidelines for monitoring and measuring", *International Organization for Standardization, Geneva.*

Jacka, J.M. and Keller, P.J. (2009), *Business Process Mapping: Improving Customer Satisfaction,* Wiley.

Johnston, R. (2001), "Linking complaint management to profit", *International Journal of Service Industry Management,* Vol. 12 No. 1, pp. 60-9.

Juran, J. M. (1988), *Juran on Planning for Quality,* New York, NY: Free Press.

Kabcenell, A. and Roessner, J. (2002), ”Pursuing perfection: an interview with Don Berwick and Michael Rothman. Interview by Andrea Kabcenell and Jane Roessner”, *Joint Commission Journal on Quality Improvement*, Vol. 28 No. 5, pp. 268-78.

Kano, N. (2001), "Life cycle and creation of attractive quality", The 4th QMOD Conference, Linkoping, Sweden, pp. 18-36.

Karapetrovic, S. (2010), “Teaching with ISO 10001 and ISO 10002”, *Joint International IGIP-SEFI Annual Conference,* Trnava, Slovakia, 19-22 September.

Karapetrovic, S. (2008a), “Integrative Augmentation of Standardized Management Systems”, *International Journal of Quality Science,* Vol 2 No. 1, pp. 15-22.

Karapetrovic, S. (2008b), “Integrative Augmentation of Standardized Systems”, *Proceedings of The 14th International Conference on ISO 9000 & TQM, Taiwan,* April 9 -11, Paper 05-03K, pp. 1-7.

Kenett, R. S., and Shmueli, G. (2014), “From Quality to Information Quality in Official Statistics”, available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2425216 (accessed 16 June 2015).

Kenett, R. S., Deldossi, L. and Zappa, D. (2011), “Quality Standards and Control Charts Applied to Customer Surveys” in R. S. Kenett and S. Salini (Eds), *Modern Analysis of Customer Surveys: With Applications Using R,* John Wiley & Sons, Ltd, Chichester, UK, pp. 413-36..

Kerber, K.J., de Graft-Johnson, J.E., Bhutta, Z.A., Okong, P., Starrs, A. and Lawn, J.E. (2007), "Continuum of care for maternal, newborn, and child health: from slogan to service delivery", *Lancet,* Vol. 370 No. 9595, pp. 1358-69.

Khan, M.A.R. and Karapetrovic, S. (2015), “Establishing an ISO 10001-based promise in inpatients care”, *International Journal of Health Care Quality Assurance,* Vol. 28 No. 2, pp. 100-14.

Khan, M.A.R., Karapetrovic, S. and Carroll, L. (2015), “IS0 10004-based patient satisfaction measurement in integrated care”, Working Paper.

Khan, M.A.R. and Karapetrovic, S. (2014), “ISO 10002:2004-based feedback handling system for emergency and inpatients care”, *European Accounting and Management Review,* Vol. 1 No. 1, pp. 25-43.

Khan, M.A.R. and Karapetrovic, S. (2013), "Implementing an ISO 10001-based promise in inpatients care", *International Journal for Quality Research,* Vol. 7 No. 3, pp. 335-46.

King, B. (1994), "Techniques for understanding the customer", *Quality Management in Health Care,* Vol. 2 No. 2, pp. 61-7.

Kodner, D.L. and Spreeuwenberg, C. (2002), "Integrated care: meaning, logic, applications, and implications--a discussion paper", *International Journal of Integrated Care,* Vol. 2, pp. e12, available at: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1480401/

Kress, G. and Silversin, J. (1983), "Patient feedback project provides real measure of patient satisfaction", *Dental Economics,* Vol 73 No. 4, pp. 72-3.

Lam, N.W.W. and Dale, B. G. (1999), "Customer complaints handling system: key issues and concerns", *Total Quality Management,* Vol 10 No. 6, pp. 843-51.

Lamb, G.S. (1997), "Outcomes across the care continuum", *Medical Care,* Vol. 35 No. 11 Suppl, pp. NS106-14.

Leonardi, M.J., McGory, M.L. and Ko, C.Y. (2007), “Quality of Care Issues in Colorectal Cancer”, *Clinical Cancer Research*, Vol. 13 No. 22, pp. 6897s-902s.

Levy, J.S. (1999), ”Marketing service guarantees for health care”, *Nursing Economics*, Vol. 17 No. 4, pp. 214-18.

Leutz, W.N. (1999), "Five laws for integrating medical and social services: Lessons from the United States and the United Kingdom", *Milbank Quarterly,* Vol. 77 No. 1, pp. 77-110.

Levine, A.S., Plume, S.K. and Nelson, E.C. (1997), "Transforming patient feedback into strategic action plans", *Quality Management in Health Care,* Vol. 5 No. 3, pp. 28-40.

Lewis, A. (1993), “Service guarantees in outpatient clinics: a case study”, *Health Care Management Review*, Vol. 18 No. 3, pp. 59-65.

Marmorstein, H., Sarel, D. and Lassar, W.M. (2001), ”Increasing the persuasiveness of a service guarantee: the role of service process evidence”, *Journal of Services Marketing*, Vol. 15 No. 2, pp. 147-59.

McDougall, G.H.G., Terrence, L. and VanderPlaat, P. (1998), ”Designing the service guarantee: unconditional or specific?”, *Journal of Services Marketing*, Vol. 12 No. 4, pp. 278-93.

Merriam-Webster Dictionary (2012), Definition of ‘Guarantee’, available at: <http://www.merriam-webster.com/dictionary/promise/>, accessed 2 October 2012.

Merriam-Webster Dictionary (2012), Definition of "Promise", available at: http://www.merriam-webster.com/dictionary/promise/ (accessed 2 October 2012).

Miller, M.J. and Ferrin, D.M. (2005), "The application of simulation methodology in a hospital's six sigma project", *Proceedings of the 37th Conference on Winter Simulation*, Orlando, Florida, USA 2007, *IEEE Xplore*, pp. 2016-19.

Miller, J. (1995), "Dealing with complaints - are we doing well?", *International Journal of Health Care Quality Assurance*, Vol. 8 No. 6, pp. 29-31.

Minkman, M.M., Vermeulen, R.P., Ahaus, K.T. and Huijsman, R. (2011), "The implementation of integrated care: the empirical validation of the Development Model for Integrated care", *BMC Health Services Research,* Vol. 11, No. 177, pp. 1-10.

Montini, T., Noble, A.A. and Stelfox, H.T. (2008), "Content analysis of patient complaints", *International Journal for Quality in Health Care,* Vol. 20 No. 6, pp. 412-20.

Mulcahy, L. and Tritter, J.Q. (1998) "Pathways, pyramids and icebergs? Mapping the links between dissatisfaction and complaints", *Sociology of Health & Illness,* Vol. 20 No. 6, pp. 825-47.

Mur-Veeman, I., Hardy, B., Steenbergen, M. and Wistow, G. (2003), "Development of integrated care in England and the Netherlands: Managing across public-private boundaries", *Health Policy*, Vol. 65 No. 3, pp, 227-41.

Musgrove Park Hospital (2012), “Musgrove Park’s Promise to Patients”, available at: http://www.tsft.nhs.uk/News/LatestPressReleases/2006/December2006/MusgroveParksPromisetoPatients/tabid/831/Default.aspx (accessed 2 November 2012).

Naidu, A. (2009), “Factors affecting patient satisfaction and healthcare quality”, *International Journal of Health Care Quality Assurance*, Vol. 22 No. 4, pp. 366-81.

Nesrallah, G. and Mendelssohn, D.C. (2006), "Modality options for renal replacement therapy: the integrated care concept revisited", *Hemodialysis International,* Vol. 10 No. 2, pp. 143-51.

NHS (2003) "Reforming the NHS complaints procedure patient focus and public involvement", available at: http://www.scotland.gov.uk/Resource/Doc/47032/0013908.pdf (accessed 17 June 2015).

NHS Lothian. (2012), “Going to hospital - A guide for patients, carers and relatives”, available at: http://www.nhslothian.scot.nhs.uk/MediaCentre/Publications/HospitalCare/Documents/GoingToHospital.pdf (accessed 6 June 2015).

Norlander, L. and Baines, B.K. (2003), “The Five Guiding Principles for End of Life Care: Minnesota’s Framework”, *Home Health Care Management and Practice*, Vol. 15 No. 2, pp. 110-15.

Nordlund, Y.G. and Edgren, L. (1999), "Patient complaint systems in health care: a comparative study between the Netherlands and Sweden", *European Journal of Health Law,* Vol. 6 No. 2, pp. 133-54.

O'Malley, P.J., Brown, K. and Krug, S.E. (2008), "Patient-and family-centered care of children in the emergency department", *Pediatrics,* Vol. 122 No. 2, pp. e511-21.

Osborne, L. (2004), *Resolving patient complaints: a step-by-step guide to effective service recovery,* 2nd Edition, Jones and Bartlett Publishers, Sudbury, MA.

Ouwens, M., Wollersheim, H., Hermens, R., Hulscher, M. and Grol, R. (2005), "Integrated care programmes for chronically ill patients: a review of systematic reviews", *International Journal for Quality in Health Care,* Vol. 17 No. 2, pp. 141-6.

Pallarito, K. (1995), “Hospital stands behind promise of fast service”, *Modern Healthcare*, Vol. 25 No. 34, pp. 148-9.

Ramsey, R.D. (1998), "How To Handle Customer Complaints", *Supervision.,* Vol. 59 No. 1, pp. 16-9.

Rea, H., Kenealy, T., Wellingham, J., Moffitt, A., Sinclair, G., McAuley, S., Goodman, M. and Arcus, K. (2007), "Chronic Care Management evolves towards Integrated Care in Counties Manukau, New Zealand.", *New Zealand Medical Journal,* Vol. 120 No. 1252, pp. 1-11.

Rygh, E.M. and Hjortdahl, P. (2007), "Continuous and integrated health care services in rural areas. A literature study", *Rural and Remote Health,* Vol. 7 No. 3, pp. 766-75.

Saravanan, B., Ranganathan, E. and Jenkinson, L.R. (2007), "Lessons learnt from complaints by surgical patients", *Clinical Governance: An International Journal*, Vol. 12 No. 3, 155-58.

Seelos, L. and Adamson, C. (1994), "Redefining NHS Complaint Handling - The Real Challenge", *International Journal of Health Care Quality Assurance,* Vol. 7 No. 6, pp. 26-31.

Shaw, S., Rosen, R. and Rumbold, B. (2011), *“What is integrated care? An overview of integrated care in the NHS”,* Nuffield Trust, available at: http://www.nuffieldtrust.org.uk/sites/files/nuffield/publication/what_is_integrated_care_research_report_june11_0.pdf (accessed 16 June 2015).

Simoens, S. and Scott, A. (2005), "Integrated primary care organizations: to what extent is integration occurring and why?", *Health Services Management Research,* Vol. 18 No. 1, pp. 25-40.

Siyambalapitiya, S., Caunt, J., Harrison, N., White, L., Weremczuk, D. and Fernando, D.J. (2007), "A 22 month study of patient complaints at a National Health Service hospital", *International Journal of Nursing Practice,* Vol. 13 No. 2, pp. 107-10.

Smith, A.E. and Swinehart, K.D. (2001), "Integrated systems design for customer focused health care performance measurement: a strategic service unit approach", *International Journal of Health Care Quality Assurance,* Vol. 14 No. 1, pp. 21-8.

St. Charles Parish Hospital (2012), “Promise to the emergency patients”, available at: http://www.allbusiness.com/marketing/relationship-marketing/998270-1.html#ixzz1idSSNU8O (accessed 5 May 2012).

Stauss, B. and Schoeler, A. (2004), "Complaint management profitability: what do complaint managers know?", *Managing Service Quality,* Vol. 14 No. 2-3, pp. 147-56.

Stauss, B. and Weinlich, B. (1997), "Process-oriented measurement of service quality: applying the sequential incident technique", *European Journal of marketing,* Vol. 31 No. 1, pp. 33-55.

Stichler, J. F. and Schumacher, L. (2003), "A gift of customer complaints", *Marketing Health Services*, Vol. 23 No. 4, pp. 14-5.

Steiber, S.R. and Krowinski, W.J. (1990), *Measuring and Managing Patient Satisfaction,* American Hospital Publishing, Schenectady, NY.

Strasser, S., Schweikhart, S., Welch, G.E. and Burge, J.C. (1995), “Satisfaction with medical care”, *Journal of Health Care Marketing*, Vol. 15 No. 3, pp. 34-43.

Suter, E., Oelke, N.D., Adair, C.E. and Armitage, G.D. (2009), "Ten key principles for successful health systems integration", *Healthcare Quarterly,* Vol. 13 No. Spec No, pp. 16-23.

Tasa, K., Baker, G.R. and Murray, M. (1996), "Using patient feedback for quality improvement", *Quality Management in Health Care,* Vol. 4 No. 2, pp. 55-67.

Taylor, D.M., Wolfe, R. and Cameron, P.A. (2002), "Complaints from emergency department patients largely result from treatment and communication problems", *Emergency Medicine,* Vol. 14 No. 1, pp. 43-9.

The Highland Hospital (2015), The Highland Promise - Highland Hospital - University of Rochester Medical Center, available at: http://www.urmc.rochester.edu/highland/about-us/the-highland-promise.aspx (accessed 17 June 2015).

Thomas, P. and While, A. (2007), "Should nurses be leaders of integrated health care?", *Journal of Nursing Management,* Vol. 15 No. 6, pp. 643-48.

Trout, A., Magnusson, A.R. and Hedges, J.R. (2000), "Patient satisfaction investigations and the emergency department: What does the literature say?", *Academic Emergency Medicine,* Vol. 7 No. 6, pp. 695-709.

Trumble, S.C., O'Brien, M., O'Brien, M. and Hartwig, B. (2006), "Communication skills training for doctors increases patient satisfaction", *Clinical Governance: An International Journal*, Vol. 11 No. 4, pp. 299 – 307.

Tucker, J.L. (2002), "The moderators of patient satisfaction", *Journal of Management in Medicine,* Vol. 16 No. 1, pp. 48-66.

Tucker, J. and Adams, S. (2001), “Incorporating patients assessments of satisfaction and quality: An integrative model of patients evaluations of their care”, *Managing Service Quality*, Vol. 11 No. 4, pp. 272-87.

Vavra, T.G. (1997), *Improving your measurement of customer satisfaction*, ASQ Quality Press, Milwaukee, WI.

Vize, R. (2012), "Integrated care: a story of hard won success", *British Medical Journal,* Vol. 344 No. 5 pp. e3529.

Wardlaw, J. (2007), “Aligning hospital promises with patient experiences”, *Healthcare Strategic Management*, Vol. 25 No. 5, pp. 6-7.

Ware, J.E.Jr. and Hays, R. D. (1988), "Methods for measuring patient satisfaction with specific medical encounters", *Medical Care,* Vol. 26 No. 4, pp. 393-402.

Wirtz, J. (1998), “Development of a Service Guarantee Model”, *Asia Pacific Journal of Management*, Vol. 15 No. 1, pp. 51-75.

Wirtz, J. and Kum, D. (2004), “Consumer Cheating on Service Guarantees”, *Journal of the Academy of Marketing Science*, Vol. 32 No. 2, pp. 159-75.

Wirtz, J. and Tomlin, M. (2000), "Institutionalising customer-driven learning through fully integrated customer feedback systems", *Managing Service Quality,* Vol. 10 No. 4, pp. 205-15.

Wirtz, J. and Kum, D. (2001), “Designing service guarantees – is full satisfaction the best you can guarantee?”, *Journal of Services Marketing*, Vol. 15 No. 4, pp. 282-99.

Wisniewski, M. and Wisniewski, H. (2005), “Measuring service quality in a hospital colposcopy clinic”, *International Journal of Health Care Quality Assurance*, Vol. 18 No. 3, pp. 217-28.

Wittwer, S.D. (2006), "The patient experience with the mental health system: A focus on integrated care solutions", *Journal of Managed Care Pharmacy,* Vol. 12, No. 2 (Suppl), pp. 21-3.

Yussupova, N., Boyko, M., Bogdanova, D., Hilbert, A. (2014), "A Decision Support Approach for Quality Management based on Artificial Intelligence Applications", *Data Analytics* , *The Third International Conference on Data Analytics*, Rome, Italy, August 24 - 28, 2014, pp. 112-21.

Zairi, M. (2000), "Managing customer dissatisfaction through effective complaints management systems", *The TQM Magazine,* Vol. 12 No. 5, pp. 331-37.

Zeithaml, V. (1981), “How consumer evaluation processes differ between goods and services”*, in Lovelock*, C.H. (Ed.), *Services Marketing*, Prentice-Hall, Englewood Cliffs, NJ.

Appendix A - Research Ethics Approval for the CSP

UNIVERSITY OF ALBERTA
Office of the Dean
Faculty of Engineering
E6 050 Engineering Teaching & Learning Complex
Edmonton, Alberta, Canada T6G 2V4
www.engineering.ualberta.ca
Tel: 780.492.3320
Fax: 780.492.0500
Toll Free: 1.800.407.8354

Faculty of Engineering Research Ethics Board

Faculty Application for Ethics Review

Name: Dr Stanislav Karapetrovic, Ashique Khan

Project Title: Customer satisfaction promises for inpatients care

Project Deadline: December 2011
Starting Date: May 2011 – December 2011
Budget Period: September 1, 2008-August 31, 2011
Funding: Alberta Health Services
Grant Application: Contract Research: X Non-Funded Research:
Others (Specify):
The applicant agrees to notify the Research Ethics Board in writing of any changes in research design after the application has been approved.

MAY 20, 2011

Signature of Applicant (s) Date

Ethics Review Status:
Review approved by unit Statutory:
Review approved by Research Ethics Board: X
Application not approved:

Signature of REB Member

May 20, 2011
Date:

Appendix A1

INFORMATION LETTER FOR THE RESEARCH PARTICIPANTS

Study Title:

Customer Satisfaction Promises (CSPs) for Inpatients Care

Research Investigator:	Supervisor:
Ashique Khan 6-27 Mechanical Engineering Building Department of Mechanical Engineering University of Alberta Edmonton, Alberta, T6G 2G8 mkhan@ualberta.ca 780-492-8684	Professor Stanislav Karapetrovic 5-8B Mechanical Engineering Building Department of Mechanical Engineering University of Alberta Edmonton, Alberta, T6G 2G8 stanislav@ualberta.ca 780-492-9734

Research Information:

Purpose

The objective of this study is to establish customer satisfaction promises (CSPs) for an inpatients care unit of the Case Study Organization (CSU). The study is a part of the Ph.D. research titled “Monitoring and Measuring Customer Satisfaction in Integrated Health Care (IHC)”, which involves developing a customer satisfaction monitoring and measurement (CSMM) framework based on international customer satisfaction (CS) standards. Patients are considered as the customers in the ongoing research. One of the components of the CSMM framework is provision for establishing patient promises, which is expected to be developed under the study.

The study involves establishing CSPs and managing the solicited and unsolicited patient feedback regarding the performance of CSPs. The methodology is based on ISO 10001:2007, a standard that provides standardized guidance on CS code of conduct. The unsolicited patient feedback, which may include complaints, comments and recommendations regarding the CSP, will be managed by applying ISO 10002:2004, a standard for customer complaints handling. For the collection of solicited patient feedback regarding the CSP performance, a patient survey questionnaire will be used. The study results will be used in developing the CSP component of the CSMM framework.

Background

The University of Alberta is performing this study through a Service Agreement with Alberta Health Services (AHS), as a component of one of the two sub-projects covered by the Agreement. An objective of the sub-project, and hence this study, is investigating the applicability of ISO CS standards in one IHC case of Alberta Health Services (AHS). The CSU emergency department (ED) and acute inpatients care continuum is being considered as an example of IHC case, for which a CSMM framework is being developed. This study focuses on the CSU acute inpatients for whom the CSP is being implemented. You are being recruited to participate in this study because of your knowledge of the care processes and systems within the selected inpatients unit. As part of the study, you will be requested to answer questions regarding the CSP implementation and performance, and on the usefulness and appropriateness of the patient survey questionnaire.

Benefits

Overall, the study should provide a better understanding of the possible applications of customer satisfaction standards in health care, and help in enhancing the care quality and customer satisfaction. Once the CSPs are established, patients may feel more 'involved' in the delivery and management of the care they receive because of the provision of patient feedback, which may be used in improving care aspects related to the CSP. The CSP chosen for the pilot implementation has been derived based on communication issues between patients and care providers; the issues are reported in the literature and are also identified by the CSU research participants. It is expected that the CSU research participants may feel that they are promoting "evidence-based practices" and establishing promises that may mitigate and/or prevent issues affecting patient satisfaction.

Description

As part of the establishment and implementation of the CSP, I am conducting interviews with you and the other participants in this study. This interview will include questions regarding the CSP performance, implementation, maintenance and improvement. Answers to the interview questions help me develop and refine the processes for establishing a CSP. The study findings will be incorporated in developing the CSP component of CSMM framework. During the interview, I will write down and may audio-tape your responses to my questions. The information gathered through the interviews and analysis of the study results will be reported through presentations, meetings or study reports submitted to CSU and AHS, and will be included in my research thesis.

Voluntary Character

You are under no obligation to participate in this study. The participation is completely voluntary.

Confidentiality

Study participants will not be individually identified in any published or presented material. To ensure confidentiality, personal information will be coded and stored in a locked laboratory (Auditing and Integration of Management Systems Research Laboratory, 6-27 Mechanical Engineering Building, University of Alberta, Edmonton) to which only the investigator have access. Information is normally kept for a period post-publication of five years, after which it will be destroyed. If no publications are forthcoming, the data will be destroyed in five years following the end of the project. To maintain confidentiality, best practices will be followed. However, absolute confidentiality cannot be guaranteed.

Consent to Participate

If you decide to participate, please read and sign the enclosed consent form. You can decide to withdraw from the study at any time. If you decline to continue or you wish to withdraw from the study, your information will be removed from the study upon your request.

Further Information

If you have any further questions regarding this study, please do not hesitate to contact me, or Dr. Stanislav Karapetrovic, my supervisor. Any questions or concerns regarding the ethical considerations in conjunction with this study should be directed to the Chair of the Engineering Faculty Ethics Committee.

Appendix A2

Customer Satisfaction Promises (CSPs) for Inpatients Care

CONSENT FORM FOR THE RESEARCH PARTICIPANTS

Part 1 (to be completed by the Principal Investigator)

Title of Project: Quality Management and Customer Satisfaction Standards in Health Care
(Customer Satisfaction for Integration Initiatives)

Principal Investigator(s): Ashique Khan

Co-Investigator(s): Include affiliation(s) and phone number(s):
University of Alberta; 780-492-8684

Part 2 (to be completed by the research participant)

Do you understand that you have been asked to be in a research study?	Yes	No
Have you read and received a copy of the attached Information Sheet	Yes	No
Do you understand the benefits and risks involved in taking part in this research study?	Yes	No
Have you had an opportunity to ask questions and discuss this study?	Yes	No
Do you understand that you are free to refuse to participate, or to withdraw from the study at any time, without consequence, and that your information will be withdrawn at your request?	Yes	No
Has the issue of confidentiality been explained to you? Do you understand who will have access to your information?	Yes	No

This study was explained to me by: _____

I agree to take part in this study:

_____ _____ _____
Signature of Research Participant Date Witness

_____ _____
Printed Name Printed Name

I believe that the person signing this form understands what is involved in the study and voluntarily agrees to participate.

_____ _____
Signature of Investigator or Designee Date

THE INFORMATION SHEET MUST BE ATTACHED TO THIS CONSENT FORM AND A COPY OF BOTH FORMS GIVEN TO THE PARTICIPANT.

Appendix A3

SAMPLE INTERVIEW QUESTIONS TO THE CSU and AHS RESEARCH PARTICIPANTS
"Customer Satisfaction Promises (CSPs) for Inpatients Care"

Patient survey verification questionnaire

1. How appropriate and useful is the patient survey questionnaire in representing the patient perception about the CSP?
2. Are the survey items clear and easy to understand? How do you suggest improvement or modifications in the wording of any item? Please provide examples.
3. Are all the aspects of the CSP and its performance included in the survey? Can you think of additional items that may be included in the survey? Please provide examples.
4. Are there any items in the survey that may be excluded? Please provide examples.
5. What are the ways the nurse may encourage the patients to participate in the survey?
6. What are the potential challenges of ensuring and increasing patient participation in the survey? How do you suggest overcoming the challenges?

Appendix A4

SAMPLE INTERVIEW QUESTIONS TO THE CSU and AHS RESEARCH PARTICIPANTS
"Customer Satisfaction Promises (CSPs) for Inpatients Care"

CSP performance questionnaire

1. Was it time consuming for you to fulfill the CSP? Please explain.
2. Have you faced any difficulty in fulfilling the CSP? Please explain.
3. Please rank the following from 1 to 6 in terms of time consumption (1 being the most and 6 being the least time consuming):
    a. Identifying yourself ___
    b. Explaining role in the care ___
    c. Filling the CSP Checklist ___
    d. Managing the filled CSP Checklist ___
4. Please rank the following from 1 to 6 in terms of difficulty (1 being the most and 6 being the least difficult):
    a. Identifying yourself ___
    b. Explaining role in the care ___
    c. Filling the CSP Checklist ___
    d. Managing the filled CSP Checklist ___
5. Are the patients aware of the promise? Has any patient told about not being informed of the existence of the promise?
6. Was the CSP clear to the patient? Has any patient complained that it was not?
7. How has the CSP helped your communication with the patient?
8. How useful was the CSP Checklist in helping you keep track of the CSP fulfillment? Do you suggest any change/improvement to the CSP Checklist?
9. How useful was the feedback form in communicating patient feedback?
10. In addition to the feedback forms and orally conveyed feedback from patients, what other ways patients left their feedback? How else would you suggest a patient's feedback regarding the promise can be communicated?
11. Have you ever received a complaint that a patient did not find a CSP feedback form when needed?
12. How did you assess and investigate a received feedback that may include a complaint about CSP non-fulfillment, or a recommendation? Please provide examples.

13. What changes/improvements you have suggested and /or implemented after the analyzing a feedback? Please provide examples.
14. What is the patient perception about the survey? Have the patients communicated to you any feedback regarding the survey, such as “the survey is too long/time consuming”, or “the questions/some of the questions are not clear”?
15. What are the issues regarding the CSP and the supporting processes that you have identified?
16. What are your recommendations regarding the CSP and the supporting processes?
17. Has any patient expressed to you his satisfaction regarding the CSP?
18. How is the CSP contributing to the patient’s satisfaction with the received care?
19. What is your overall comment on the CSP?

Appendix A5

The CSP Checklist for nurses
"Customer Satisfaction Promises (CSPs) for Inpatients Care"

The CSP (Customer Satisfaction Promise) Checklist

Date: _____

Bed # of the Patient	***"Have I identified myself to the patient with my designation?" (If yes, please check. If no, leave blank)***	***"Have I explained my role in the care process?" (If yes, please check. If no, leave blank)***	**Reason for non-fulfillment of the promise *(Please check. Leave blank otherwise)***		
			Patient was asleep	**An emergent situation**	**Other**
1					
2					
3					

Total _____ _____ _____ _____

_____ _____

Appendix A6

The CSP Performance Spreadsheet
"Customer Satisfaction Promises (CSPs) for Inpatients Care"

Date X

CSP Checklist #	The number of beds visited	The number of times nurses introduced him/herself	The number of times nurses explained the role in the care process	Number of times nurses reported the following reasons for non-fulfillment of the promise		
				Patient was asleep	An emergent situation	Other
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
Total	X	X	X	X	X	X

Appendix A7

SAMPLE SURVEY QUESTIONS TO THE PATIENTS

"Customer Satisfaction Promises (CSPs) in Inpatients Care"

Please do not write your name anywhere in the document.

Customer Satisfaction Promise

Dear patient,

Your nurse has made the following promise to you, which is intended to enhance the communication between your nurse and you.

"Every day of your stay, your assigned nurse will

- *identify him/herself with name and designation, and*
- *explain his/her role in the care process.*

He/she will provide an apology with explanation if the promise is not fulfilled.

- *The promise will cover your entire stay.*
- *The promise only includes the assigned nurse.*
- *The promise may not be fulfilled under any unavoidable circumstances including emergent situations. The promise may not be fulfilled on night shifts if you are asleep.*

If the promise is not fulfilled:

Please inform the nurse or Unit Manager the next time you see them.

Or, you may fill out the feedback form in the next page, put the form in the envelope and seal the envelope. Please turn in the sealed envelope to the attention of the Unit Clerk at the front desk, or to the Unit Manager when he/she visits you".

This following survey will be used for analyzing and improving the processes supporting the promise. The promise is part of a research study titled "Customer Satisfaction Monitoring and Measurement in Integrated Health Care" by of the research investigator, who is a PhD student of Engineering Management from University of Alberta. Your opinion is really important for the study. You are under no obligation to participate in this study. The participation is completely voluntary. **Please do not write your name anywhere in the document.**

Please do not write your name anywhere in the document.

The information gathered throughout the study will be reported through presentations, meetings and reports submitted to the Case Study Organization and the Alberta Health Services, and will be included in the PhD thesis and potential scholarly publications of the PhD student. Study participants will not be individually identified in any published or presented material. To ensure confidentiality, filled survey forms will be stored in a locked laboratory

(Auditing and Integration of Management Systems Research Laboratory, 6-27 Mechanical Engineering Building, University of Alberta, Edmonton) to which only the PhD student and his supervisor have access. Information is normally kept for a period post-publication of five years, after which it will be destroyed. If no publications are forthcoming, the data will be destroyed in five years following the end of the project. To maintain confidentiality, best practices will be followed. However, absolute confidentiality cannot be guaranteed.

If you have any further questions regarding this study, please do not hesitate to contact the PhD student, or his supervisor Dr. Stanislav Karapetrovic. Any questions or concerns regarding the ethical considerations in conjunction with this study should be directed to the Chair of the Engineering Faculty Ethics Committee, at 492-0244.

If you decide to participate, please check the box below. Then the Unit Manager will be providing you a copy of this document without the survey part for your record. After completing the survey, please put it in the envelope provided to you and seal the envelope. You may turn in the sealed envelope to the attention of the Unit Clerk at the front desk or, to the Unit Manager when he/she visits you. The PhD student will collect the sealed envelope from the Unit Manager. Thus, confidentiality to the information you have provided is assured. .

If you do not want to participate, please do not fill the form, or do not submit it. You may decide to withdraw from the study at any time. If you decline to continue or you wish to withdraw from the study, your information will be removed from the study upon your request. Please contact the PhD student and mention this number: _____. It is a unique number assigned to your response in order to identify and exclude it from the study should you wish to do so after submitting your response.

Thank you!

PhD Student
Research Investigator
Ashique Khan
Engineering Management
6-27 Mechanical Engineering Building
Department of Mechanical Engineering
University of Alberta
Edmonton, Alberta, T6G 2G8
mkhan@ualberta.ca
780-492-8684

Supervisor
Professor Stanislav Karapetrovic
5-8B Mechanical Engineering Building
Department of Mechanical Engineering
University of Alberta
Edmonton, Alberta, T6G 2G8
stanislav@ualberta.ca
780-492-9734

I have read and understood the information about the research study involving the customer satisfaction promise and have decided to participate in the study by filling the survey below.

☐ Please check.

Please do not write your name anywhere in the document.

Please indicate the extent to which you agree or disagree with the following statements (1 to 12) about the promise:

SD = Strongly Disagree; D = Disagree; N = Neutral; A = Agree; SA = Strongly Agree

(Please circle your appropriate response)

1. I know about the existence of the promise. SD D N A SA
2. The promise is clear to me. SD D N A SA
3. The feedback form is useful in communicating my feedback regarding the promise. SD D N A SA
4. The feedback form was available when I needed it. SD D N A SA
5. Everyday, my nurse has identified him/herself to me. SD D N A SA
6. Everyday, my nurse has explained to me his/her role in the care. SD D N A SA
7. The promise has helped in my communication with the nurse. SD D N A SA
8. The promise increased my satisfaction with the received care. SD D N A SA

Please answer questions 9-12 if there was an instance when you informed the nurse or the unit manager that the promise was not fulfilled previously. Else, please skip to question 13.

9. The nurse or the Unit Manager apologized to me when the promise was not fulfilled. SD D N A SA
10. I am satisfied with the apology provided to me when the promise was not fulfilled. SD D N A SA
11. The nurse or the Unit Manager provided an explanation when the promise was not fulfilled. SD D N A SA
12. I am satisfied with the explanation provided to me when the promise was not fulfilled. SD D N A SA

Please answer the following questions (13 to 16):

13. In addition to the feedback form and oral communication with the nurse, would you like to suggest any other way of leaving your feedback about the promise?
14. Are there any issues about the promise?
15. What are your recommendations regarding the promise and its improvement?
16. What is your overall comment on the promise?

Appendix A8

SAMPLE PATIENT FEEDBACK FORM
"Customer Satisfaction Promises (CSPs) in Inpatients Care"

Please do not write your name anywhere in the document.

Customer Satisfaction Promise

Dear patient,

Your nurse has made the following promise to you, which is intended to enhance the communication between your nurse and you.

"Every day of your stay, your assigned nurse will

- *identify him/herself with name and designation, and*
- *explain his/her role in the care process.*

He/she will provide an apology with explanation if the promise is not fulfilled.

- *The promise will cover your entire stay.*
- *The promise only includes the assigned nurse.*
- *The promise may not be fulfilled under any unavoidable circumstances including emergent situations. The promise may not be fulfilled on night shifts if you are asleep.*

If the promise is not fulfilled:

Please inform the nurse or Unit Manager the next time you see them.

Or, you may fill out the feedback form in the next page, put the form in the envelope and seal the envelope. Please turn in the sealed envelope to the attention of the Unit Clerk at the front desk, or to the Unit Manager when he/she visits you".

The following feedback form will be used for analyzing and improving the processes supporting the promise. The promise is part of a research study titled "Customer Satisfaction Monitoring and Measurement in Integrated Health Care" by the research investigator, who is a PhD student of Engineering Management from University of Alberta. Your opinion is really important for the study. You are under no obligation to participate in this study. The participation is completely voluntary.

The information gathered throughout the study will be reported through presentations, meetings and reports submitted to the Case Study Organization and the Alberta Health Services, and will be included in the PhD thesis and potential scholarly publications of the PhD student. Study participants will not be individually identified in any published or presented material. To ensure confidentiality, filled feedback forms will be stored in a locked laboratory (Auditing and Integration of Management Systems Research Laboratory, 6-27 Mechanical Engineering Building, University of Alberta, Edmonton) to which only the PhD student and his supervisor have access. Information is normally kept for a period post-publication of five years, after which it will be destroyed. If no publications are forthcoming, the data will be destroyed in five years following the end of the project. To maintain confidentiality, best practices will be followed. However, absolute confidentiality cannot be guaranteed.

If you have any further questions regarding this study, please do not hesitate to contact the PhD student, or his supervisor Dr. Stanislav Karapetrovic. Any questions or concerns regarding the ethical considerations in conjunction with this study should be directed to the Chair of the Engineering Faculty Ethics Committee, at 492-0244.

If you decide to participate, please check the box below. The Unit Manager will be providing you a copy of this document without the feedback part for your record. After completing the feedback form, please put it in the envelope provided to you and seal the envelope. You may turn in the sealed envelope to the attention of the Unit Clerk at the front desk or, to the Unit Manager when he/she visits you. The PhD student will collect the sealed envelope from the Unit Manager. Thus, confidentiality of the information you have provided is assured.

If you do not want to participate, please do not fill the form, or do not submit it. You may decide to withdraw from the study at any time. If you decline to continue or you wish to withdraw from the study, your information will be removed from the study upon your request. Please contact the PhD student and mention this number: _____. It is a unique number assigned to your response in order to identify and exclude it from the study should you wish to do so after submitting your response.

Thank you!

PhD Student
Research Investigator
Ashique Khan
Engineering Management
6-27 Mechanical Engineering Building
Department of Mechanical Engineering
University of Alberta
Edmonton, Alberta, T6G 2G8
mkhan@ualberta.ca
780-492-8684

Supervisor
Professor Stanislav Karapetrovic
5-8B Mechanical Engineering Building
Department of Mechanical Engineering
University of Alberta
Edmonton, Alberta, T6G 2G8
stanislav@ualberta.ca
780-492-9734

I have read and understood the information about the research study involving the customer satisfaction promise and have decided to participate in the study by filling the feedback form below.

☐ Please check.

Please do not write your name anywhere in the document.

Your feedback

- Was the promise fulfilled by your Nurse?
  Yes_____ No_____
- If no, which part of the promise was not fulfilled?
  Please check:
  ☐ Your nurse did not identify him/herself with the name and designation.
  ☐ Your nurse did not explain his/her role in the care process.

Please leave your comments or recommendations involving the promise. Your feedback will be highly appreciated in our ongoing improvement of the promise and its supporting processes.

_____

_____

_____

_____

_____

_____

Appendix B - The CSP Manual

Pilot Study - CSP (Customer Satisfaction Promise) for an acute inpatients unit

The purpose of this document is to work as a simple "CSP manual". The manual goes on to illustrate the 5W + H of the pilot study, the CSP, the procedures for implementing the CSP, a summary of activities, and the CSP performance indicator. The UM (Unit Manager) or the PM (Program Manager) can be contacted for any clarification/questions.

1. 5W + H

- **What** - The purpose of this pilot study is to investigate how to establish a Customer Satisfaction Promise (CSP) in an inpatients care unit.
- **Who** - Patients are considered as the customers in this study. A CSP about the patient's communication with the nurses has been selected implementation. Nurses are expected to implement the CSP, and the UM (Unit Manager) and the PM (Program Manager) will be managing and mentoring the study. Ashique Khan, a PhD student in Engineering Management from the University of Alberta, is the researcher.
- **Why** - The CSP should be useful for patients in improving their communications with the nursing staff.
- **Where** – Unit #52
- **When** – The study starts in May 2011.
- **How** - The methodology for establishing the CSP is based on an ISO standard on customer satisfaction (CS): "ISO 10001:2007 - Customer satisfaction – Guidelines for codes of conduct for organizations". Nurses will be implementing the following CSP, which includes a promise made to patients and the supporting processes:

2. The CSP

A CSP, according to ISO 10001:2007, includes a promise made to patients, with its scope and limitations clearly illustrated. The redress action when the promise is not fulfilled must be included, along with the way patients can leave their feedback about the promise. The CSP selected for the pilot study is as follows:

"Every day of your stay, your assigned nurse will

- *identify him/herself with name and designation, and*
- *explain his/her role in the care process.*

He/she will provide an apology with explanation if the promise is not fulfilled.

- *The promise will cover your entire stay.*
- *The promise only includes the assigned nurse.*
- *The promise may not be fulfilled under any unavoidable circumstances including emergent situations. The promise may not be fulfilled on night shifts if you are asleep.*

If the promise is not fulfilled:

Please inform the nurse or Unit Manager the next time you see them.

Or, you may fill out the feedback form, put the form in the envelope and seal the envelope. Please turn in the sealed envelope to the attention of the Unit Clerk at the front desk, or to the Unit Manager when he/she visits you".

3. CSP processes

3.1 Implementation of the CSP (Figure B3)

Nurses: Everyday during the initial visits to patients, the nurse should identify him/herself to the patient and explain his/her role in the care process. The nurse should be carrying a "CSP Checklist" (Appendix B1). There will be one CSP Checklist per day per nurse. For each bed, the nurse should write down the bed number and check the corresponding boxes on the CSP Checklist after identifying him/herself to the patient and explaining his/her role in the care process. In case the patient informs that the CSP was not fulfilled in the previous visit, the nurse should apologize with explanation. If the nurse could not fulfill the CSP for a patient(s), the corresponding boxes in the CSP Checklist are left blank. The nurse can provide the reason for the non-fulfillment by checking one of the three choices under "reason for non-fulfillment of the promise" on the Checklist. At the end of the shift the nurse should turn in the filled CSP Checklist to the UC (Unit Clerk).

The Unit Clerk (UC) - The UC should store the CSP Checklists in a specific folder. The UC examines each CSP Checklist and counts the total number of beds visited by the nurse and the total number of checkmarks under each column, then writes these numbers down at the bottom of each Checklist. Then, on a "CSP Performance Spreadsheet" developed in MS Excel (Appendix B2), the UC inputs, from each CSP Checklist collected on that day, the total number of beds visited by the nurse and the total number of checkmarks under each column. The UC sends the Spreadsheet to the UM.

3.2 Handling CSP feedback from patients

As part of the maintenance and improvement of the CSP, patient feedback is collected using a "CSP Feedback Form", which is included in Appendix C. The patient may leave her feedback about the CSP by providing comments and complaints. The CSP Feedback Form does not allow disclosure of the patient identity. The process of handling the feedback is based on ISO 10002:2004 (a standard about customer complaints handling) and includes the following activities:

3.2.1 Communicating to patients about the CSP and feedback

a) During the admission, the UC and UM should inform patients about the CSP, including its scope, limitations, redress actions and feedback process.
b) The UM should make the CSP Feedback Form available for patients. This form includes a 2-page information letter about the CSP, which should help patients with awareness and understanding of the CSP. When the UM hands out the CSP Feedback Form, he also gives the patient an additional copy of the 2-page information letter, which the patient can keep for her record.

3.2.2 Receipt of the feedback

The patient, after filling the CSP Feedback Form, puts it in a sealed envelope that comes with the form and hands the envelope to either the UC's attention or to the UM.

3.2.3 Acknowledgement of the feedback

The receiver of the feedback (e.g., UC or the UM) should thank the patient for the feedback and assure that the feedback will be assessed and acted upon.

3.2.4 Assessment and investigation of feedback

In informal meetings, the UM, the PM and nurses should discuss the collected feedbacks. The PM should take the meeting minutes. In the case the feedback is about non-fulfillment of the CSP, the focus of the discussion should be on the cause of the non-fulfillment, and possible corrective action(s) to avoid its recurrence. For positive feedbacks, the discussion should focus on how to improve the CSP performance, which may lead to a higher level of patient satisfaction. Actions resulting from the discussion should be written down on a separate piece of paper and stapled with the Feedback Form.

3.2.5 Response to feedback

The UM should communicate any corrective action and improvement to all nurses.

3.2.6 Closing the feedback

A patient feedback should be considered 'closed' after it is acted upon. The UM may write on it "closed", and then place his signature.

The CSP (Customer Satisfaction Promise) Checklist

Date: _____

Bed # of the Patient	*"Have I identified myself to the patient with my designation?" (If yes, please check. If no, leave blank)*	*"Have I explained my role in the care process?" (If yes, please check. If no, leave blank)*	Reason for non-fulfillment of the promise *(Please check. Leave blank otherwise)*		
			Patient was asleep	An emergent situation	Other
1					
2					
3					
Total	_____	_____	_____	_____	_____	_____

Figure B1 – The CSP Checklist

Date X

CSP Checklist #	The number of beds visited	The number of times nurses introduced him/herself	The number of times nurses explained the role in the care process	Number of times nurses reported the following reasons for non-fulfillment of the promise		
				Patient was asleep	An emergent situation	Other
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
Total	X	X	X	X	X	X

Figure B2 – The CSP Performance Spreadsheet

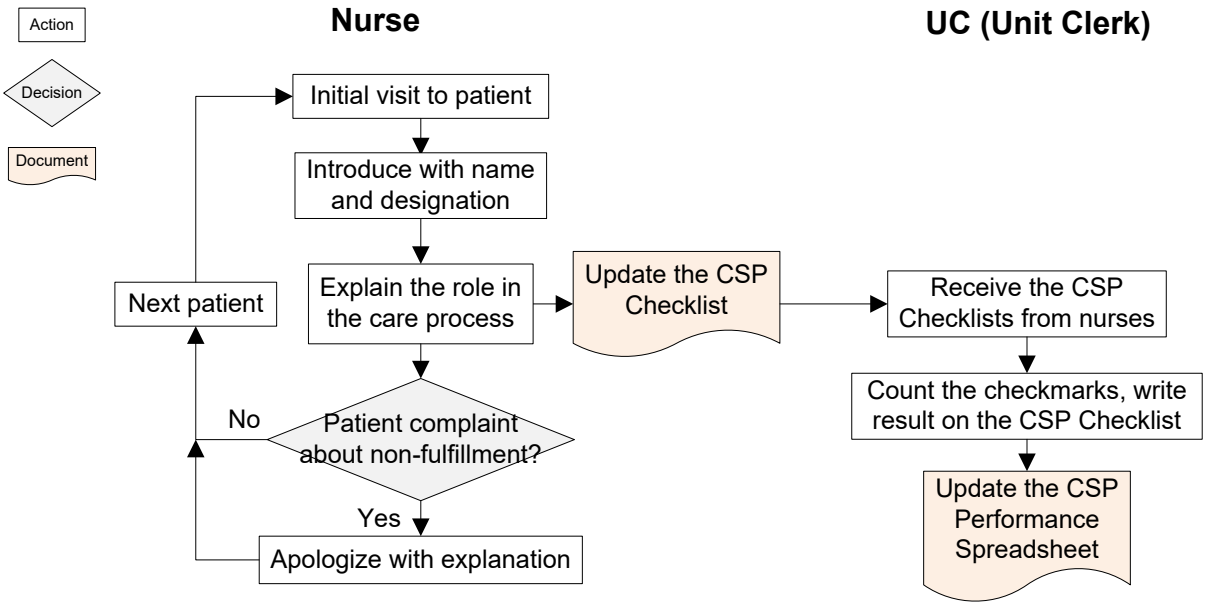
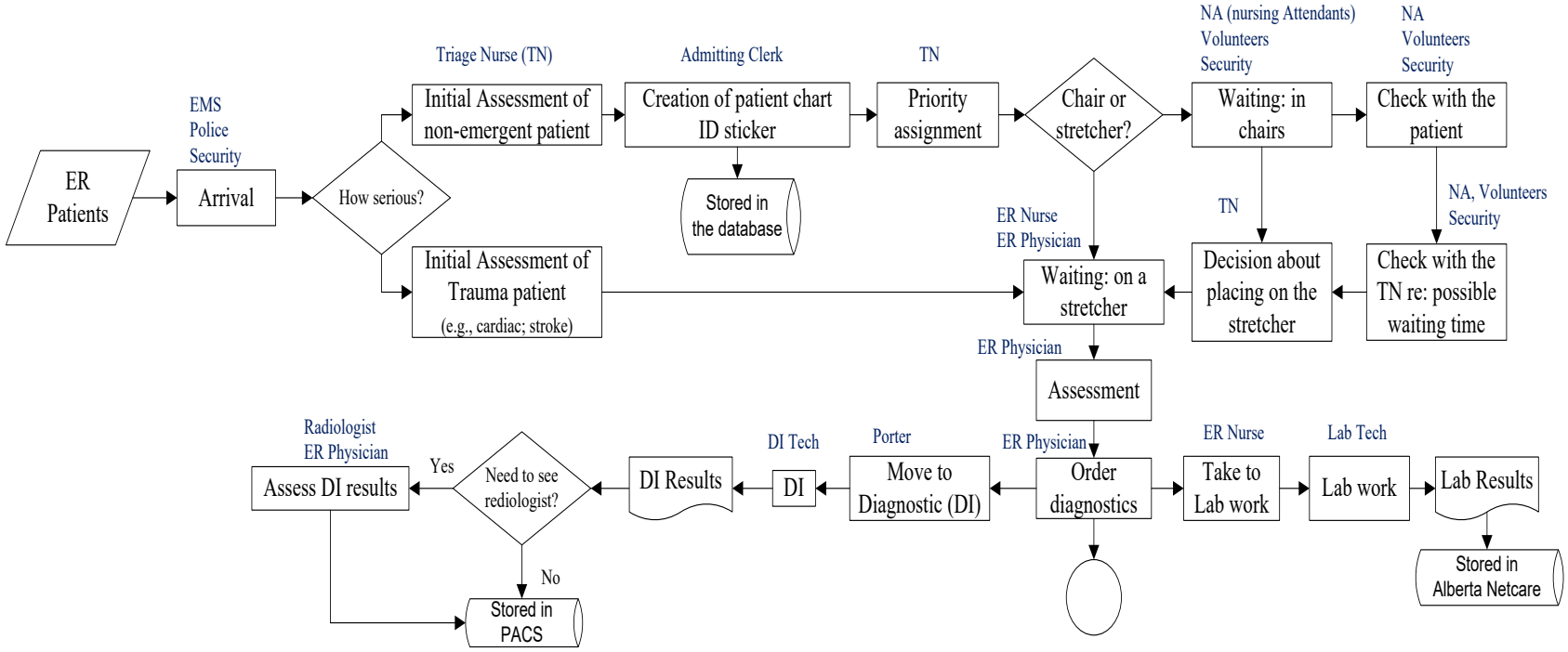


Figure B3 - CSP Implementation Process

Appendix C - The Care Flowcharts



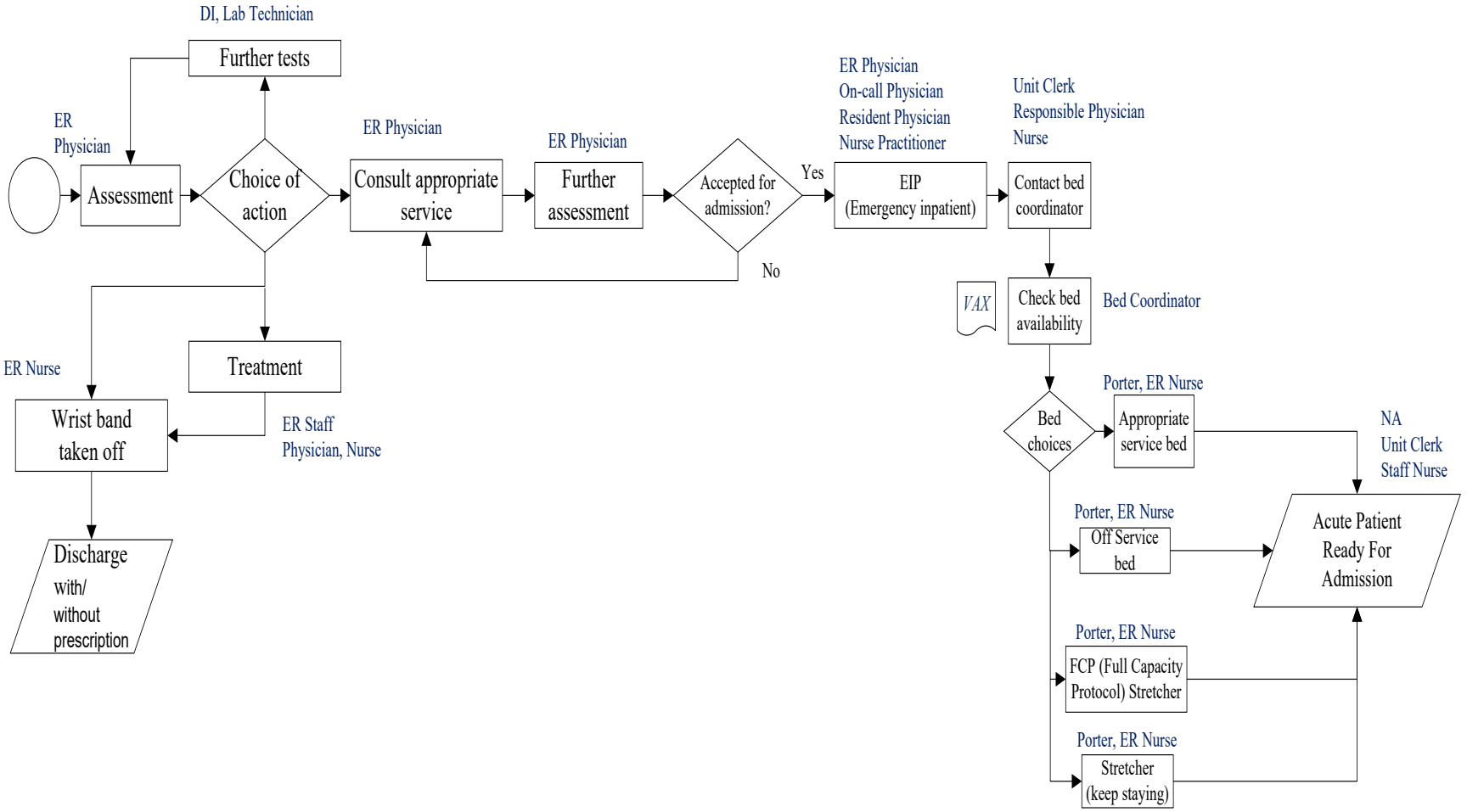


Figure C-1 CSO's patient care flow – ED

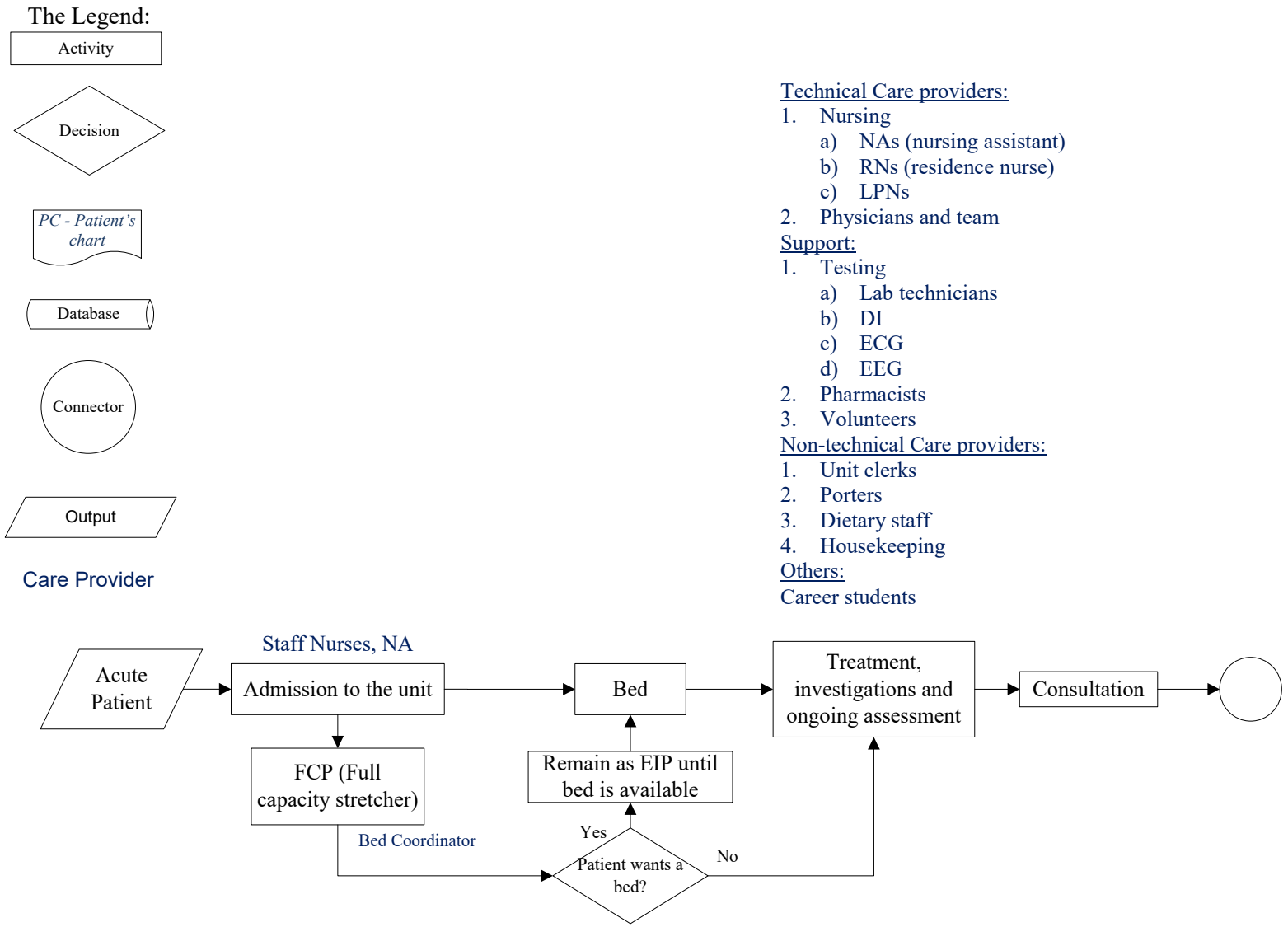


Figure C-2 CSO's patient care flow – Inpatients care

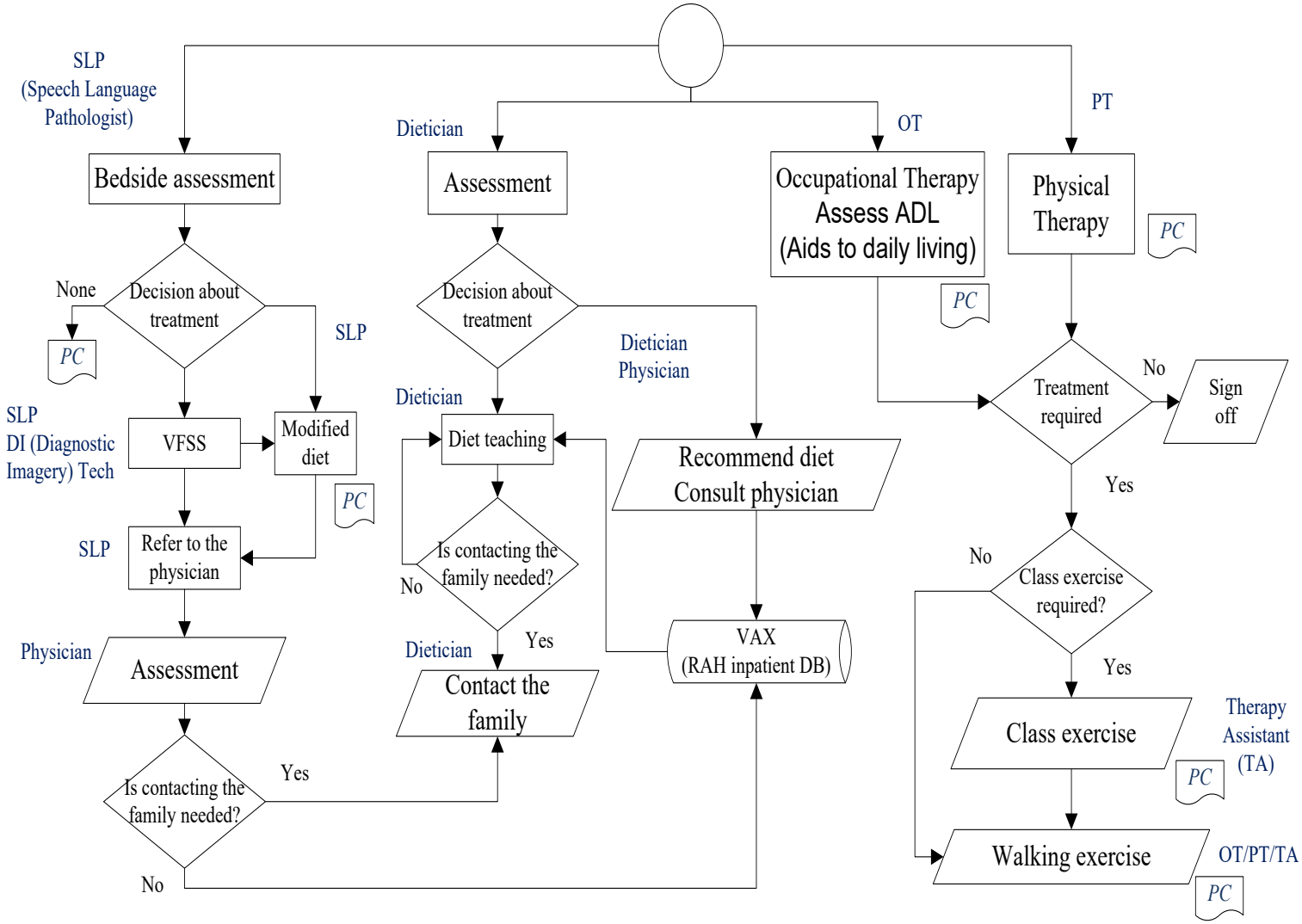


Figure C-2 CSO's patient care flow – Inpatients care (Cont.)

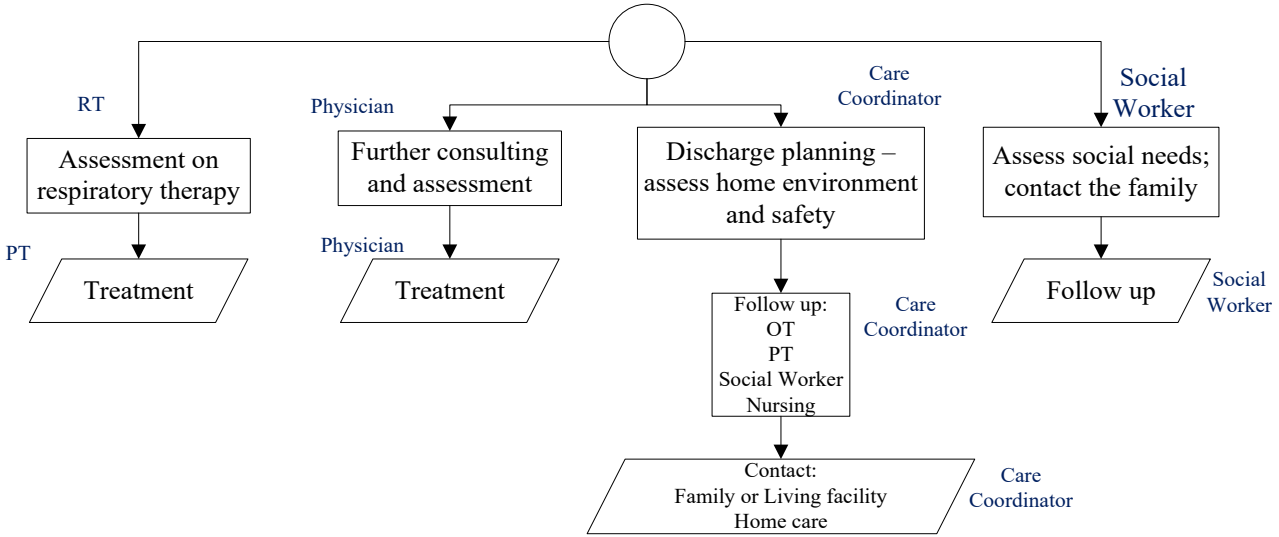


Figure C-2 CSO's patient care flow – Inpatients care (Cont.)

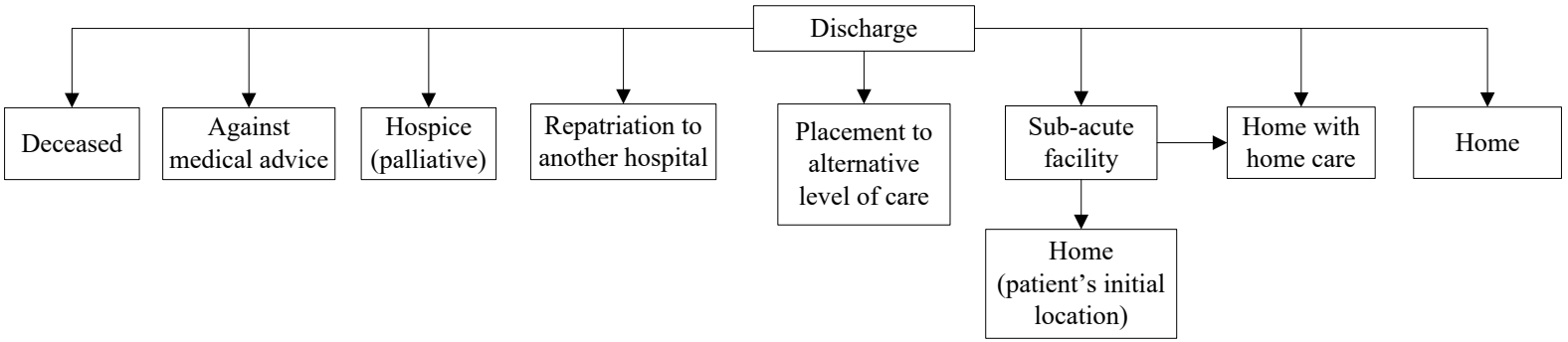


Figure C-3 Figure C-2 CSO's patient care flow - Discharge options

Appendix D - Research Ethics Approval for the CS Measurement

UNIVERSITY OF ALBERTA
Office of the Dean
Faculty of Engineering
E6 050 Engineering Teaching & Learning Complex
Edmonton, Alberta, Canada T6G 2V4
www.engineering.ualberta.ca
Tel: 780.492.3320
Fax: 780.492.0500
Toll Free: 1.800.407.8354

Faculty of Engineering Research Ethics Board

Faculty Application for Ethics Review

Name: Dr Stanislav Karapetrovic, Ashique Khan

Project Title: Process analysis for customer satisfaction feedback management ("Customer satisfaction and Quality Management Standards in Health Care" project: Customer Satisfaction for integration initiatives sub project)

Project Deadline: December 31, 2011
Starting Date: January 1, 2010
Budget Period: January 1, 2010 - December 31, 2011
Funding: Alberta Health Services, $150,000
Grant Application: X Contract Research: Non-Funded Research:
Others (Specify):
The applicant agrees to notify the Rese... ...oard in writing of any changes in research design after the application has been approved.

Signature of Applicant (s) Date: JUNE 14, 2011

Ethics Review Status:
Review approved by unit Statutory:
Review approved by Research Ethics Board: X
Application not approved:

Signature of REB Member Date: June 6, 2011

Appendix E - CSM Information Letter and Consent Form

INFORMATION LETTER

Study Title:

Customer satisfaction measurement and monitoring
in the Emergency Department (ED) and Inpatients Care

Research Investigator:

Ashique Khan
6-27 Mechanical Engineering Building
Department of Mechanical Engineering
University of Alberta
Edmonton, Alberta, T6G 2G8
mkhan@ualberta.ca
780-492-8684

Supervisor:

Professor Stanislav Karapetrovic
5-8B Mechanical Engineering Building
Department of Mechanical Engineering
University of Alberta
Edmonton, Alberta, T6G 2G8
stanislav@ualberta.ca
780-492-9734

Research Information:

Purpose

The objective of this study is to propose a method for measuring and monitoring patient satisfaction in the Emergency Department (ED) and acute inpatients care of the Case Study Organization (CSO). Patients and their families are considered as the customers in the study. The study is a key component of an ongoing Ph.D. research titled “Monitoring and Measuring Customer Satisfaction in Integrated Health Care”. The ongoing research involves proposing a customer satisfaction monitoring and measurement framework based on international customer satisfaction standards.

Background

This study is funded by Alberta Health Services (AHS). The University of Alberta is performing the study through a Service Agreement with AHS. An objective of the study is to examine the applicability of ISO customer satisfaction standards in one regional integration project within AHS, and then and suggest methods for implementation. The results will be used in proposing a method for measuring and monitoring patient satisfaction within the CSO ED and inpatients care. You are being recruited to participate in this study because of your knowledge of the care continuum and/or customer feedback handling within AHS. A few AHS contacts help in facilitating the recruitment of the participants. However, the AHS contacts are not aware of who chose to participate and who did not.

Benefits

There may not be any direct benefits to the participants of the study. Some indirect benefits expected from this study are:

- The results may facilitate an understanding of the possible applications of the ISO standards and other quality management instruments and techniques for handling customer feedback in the ED and inpatients care continuum.
- The study should provide a standardized method for measuring and monitoring patient satisfaction for the selected continuum of care through collection and use of solicited

Description

In order to validate my proposed method, I am conducting interviews with you and other participants in this study. The interviews will include questions regarding the various components of the method for measurement and monitoring of patient satisfaction, its feasibility and its potential effectiveness. During the interview, I will note down your responses to my questions. In addition, telephone and email correspondence might be necessary to obtain and clarify your response. Each interview may take from 60 to 90 minutes, and may include discussions with multiple participants at the same time. Follow-up interviews of the same participants may become necessary as the study progresses. Therefore, the maximum interview time required of each participant may approximately be a total of 3 hours. To maintain confidentiality and anonymity, best practices will be followed. All participants who are participating in the group discussion have a responsibility to keep all information confidential and anonymous. However, absolute confidentiality and anonymity cannot be guaranteed.

Summaries of the information gathered through the interviews and analyzed in the study will be provided through presentations, meetings or reports to AHS, and will be included in my research thesis and potential publications. However, your job title and direct quotes may be used in the reports. Given the small population of participants to the study, it is possible that a participant may be identified based on the participant's job title or direct quotes.

Voluntary Character

You are under no obligation to participate in this study. The participation is completely voluntary. You can choose not to answer a question(s) if you do not want to.

Confidentiality

Study participants will not be individually identified in any published or presented material. The AHS contacts for the study are not aware of who chose to participate and who did not. To assurer confidentiality, personal information will be coded and stored in a locked laboratory (Auditing and Integration of Management Systems Research Laboratory, 6-27 Mechanical Engineering Building, University of Alberta, Edmonton) to which only the investigator and supervisor have access. The data will be kept for a minimum of five years after the study is complete, after which it will be destroyed.

Risk

There is no foreseeable risk for the participants in the study.

Consent to Participate

If you decide to participate, please read and sign the enclosed consent form. You can decide to withdraw from the study at any time. If you decline to continue or you wish to withdraw from the study, please contact the research investigator and your information will be removed from the study. However, a request for exclusion of the obtained information can only be performed within two weeks from the time it was collected.

Further Information

If you have any further questions regarding this study, please do not hesitate to contact me, or Dr. Stanislav Karapetrovic, my supervisor. If you have concerns about your rights as a study participant, you may contact the Research Ethics Board at (780) 492-2615.

Customer satisfaction measurement and monitoring
in the Emergency Department (ED) and Inpatients Care

Part 1 (to be completed by the Principal Investigator)

Title of Project: Quality Management and Customer Satisfaction Standards in Health Care
(Customer Satisfaction for Integration Initiatives)

Principal Investigator(s): Ashique Khan + Stanislav Karapetrovic

Co-Investigator(s): Include affiliation(s) and phone number(s):
University of Alberta; 780-492-8684

Part 2 (to be completed by the research participant)

Do you understand that you have been asked to be in a research study?	Yes	No
Have you read and received a copy of the attached Information Sheet	Yes	No
Do you understand the benefits and risks involved in taking part in this research study?	Yes	No
Have you had an opportunity to ask questions and discuss this study?	Yes	No
Do you understand that you are free to refuse to participate, or to withdraw from the study at any time, without consequence, and that your information will be withdrawn at your request?	Yes	No
Has the issue of confidentiality been explained to you? Do you understand who will have access to your information?	Yes	No

This study was explained to me by: _____

I agree to take part in this study:

_____ _____ _____
Signature of Research Participant Date Witness

_____ _____
Printed Name Printed Name

I believe that the person signing this form understands what is involved in the study and voluntarily agrees to participate.

_____ _____
Signature of Investigator or Designee Date

THE INFORMATION SHEET MUST BE ATTACHED TO THIS CONSENT FORM AND A COPY OF BOTH FORMS GIVEN TO THE PARTICIPANT.

Appendix F - The Patient Satisfaction Survey

Part A – At the Emergency Department (ED)

1. Before you reached the reception of the Emergency Department, you may have come in contact with people from the EMS (Emergency Medical Services) or hospital security. Please circle the answer that applies:
    a. You did not come in contact with people from the EMS or hospital security.
    b. If you did, please circle how you would rate the service you have received (0 being the worst and 10 being the best possible service).
        0 1 2 3 4 5 6 7 8 9 10

Questions 2 - 5 are about doctors and nurses in the Emergency Department

Question	Doctors	Nurses
2. Did the doctors and nurses treating and assessing you introduce themselves (HQCA 2009, 19)?	*a. Yes, all of them.* *b. Some of them.* *c. Very few or none of them* *d. Can't remember*	*a. Yes, all of them.* *b. Some of them.* *c. Very few or none of them* *d. Can't remember*
3. Did you have enough time to discuss your health or medical problem with the doctor or nurse (HQCA 2009, 20)?	*a. Yes, definitely* *b. Yes, to some extent* *c. No*	*a. Yes, definitely* *b. Yes, to some extent* *c. No*
4. Did the doctors and nurses listen to what you had to say (HQCA 2009, 21)?	*a. Yes, definitely* *b. Yes, to some extent* *c. No* d. I did not have anything to say	*a. Yes, definitely* *b. Yes, to some extent* *c. No* d. I did not have anything to say
5. While you were in the Emergency Department, did a doctor or nurse explain your condition in a way you could understand (HQCA 2009, 22)?	*a. Yes, completely* *b. Yes, to some extent* *c. No* *d. I did not need any explanation*	*a. Yes, completely* *b. Yes, to some extent* *c. No* *d. I did not need any explanation*

6. This question is about the people (not including doctors and nurses) who came in contact with you in the emergency department. Circle the person in the left column that you come in contact with, and continue to answer A), B) and C).
If not applicable, move down to the next question.

People	A) Did this person introduce him/herself?	B) Did this person listen to what you had to say?	C) Did this person explain to you his/her role in a way you could understand?
i) Technician (examples below): • Lab Tech • X-Ray Tech • ECG Tech	a. Yes. b. No c. Can't remember	a. Yes, definitely b. Yes, to some extent c. No d. I did not have anything to say	a. Yes, completely b. Yes, to some extent c. No d. I did not need any explanation
ii) Other (examples below): • Bed Coordinator • Volunteer • Porter (someone who pushed your wheelchair)	a. Yes b. No c. Can't remember	a. Yes, definitely b. Yes, to some extent c. No d. I did not have anything to say	a. Yes, completely b. Yes, to some extent c. No d. I did not need any explanation

7. *While you were in the Emergency Department, how much information about your condition or treatment was given to you (HQCA 2009, 27)?*
    a. *Not enough*
    b. *Right amount*
    c. *Too much*
    d. *I was not given any information about my treatment or condition*

8. *Were you involved as much as you wanted to be in decisions about your care and treatment (HQCA 2009, 32)?*
    a. *Yes, definitely*
    b. *Yes, to some extent*
    c. *No*
    d. *I was not well enough to be involved in decisions about my care.*
9. Using any number between 0 and 10 (where 0 is the worst and 10 is the best possible service), what number would you use to rate the emergency care that you have received (HCAHPS 2010, 25)?
    0 1 2 3 4 5 6 7 8 9 10

Part B – Move from the ED to inpatients (hospital) Care

10. Did you experience any problems in getting a hospital bed? Please specify.

Part C – At the hospital

Questions 11 - 14 are about doctors and nurses at the hospital

Question	Doctors	Nurses
11. *During this hospital stay, how often did doctors and nurses treating and assessing you introduce themselves (HQCA 2009, 19)?*	a. Never b. Sometimes c. Usually d. Always	a. Never b. Sometimes c. Usually d. Always
12. During this hospital stay, how often did doctors and nurses listen carefully to you (HCAHPS 2010, 2 and 8)?	*a. Never* *b. Sometimes* *c. Usually* *d. Always*	*a. Never* *b. Sometimes* *c. Usually* *d. Always*
13. During this hospital stay, how often did doctors and nurses explain your condition in a way you could understand (HCAHPS 2010, 3 and 9)?	*a. Never* *b. Sometimes* *c. Usually* *d. Always*	*a. Never* *b. Sometimes* *c. Usually* *d. Always*
14. During this hospital stay, how often did doctors and nurses follow up on your concerns and observations (HCAHPS 2010, 4 and 10)?	*a. Never* *b. Sometimes* *c. Usually* *d. Always*	*a. Never* *b. Sometimes* *c. Usually* *d. Always*

15. This question is about the people (not including doctors and nurses) who came in contact with you in the hospital.
Circle the person in the left column that you come in contact with, and continue to answer A), B) and C).
If not applicable, move down to the next question.

People	A) Did this person introduce him/herself?	B) Did this person listen to what you had to say?	C) Did this person explain to you his/her role in a way you could understand?
i) Therapist (examples below): • Occupational Therapist • Physical Therapist • Respiratory Therapist	a. Yes b. No c. Can't remember	a. Yes, definitely b. Yes, to some extent c. No d. I did not have anything to say	a. Yes, completely b. Yes, to some extent c. No d. I did not need any explanation
ii) People who deliver food	a. Yes b. No c. Can't remember	a. Yes, definitely b. Yes, to some extent c. No d. I did not have anything to say	Not applicable
iii) Cleaning and housekeeping	a. Yes b. No c. Can't remember	a. Yes, definitely b. Yes, to some extent c. No d. I did not have anything to say	Not applicable
iii) Other (examples below): • Social worker • Volunteer • Porter	a. Yes b. No c. Can't remember	a. Yes, definitely b. Yes, to some extent c. No d. I did not have anything to say	a. Yes, completely b. Yes, to some extent c. No d. I did not need any explanation

16. During your hospital stay, *how much information about your condition or treatment was given to you (HQCA 2009, 27)?*
    a. *Not enough*
    b. *Right amount*
    c. *Too much*
    d. *I was not given any information about my treatment or condition*

17. *During your hospital stay, did you have enough involvement in decisions about your treatment (HCAHPS 2010, 27)?*
    a. *Yes, definitely*
    b. *Yes, somewhat*
    c. *No, I wanted to be more involved*

18. *Using any number between 0 and 10 (where 0 is the worst hospital possible and 10 is the best hospital possible), what number would you use to rate this hospital during your stay (HCAHPS 2010, 25)?*
    0 1 2 3 4 5 6 7 8 9 10

Part D – Discharge from Inpatients (hospital) Care

19. During being discharged, did you experience any problems? Please specify.

20. After you left the hospital, did you experience any problems? Please specify.

Part E – Feedback Handling Process

21. Did you know that there is a feedback handling process to help patients convey their feedbacks about the care? Yes / No
    If you answered "Yes", please indicate how you came to know about the feedback handling process (select all that applies).
    a. From your nurse
    b. Other (please specify)_____

22. Did you have a feedback about any health services you received during this hospital stay? Yes / No (HCAHPS 2010, 35)
    If no, please skip questions 26 and 27 and move to Part F.

23. Which of the following best describes what you have done about your feedback (Please circle all that apply) (HCAHPS 2010, 37)?
    a. Told family member
    b. Talked directly with one of the hospital staff or doctor
    c. Filled in a feedback form
    d. Phoned patient concerns intake line
    e. Sent an e-mail to AHS
    f. Wrote a letter to AHS
    g. Completed on-line patient feedback form on the AHS web site
    h. Other (specific)_____

24. *To what extent were you satisfied or dissatisfied with how your feedback was handled and addressed? Please use a scale of 0 to 10, where 0 means very dissatisfied and 10 means very satisfied (HCAHPS 2010, 40).*
    a. 0 1 2 3 4 5 6 7 8 9 10

Part F – Customer Satisfaction Promise

The remaining questions are about the promise we have made to you. The promise is in the following box:

"Every day of your stay, your assigned nurse will
- *identify him/herself with name and designation, and*
- *explain his/her role in the care process.*

He/she will provide an apology with explanation if the promise is not fulfilled.
- *The promise will cover your entire stay.*
- *The promise only includes the assigned nurse.*
- *The promise may not be fulfilled under any unavoidable circumstances including emergent situations. The promise may not be fulfilled on night shifts if you are asleep.*

If the promise is not fulfilled:
Please inform the nurse or Unit Manager the next time you see them.
Or, you may fill out the feedback form, put the form in the envelope and seal the envelope. Please turn in the sealed envelope to the attention of the Unit Clerk at the front desk, or to the Unit Manager when he/she visits you".

25. Were you aware of the existence of the promise? Yes / No
If you answered 'No', please skip to # 31. Otherwise, please continue.
    a. Was the promise useful for you? Yes / No
    b. Did you provide any feedback about the promise? Yes / No
    If you provided any feedback about the promise, please share it with us.

26. If you have ideas about improving the promise, please specify.
27. What are your overall comments about the promise? Please specify.
28. If you have suggestions about additional promise(s) for the ED and inpatients care, please specify.

Appendix G - Sample interview questions for the survey verification

Sample interview questions for the validation of the Customer Satisfaction Monitoring and Measurement (CSMM) method

1. Is the proposed measurement method patient-centered, i.e., focused on patient's experience and considered the service encounter with the care provider and support staff? Please explain.
2. Have you found that the survey questions proposed in the measurement method are patient-centered, i.e., focused on patient's experience and considered the service encounter with the care provider and support staff? Please explain.
3. Have you found the survey questions focused on a patient's journey along the care continuum? Please explain and suggest improvement if you think the focus was not maintained, or an item/area was not relevant to the patient-focus.

<u>The patient satisfaction survey is divided into six sections. The first four are about the continuum and the handing off. The remaining two are about a suggested "Feedback Handling System" and a "Customer Satisfaction Promises".</u>

4. Are the survey questions clear and concise?
5. Are the connections among sections of the survey clear? Have you found the connections need more clarification?
6. Are there any survey questions that need further clarification and modification?
7. Are the items in the survey i) appropriate, ii) adequate and iii) useful?
8. Is there anything that you find missing or redundant in the survey that should be included? Please answer the question by focusing on -
   a) ED
   b) Handing Off
   c) Inpatients
   d) Discharge
9. Assuming "Feedback Handling System" and a "Customer Satisfaction Promises" are implemented in the care continuum, please comment on the clarity and usefulness of the items, which are about the awareness and performance of these two components.
10. Should sections about "Feedback Handling System" and a "Customer Satisfaction Promises" be excluded from this survey and a separate survey(s) focused on these two topics should be performed? Please explain your answer.

11. What are your observations about the analysis and use of the data to be collected, the measurement method?
12. How useful such data could be once the method was implemented? What are your suggestions about making the data more useful?
13. What are potential obstacles of implementing the method? How the obstacles can be mitigated?
14. What are the potential benefits of implementing the method?
15. What are the potential ways the measurement method can be improved further?

Appendix H - Research Ethics Approval for the FHS

UNIVERSITY OF ALBERTA
Office of the Dean
Faculty of Engineering
E6.050 Engineering Teaching & Learning Complex
Edmonton, Alberta, Canada T6G 2V4
www.engineering.ualberta.ca
Tel: 780.492.3320
Fax: 780.492.0500
Toll Free: 1.800.407.8354

Faculty of Engineering Research Ethics Board

Faculty Application for Ethics Review

Name: Dr Stanislav Karapetrovic, Ashique Khan

Project Title: Handling Customer Feedback in Emergency Department (ED) and Inpatients Care

Project Deadline: December 2011
Starting Date: June 2011 – December 2011
Budget Period: September 1, 2008-August 31, 2011
Funding: Alberta Health Services, $150,000
Grant Application: Contract Research: X Non-Funded Research:
Others (Specify):
The applicant agrees to notify the Research Ethics Board in writing of any changes in research design after the application has been approved.

Signature of Applicant (s) Date: JUNE 14, 2011

Ethics Review Status:
Review approved by unit Statutory:
Review approved by Research Ethics Board: X
Application not approved:

Signature of REB Member Date: June 9, 2011

Appendix I - FHS Information Letter and Consent Form

INFORMATION LETTER

Study Title:

Handling Customer Feedback in Emergency Department (ED) and Inpatients Care

Research Investigator:

Ashique Khan
6-27 Mechanical Engineering Building
Department of Mechanical Engineering
University of Alberta
Edmonton, Alberta, T6G 2G8
mkhan@ualberta.ca
780-492-8684

Supervisor:

Professor Stanislav Karapetrovic
5-8B Mechanical Engineering Building
Department of Mechanical Engineering
University of Alberta
Edmonton, Alberta, T6G 2G8
stanislav@ualberta.ca
780-492-9734

Research Information:

Purpose

The objective of this study is to propose a process for handling unsolicited customer feedback in the Case Study Organization's Emergency Department (ED) and inpatients care. Patients and their families are considered as the customers in the study. The study is a key component of an ongoing Ph.D. research titled "Monitoring and Measuring Customer Satisfaction in Integrated Health Care", which involves proposing a customer satisfaction monitoring and measurement framework based on international customer satisfaction standards.

Background

This research is funded by Alberta Health Services (AHS). The University of Alberta is performing this study through a Service Agreement with the AHS, as a component of one of the two sub-projects covered by the Agreement. An objective of the sub-project, and hence this study, is to examine the applicability, and suggest methods for, implementation of applicable ISO customer satisfaction standards in one regional integration project within AHS. The knowledge obtained through the study is expected to be useful in proposing a process for handling unsolicited customer feedback within the ED and inpatients care, which is considered as the integration case for the ongoing research. You are being recruited to participate in this study because of your knowledge of the care continuum and/or customer feedback handling processes and systems within AHS. The AHS contacts for this study help in facilitating the recruitment of the participants by contacting and explaining to the potential participants the background of the research. However, the AHS contacts for the study are not aware of who chose to participate and who did not.

Benefits

There may not be any direct benefits to the participants of the study. Some indirect benefits expected from this study are:

- The results may facilitate an understanding of the possible applications of the ISO standards and other quality management instruments and techniques for handling customer feedback in the ED and inpatients care continuum.
- The study should provide a standardized process for collecting and using patient feedback for the selected continuum of care in case the management decides on implementing it.

Research Information (Continued):

Description

In order to validate my proposed feedback handling process -, I am conducting interviews with you and other participants in this study. As part of the study, you may be asked to test the effectiveness and usefulness of a Feedback Follow-up form. This testing involves documenting a few real feedbacks from patients and the corresponding follow-up activities. The interviews will include questions regarding the various components of the feedback handling process, its feasibility and its potential effectiveness. During the interview, I will write down and may audio- record your responses to my questions. In addition, telephone and email correspondence might be necessary to obtain and clarify your response. Each interview may take from 90 to 120 minutes, and may include discussions with multiple participants at the same time. Follow-up interviews of the same participants may become necessary as the study progresses. Therefore, the maximum interview time required of each participant may approximately be 3-4 hours. Summaries of the information gathered through the interviews and analyzed in the study will be provided through presentations, meetings or reports to the Alberta Health Services, and will be included in my research thesis and potential publications.

Voluntary Character

You are under no obligation to participate in this study. The participation is completely voluntary. You can choose not to answer a question(s) if you do not want to.

Confidentiality

Study participants will not be individually identified in any published or presented material. The AHS contacts for the study are not aware of who chose to participate and who did not. To ensure confidentiality, personal information will be coded and stored in a locked laboratory (Auditing and Integration of Management Systems Research Laboratory, 6-27 Mechanical Engineering Building, University of Alberta, Edmonton) to which only the investigator and supervisor have access. The data will be kept for a minimum of five years after the study is complete, after which it will be destroyed. To maintain confidentiality, best practices will be followed. However, absolute confidentiality cannot be guaranteed.
To maintain confidentiality, best practices will be followed. However, absolute confidentiality cannot be guaranteed.

Consent to Participate

If you decide to participate, please read and sign the enclosed consent form. You can decide to withdraw from the study at any time. If you decline to continue or you wish to withdraw from the study, please contact the research investigator and your information will be removed from the study upon your request. However, a request for exclusion of the obtained information can only be performed within two weeks from the time it was collected.

Further Information

If you have any further questions regarding this study, please do not hesitate to contact me, or Dr. Stanislav Karapetrovic, my supervisor. If you have concerns about your rights as a study participant, you may contact the Research Ethics Board at (780) 492-3615.

Handling Customer Feedback in Emergency Department (ED) and Inpatients Care
CONSENT TEMPLATE

Part 1 (to be completed by the Principal Investigator)

Title of Project: Quality Management and Customer Satisfaction Standards in Health Care
(Customer Satisfaction for Integration Initiatives)

Principal Investigator(s): Ashique Khan + Stanislav Karapetrovic

Co-Investigator(s): Include affiliation(s) and phone number(s):
University of Alberta; 780-492-8684

Part 2 (to be completed by the research participant)

Do you understand that you have been asked to be in a research study?	Yes	No
Have you read and received a copy of the attached Information Sheet	Yes	No
Do you understand the benefits and risks involved in taking part in this research study?	Yes	No
Have you had an opportunity to ask questions and discuss this study?	Yes	No
Do you understand that you are free to refuse to participate, or to withdraw from the study at any time, without consequence, and that your information will be withdrawn at your request?	Yes	No
Has the issue of confidentiality been explained to you? Do you understand who will have access to your information?	Yes	No

This study was explained to me by: _____

I agree to take part in this study:

_____ _____ _____
Signature of Research Participant Date Witness

_____ _____
Printed Name Printed Name

I believe that the person signing this form understands what is involved in the study and voluntarily agrees to participate.

_____ _____
Signature of Investigator or Designee Date

THE INFORMATION SHEET MUST BE ATTACHED TO THIS CONSENT FORM AND A COPY OF BOTH FORMS GIVEN TO THE PARTICIPANT.

Appendix J - Sample interview questions for the FHS verification

Handling Customer Feedback in Emergency Department (ED) and Inpatients Care

1. Are you aware of ISO 10002:2004, which is a standard with guidelines for complaints handling? If you are, please explain to what extent (are you aware of it only theoretically, or you know about its applications in health care).
2. The proposed Feedback Handling Process (FHP) is based on the following principles suggested by ISO 10002:2004. Please indicate if the principles are considered and applied in the proposed FHP. Please provide your reason if you indicate that a principle(s) is not considered in the proposed GHP.
    a. Visibility
    b. Accessibility
    c. Responsiveness
    d. Objectivity
    e. Charges
    f. Confidentiality
    g. Customer focus
    h. Accountability
    i. Continual improvement
3. One of the pre-requisites to the success of the FHP is commitment from all levels of the management, care providers and support staff of the CSU ED and inpatients care.
    a. Is this FHP with its policy and procedures potentially able to attract the commitment from the CSU personnel? Please explain why or why not.
    b. Have you identified any component of the FHP that might potentially act as a deterrent to obtain commitment from an individual/group of the CSU personnel? Please explain.
4. I have suggested an example feedback handling policy. Please comment on, considering the care continuum in mind,
    a. its appropriateness;
    b. its potential effectiveness; and
    c. potential improvement to this policy to make it more appropriate and effective?
5. Are the responsibility and authority of various personnel appropriately defined in the FHP? Can you identify any inconsistency, ambiguity, potential inapplicability or inappropriateness in the allocation of the responsibility and authority?
6. How appropriate and useful is the FHP objective(s)?

7. How well-linked are various activities in the FHP (e.g., management review; monitoring of the FHP)? Please explain if you have identified any potential issues in the links between the FHP and the existing quality management system within the CSU.
8. How feasible is the FHP in terms of available CSU resources and their usage? Please explain if you have identified any potential conflict or concern in allocating the resources needed for the FHP?
9. What are the potential issues that may arise in training the CSU personnel about the FHP? What could be the potential challenges in obtaining acceptance about the FHP from the CSU personnel and how these challenges may be mitigated?
10. How useful is the FHP operations flowchart? Have you found the operations flowchart easy to understand? Have you identified any ambiguity in the connections among activities within the flowchart?
11. Please explain, if you have found, any ambiguity in the operations activities within the FHP.
12. Please explain, if you have found, any redundancy that could be avoided.
13. Please explain, if you have identified, any missing activity that could potentially enhance the usefulness of the FHP.
14. Have you found the documentation of the feedback and its follow-up actions potentially strenuous for the CSU personnel? Please explain why or why not.
15. How effective and appropriate are the feedback analysis and evaluation activities, as suggested in the FHP? Please explain.
16. How effective and appropriate are the FHP monitoring activities? Please explain.
17. How effective and appropriate are the FHP auditing activities? Based on your experience of the care continuum, are the auditing activities going to be strenuous? Do you have any suggestion on making the auditing activities more feasible and/or useful?
18. How effective and appropriate are the FHP management review activities? Please explain.
19. How effective is the FHP in using the feedback in improving the quality of care? Please explain.
20. Is the FHP easy to understand? Please explain why or why not.
21. Is the FHP feasible for potential implementation? Please explain why or why not.
22. Can the FHP be useful in improving patient satisfaction? Please explain why or why not.
23. Based on your knowledge of the CSU ED and inpatients care and/or customer feedback handling, please indicate
    a. the potential challenges of implementing the FHP;
    b. the risk(s) that is not addressed in the FHP;

c. the potential benefits of the FHP, if implemented.

24. Can you think of any other care continuum/area within the AHS where the proposed FHP may be applicable? If yes,
    a. please mention examples.
    b. state possible changes to the FHP to be required.

Appendix K - Patient Feedback Form

Patient Feedback Form

Dear patient and family,

In an attempt to improve the care quality, we would like to know your feedback. Please take the time to fill up this form, fill the form in the given envelope, seal it and drop it in the "Feedback Drop Box" located in the unit.

Your feedback will be used by the Unit Manager and staff in the unit for improving the care. It does not go to Patient Relations. If you want to leave feedback for Patient Relations, please call 1-XXX-XXX-XXXX or go to: http://www.albertahealthservices.ca/patientfeedback.asp, and fill out their online form.

We really appreciate your help in improving patient care.

The ED and Inpatients Care Team.

Date:_____(mm) _____ (dd) _____ (yyyy)

Are you a patient (please circle)? **Yes/No**

If you are not a patient, please state what is your relationship with the patient

_____

Your Feedback (If you need more space, please use the other side of the form):_____

_____

If your feedback above is about an issue or concern, please suggest below the remedy you expect -

_____

_____

If you would like to receive updates about your feedback, please provide your contact information below. Leave this part blank if you do not want to receive updates.

Indicate the way you want us to communicate you (please circle): Phone/Letter mail/Email

Name:_____

Mailing address:_____

Town, Postal code and Province:_____

Phone no: _____ _____ _____

Appendix L - The Feedback Follow-up Form

The Feedback Follow-up Form

1. Details of the feedback receipt

Date of feedback	
Time of feedback	
Name and role of the receiver	
Feedback medium (please circle)	Oral/Feedback Form / phone / media / postal mail/ Other (please state)_____
Creator of the form and role	

2. Optional details of the patient (or family)
   Name:_____ Unit No.: _____
   Mailing address:_____
   Town, postal code and Province:_____
   Phone no: _____ _____ _____ , _____ _____ _____ , _____ _____
3. Details of the feedback
   _____
   _____
4. Resolution requested by the patient (or family) **Yes/No** (please circle)
   If yes, state the resolution _____
5. Feedback assessment
   a. Comment of the feedback receiver_____

UM fills up the form hereon, or delegates the duty to: _____

   b. Feedback category - Check below the applicable item(s) (may check more than one box):

Access ☐	☐ Availability/arranging services ☐ Postponement ☐ Wait times
Delivery of care ☐	☐ Accommodation ☐ Adaptive aids/equipment ☐ Care plan ☐ Communication style ☐ Diagnosis/assessment ☐ Discharge ☐ Emotional support ☐ Govt. Policies./procedures ☐ Health information/confidentiality ☐ Information sharing/participation ☐ Physical comfort ☐ Practice standards ☐ Service coordination
Environment ☐	☐ Cleanliness ☐ Food ☐ Maintenance/upkeep ☐ Parking
Finance ☐	☐ Billing ☐ Funding ☐ Personal property
Other ☐	Specify_____

6. Based on the feedback and analysis, please suggest action(s) for the following as applicable:
   a. Correction/fix/change_____
      _____
   b. Corrective actions[4] (to remove the root cause of an issue)_____
      _____
   c. Preventive actions[5] (to remove the cause of a potential issue)_____
      _____
   d. Improvement action[6] (If a, b and c are not filled)
      _____
      _____

[4] Action to eliminate the cause of detected nonconformity/undesirable situation (ISO 9000:2005, 3.6.5)
[5] Action to eliminate the cause of potential nonconformity/undesirable situation (ISO 9000:2005, 3.6.5)
[6] Analysis leading to an improvement action that may not fall under a, b and c

7. Evidence of implementation of the action(s)

_____

_____

8. Feedback tracking

Action taken	Date	Owner	Comments
Acknowledgment of feedback receipt			
feedback Assessment			
feedback Investigation			
feedback Resolution			
Actions			
Verification of actions			
Feedback Closure			

9. Additional items – for feedback assessment

   For the scale of 1 to 5, consider 1 being the least, and 5 the highest

   a. Severity of the issue on patient's health
      1 2 3 4 5
   b. Severity of the issue on patient's safety
      1 2 3 4 5
   c. Complexity in resolving the issue
      1 2 3 4 5
   d. Impact of the issue on patients' perception of satisfaction with the care
      1 2 3 4 5
   e. Need for immediate action
      Yes/No (please circle)
   f. Availability of resources
      Yes/No (please circle)
      i. Please state the resource needs

         _____

         _____

      ii. If resources unavailable, suggest action

         _____

         _____

Appendix M - Supplementary Literature Review

M1 - Overview of the standards

ISO 10000 series of customer satisfaction standards are not intended for certifications. Rather, they are management system standards that provide guidelines for best possible management practices relevant to various aspects of customer satisfaction. All three standards have very similar structure in terms of the clauses and include detailed annexes that should help a user understand the guidelines provided in the body of the standards.

A brief overview of the three standards used in this research is provided below.

M1.1 ISO 10001:2007 - It provides guidelines for the systematic establishment of promises. The standard provides the “scope” (Clause 1), “normative references” (Clause 2), “terms and definitions” (Clause 3), ‘guiding principles’ (Clause 4) and a ‘code framework’ (Clause 5), and guidelines on the ‘planning, designing and development’ (Clause 6), ‘implementation’ (Clause 7) and ‘maintenance and improvement’ (Clause 8) of CS codes. This guidance can be applied according to the specific needs of an organization.

M1.2 ISO 10004:2012 - It provides guidance on establishing “effective processes for monitoring and measuring customer satisfaction” (sub-clause 0.1), and considers “customers” (sub-clause 3.2) as the recipient of a “product”, which is a “result of a process” (sub-clause 3.1). The standard includes principles (sub-clause 4.3) and planning (Clause 6) that suggests the methods of implementing the customer satisfaction measurement and monitoring activities. The standard includes guidance on obtaining information on customer expectations, as well as customer satisfaction, and its analysis and monitoring (Clause 7). The maintenance and

improvement activities provide guidance on the review, analysis and improvement of the processes for the measurement and monitoring of customer satisfaction (Clause 8).

M1.3 ISO 10002: 2004 - It provides guidance on establishing “an effective and efficient complaints-handling process” (sub-clause 0.1) for all kinds of organizations. Just as ISO 10004, this standard also includes a number guiding principles (Clause 4). It provides a complaint-handling framework (Clause 5) that includes specifying a complaints-handling policy (sub-clause 5.2) and the relevant responsibility and authority (sub-clause 5.3) of the various levels of management and employees. The standard then details the guidelines for the planning (Clause 6), the complaints-handling process (Clause 7) and the maintenance and improvement of the complaints-handling processes (Clause 8).

M2- Classification of quality aspects

Since the aspects of care are emphasized in this analysis of the literature, a very relevant and useful concept that is included in ISO 10004:2012 needs consideration. This concept relates to the classification of quality dimensions of a product suggested by Noriaki Kano (Kano, 2001; King, 1994; ISO 10004: 2012, Annex B.4) to conceptualize which attributes of the product performance are ”expected”, “one-dimensional” or “attractor” (Vavra, 1997). Kano divided the performance attributes into three categories: expected, one-dimensional and attractor (Vavra, 1997). The absence of the expected attributes causes dissatisfaction but its presence does not make any positive effect on satisfaction. An example of the expected quality can be cleanliness (King, 1994). Satisfaction is proportional to the one-dimensional attributes, i.e., it causes dissatisfaction if not delivered and CS increases the more fully it is delivered. An example can be “clear explanation of procedures by nurses and staff” (King, 1994). The attracter attributes are unexpected, but can really make the customer excited and happy when delivered. An

example is “day surgery without spending the night in the hospital” (King, 1994). The attributes may progress over time, i.e., exciting can become one-dimensional, and even expected (King, 1994).

M3 - Significance of patient feedback

Studies demonstrate how patient feedback, after being obtained and analyzed systematically, can be translated into improvement opportunities through specific strategic actions (e.g., Levine *et al.*, 1997; Tasa *et al.*, 1996). Customer expectations may also be determined by analyzing the received feedback (ISO 10004:2012, sub-clause 7.1.2). Moreover, the feedback data can act as the “indirect indicator” of customer satisfaction (ISO 10004:2012, sub-clause 7.2.2) when the frequency and trends of concerns based on the feedback category are identified (ISO 10004:2012, sub-clause 7.2.3).

Feedbacks can include praise or recommendations, as well as complaints. Complaints can be defined as “an expression of dissatisfaction made to an organization, related to its products, or the complaint handling process itself, where a response or resolution is explicitly or implicitly expected” (ISO 10002:2004, sub-clause 3.2). Expression of dissatisfaction is firmer and more reliable than that of satisfaction (Coyle and Williams, 1999; Mulcahy and Tritter, 1998). Therefore, patient dissatisfaction can work as an indicator of wider systematic issues (Davis, Lay-Yee and Briant, 2008) and an identifier of potential opportunities for improving the care quality (Davis, Lay-Yee and Briant, 2008; Anderson, Allan and Finucane, 2000; Hsieh *et al.*, 2000). The study of complaints helps in understanding the patient experience with the health care system, as well as in identifying problem areas that are causing the dissatisfaction (Anderson, Allan and Finucane 2000; Saravanan, Ranganathan and Jenkinson, 2007; Stichler and Schumacher, 2003).

It is important to make sure that the dissatisfied customers do not leave without sharing their experience because they have the potential to become loyal customer when their complaints are resolved promptly and reasonably (Gingold, 2011; Seelos and Adamson, 1994; Stichler and Schumacher, 2003). Customers tend to talk about the problems they face to more people than they do when they receive a good product or service (Eccles and Durand, 1998). Gingold (2011) showed that the negative experience of a patient may travel to as many as 54 people. Dissatisfied patients can take pictures or videos using their smart phones and share their health care experience with the public through the social media (Gingold, 2011). When patient complaints are promptly resolved in a way that exceeds customer expectation, the result is overwhelming customer loyalty and positive word-of-mouth effect (Stichler and Schumacher, 2003; Wirtz and Tomlin, 2000). Zairi (2000) showed that effective handling of complaints can lead to customer loyalty and retention. Davidow (2003) presented a study on the impact of organizational response to complaints on the "post complaint behavior" of a customer, including repurchase intentions and word-of-mouth activities. Bosch and Enríquez (2005) pinpointed evidence of high morale among the staff due to promptly resolved customer complaints, and an overall shift in the culture by taking complaints as a learning opportunity instead of a source of blame.

Stichler and Schumacher (2003) and Bosch and Enríquez (2005) showed how complaints are unique learning opportunities that can pave the way to service excellence. In a study on redefining the existing complaints handling process within the N*ational Health Service* (*NHS*), UK, Seelos (1994) concluded that the real challenge is changing an existing culture of blame that is "founded on fear, defensiveness and denial into a more open, no-fault customer driven one". Stichler and Schumacher (2003) suggested that an organization culture should be built

upon empowering the staff who are able to take the ownership of the complaint, and are rewarded for being prompt in responding to and handling it, which includes correcting the issue and taking preventive actions from its recurrence.

M4 - Feedback-handling as an improvement tool

To demonstrate how the study of complaints can lead to quality improvement, the communication issues between the health care providers (e.g., physicians, nurses and support staff) and patients can be considered. In the health care literature, many articles identify the communication issues as a source of patient complaints (e.g., Andaleeb, Siddiqui and Khandakar, 2007; Anderson, Allan and Finucane, 2000; Baalbaki *et al.*, 2008; Naidu, 2009; Siyambalapitiya *et al.*, 2007; Taylor, Wolfe and Cameron, 2002, Trumble *et al.,* 2006). Poor communication comprised 48% of all complaints in a study involving inpatients care (Siyambalapitiya *et al.*, 2007). Anderson, Allan and Finucane (2000) found in their research that 96% complaints conveyed by elderly patients receiving hospital care were related to communication or treatment issues. To help minimizing such complaints, their reasons or the root causes can be identified and suggestions can be made on removing the causes. For instance, training the care providers was suggested on improving their communication skills and attitudinal learning in the undergrad curricula (Anderson, Allan and Finucane, 2000) and on the job (Taylor, Wolfe and Cameron, 2002). Subsequently, Trumble *et al.* (2006) showed in a study involving 174 physicians that training on communication actually improved communication skills of physicians. Therefore, patient feedbacks are capable of exposing an area of concern, making the improvement initiatives effective.

Analysis of complaints may also lead to improved financial performance through service recovery by addressing the issues raised by dissatisfied customers (Johnston, 2001). Although

challenging, the benefits of complaints management can actually be quantified, as found in Stauss and Schoeler (2004) who discussed methods for determining the profitability of complaint management and its quantification by calculating “complaint management profitability” and “return on complaint management”. Such findings justify the investment on a system for handling the complaints.

M5 - Effectiveness of systematic feedback-handling

Not having an effective system for using patient complaints as a quality improvement tool and leaving complaints unresolved can lead to serious service failure (Hsieh *et al.*, 2000). Similarly, poorly operating complaints-handling systems can also be problematic. Lam and Dale (1999) discussed how lack of management support, poor communication, poor employee attitude and motivation, and inadequate quality culture can negatively impact a company’s environment to cause higher number of complaints and make the existing complaints handling system unsuccessful. Lam and Dale (1999) identified the causes of weakness for an existing complaints-handling system, some of which are

- categorizing complaints incorrectly;
- focusing on complaints but not the root causes;
- spending much of the time in non-value adding activities and little in relevant activities;
- lacking the monitoring and follow-up of the preventive actions;
- presenting the complaint data for meetings but not analyzing them adequately for actual improvement purposes.

This study by Lam and Dale (1999) provides a useful example of looking into the root cause of a problem.

Building capacity for having a proper feedback-handling system is strongly recommended in the literature (Hsieh *et al.,* 2000; Johnston 2001; Seelos and Adamson, 1994; Wirtz and Tomlin 2000). Hallen and Latino (2003) showed how systematically acting upon received complaints led to the root causes of recurring problems. Kress and Silversin (1983) recommended measuring the success of the complaints handling process by counting the number of positive changes made based on the received feedbacks. Allen, Creer and Leggitt (2000) discussed the establishment of a complaint management process at a hospital, which involved coding the patient's responses to the open-ended questions of a patient satisfaction survey, and then administering the survey.