Managing Care Quality Concerns at the VIHA Patient Care Quality Office: A Lean Evaluation

by

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Abstract

The Vancouver Island Health Authority's complaints management framework, as administrated by its Patient Care Quality Office, was evaluated using the Lean process improvement methodology. Fourteen participants were interviewed prior to their participation in a Rapid Process Improvement Workshop. In the interviews, as well as in the Workshop, participants identified waste and non-value-added activity that existed in the framework. Participants concluded the Rapid Process Improvement Workshop by designing an improved and more efficient future state value stream for the complaints management framework. With the assistance of the researcher, participants created 15 recommendations to ensure the successful implementation of the future state value stream as the new method for complaints management within the Vancouver Island Health Authority.

> High-quality health care is important to all of us. Our government is committed to quality care for all British Columbians, and we are always striving for ways to make our world-class health system even better.
>
> - Michael de Jong
> Minister of Health (2011-2012), British Columbia
> (Patient Care Quality Review Board, 2012)

> Are we walking the talk? Are we being true to our vision? Are we dealing with reality? Are we connecting the dots between here-and-now reality and our vision? And how do we know? What are we observing that's different, that's emerging?
>
> - Michael Quinn Patton, in
> *Developmental Evaluation: Applying Complexity Concepts to Enhance Innovation and Use*
> (Patton, 2011)

Executive Summary

Complaints management is an essential responsibility of public sector institutions. When these institutions fail to meet the expectations of the clients they are obligated to serve, their openness to accepting feedback, and taking action in response, creates a vital 'second chance' for service recovery. It is therefore important that public institutions have effective and efficient strategies for dealing with a wide range of feedback, including complaints.

The Vancouver Island Health Authority (VIHA) fulfills its legislated requirement to respond to concerns about quality of care through the operation of its Patient Care Quality Office (PCQO). In accordance with a standardized process, the PCQO engages with its clients to establish expectations and provide information about care that was delivered by VIHA or one of its affiliates.

This report summarizes the results of a Lean improvement process that was applied to the (PCQO)'s complaints management framework. On October 29 and 31, 2012, PCQO staff participated in a two-day Rapid Process Improvement Workshop (RPIW) with care reviewers from VIHA's Emergency Services and Trauma Care, Psychiatry, Continuing Health Services, Contracted Services and Orthopaedics programs. Pre-RPIW interviews identified common concerns surrounding duplication and task repetition within the current complaints management framework stages, the complicated process of obtaining medical charts, and the inefficient method of editing and approving final PCQO response letters.

On Day One of the RPIW, participants created a current state value stream of the PCQO complaints management framework, and identified non-value-added activity, or 'waste', within that framework. On Day Two, participants created a future state value stream by redesigning the program-level care review stages of the Framework and appending the Acknowledgement and Intake stages to a subsequent improvement process.

The future state model of the program-level care review process consists of a two-tier process, based on the complexity of a complaint. At the completion of the complaint intake, if the PCQO determines that the complaint requires further action for resolution, the Patient Care Quality Officer will initiate either an express or full review.

Express review complaints are resolved within five business days by a program-level point person and the care provider. On an internal SharePoint web platform (site), the PCQO provides a brief summary of the complaint along with the patient's medical chart. The point person reviews this information, contacts the complainant, and notifies the PCQO when the complaint is resolved. If the complaint is not resolved, the point person refers it to a full review.

A full review is completed within 40 business days. The PCQO forwards the medical chart and review form with questions to the program-level point person. The collation of review findings, drafting of letters, editing and final approval is completed on the SharePoint site. The point person obtains input from the relevant care provider(s) for every review.

The future state value stream addresses and rectifies many of the non-value-added stages in the current state model. Participants concluded the RPIW with the following sequentially organized recommendations for improvement.

1. Designate a PCQO Lean Project Manager.
2. Complete a separate Lean improvement of the Acknowledgement and Intake complaints management framework stages.
3. Enable the PCQO to obtain relevant portions of the patient's medical chart.
4. Create a PCQO Care Review SharePoint.
5. Establish Complexity Criteria for triaging complaints.
6. Create SharePoint Care Review forms.
7. Establish a PCQO express review process.
8. Establish a PCQO full review process.
9. Draft PCQO response letters on SharePoint.
10. Edit and approve response letters on SharePoint.
11. Involve the care provider in the care review process.
12. Establish a Communication and Implementation Plan.
13. Initiate a PCQO Future State Pilot Project.
14. Collect follow-up data and establish data collection and reporting processes.
15. Measure client satisfaction.

Individual timelines for the implementation of recommendations have not been established, as the completion of each recommendation is dependent on the completion of the recommendation in sequence before it. Buy-in from participants and complaints management framework stakeholders is essential for the successful implementation of recommendations. Timely initiation of the implementation process will ensure the motivation and commitment of these individuals. Follow-up data can be compared to pre-RPIW data to determine any changes or improvement resulting from the implementation of recommendations.

Contents

1.0 Introduction

One of the clearest indicators that an organization, company or program is committed to achieving the highest possible quality of service is its degree of openness to receiving feedback from its customers. A central asset of democratic government; transparency of public institutions means that those institutions are prepared to subject themselves not only to their own high standards, but also to the highest standards and expectations of those whom they serve.

From the Vancouver Island Health Authority (VIHA)'s perspective, achieving world class quality means listening to those within the organization and those outside, sharing ideas, and continuously improving quality through on-going communication and self-assessment (Vancouver Island Health Authority, 2012b). One way that patients, their families and their representatives can contribute to VIHA's goal of world class quality is to bring their concerns about quality of care to the Patient Care Quality Office (PCQO). The PCQO provides an accessible and transparent point of contact for clients to submit a complaint, compliment or request for information. The PCQO helps deliver compliments directly to the individuals responsible for providing the care, and coordinates comprehensive and collaborative reviews of care quality concerns (Vancouver Island Health Authority, 2012c). Upon receipt of a care quality concern that is not a compliment or a request for information, the PCQO assumes a hybrid role in the organization: it synthesizes dispute resolution and organizational compliance functions into a complaints management framework. Through the application of its administrative oversight capacity, the PCQO assists in the resolution of a number of care quality concerns at the service delivery and complaint intake levels, while also ensuring that when warranted, legitimate unresolved concerns receive an appropriate circumstantial investigation and a direct response that provides all requested and relevant information.

This report contains a sequential overview of background, methods, findings, and recommendations, along with additional headings and subsections specifically related to the methodology and research structure. Six main sections constitute its overall structure: 1.0) Introduction; 2.0) Background, Objectives and Literature Review; 3.0) Research Design; 4.0) Findings; 5.0) Recommendations; and 6.0) Conclusion.

Section Two contains an overview of the history of complaints management within the Province of British Columbia and the Vancouver Island Health Authority and a concise review of the principal research objectives. The central characteristics and structures of a complaints management system are reviewed, and the Lean improvement methodology is explained and grounded within traditional academic methods of qualitative research. Lean terms such as waste, current state value stream mapping, future state value stream mapping and Rapid Process Improvement are defined in detail. Section Two concludes with an overview of Lean's contemporary applications in the fields of healthcare and complaints management.

Section Three begins with a detailed description of the research and final reporting requirements for the project client (VIHA's Patient Care Quality Office) and the DR598 Master's Project course. Subsequently, an in-depth review of the research methodology is presented. The Methodology sub-section includes descriptions of the quantitative and qualitative baseline data gathering processes, the Rapid Process Improvement Workshop (RPIW), and the methods used to record and analyze data. Section Three concludes with a list of identified possible limitations or anticipated problems, and a summary of the University of Victoria Human Research Ethics Board (HREB) and VIHA Research Ethics Board (REB) approvals.

Section Four of the report presents the research findings. This includes quantitative and qualitative baseline data and the RPIW data. The RPIW data includes a current state value stream map, a summary of the non-value-added activity and waste identified within that value stream map, and the improved future state value stream map that was created by RPIW participants.

Section Five summarizes the research and the Master's Project report. It includes detailed sequential recommendations that must be implemented for the future state value stream to become a reality for the Patient Care Quality Office. Each recommendation contains important contextual information along with specific instructions for action in partnership with named stakeholders. The recommendations include a series of sequential actions required to implement the future state value stream, as well as an action plan for the creation of a pilot program and a robust data collection and reporting strategy.

Section Six concludes the report, and describes projected benefits to RPIW participants, VIHA employees involved in complaints management, PCQO clients, and the state of knowledge.

2.0 Background, Objectives and Literature Review

The contents of this section are intended to familiarize the reader with the background and context that surround and helped form the basis for this research to be conceptualized and undertaken. It provides an overview of the history and background of the Patient Care Quality Office and the provincial legislation upon which it is based. A summary of the operational scope and organization of the Vancouver Island Health Authority is provided, followed by sub-sections detailing the Patient Care Quality Office's theoretical and practical dispute resolution functions. The latter sub-sections of this section summarize the research objectives and review relevant literature and previously completed studies.

2.01 History of the Patient Care Quality Office

The PCQO receives all complaints or compliments (care quality concerns) regarding patient care provided by VIHA. If a particular concern cannot be resolved at the time and place of the provided service, it proceeds to the PCQO's complaints management framework[1] (Vancouver Island Health Authority, 2012c). The PCQO will formally register clients'[2] care quality concern; work with the client to establish expectations, and seek a reasonable resolution to the concern. The PCQO action culminates with a response to the client and an explanation about any decisions and actions taken as a result of the care quality concern (Vancouver Island Health Authority, 2012c). The PCQO approach can be tailored to each client's unique concerns and expectations.

After a concern is acknowledged by the PCQO, immediate resolution is attempted through a detailed intake call between the PCQO and the client. If resolution is not achieved during intake, the PCQO file is assigned to a case manager who completes a comprehensive review of the incident with care reviewers from the clinical program level (e.g. surgical services, emergency services). Time lines for completing the acknowledgement, intake, and case management review are set by the Minister of Health[3] (Legislative Assembly of British Columbia, 2008).

The need to evaluate and streamline VIHA's complaints management framework became necessary in order to allow PCQO team members and care reviewers to effectively deal with care quality concern volume. The author of this report lead a Lean evaluation and improvement of the PCQO's complaints management framework, to remove overproduction and non-value added tasks from the framework, and to enable PCQO team members and care reviewers to have input into the evaluation and improvement of their working roles.

2.02 Scope

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[1] Throughout this document, "complaints management framework" will refer to the process that the Patient Care Quality Office uses to resolve care quality concerns (including complaints and compliments).

[2] PCQO clients include patients, family members, and third party advocates. Third party advocates must be personally and/or legally authorized to make decisions for or act on behalf of the patient.

[3] All received care quality concerns must be acknowledged by the PCQO within two business days, and all final review responses must be delivered to the PCQO client within 40 business days.

The Vancouver Island Health Authority is divided into two separate organizational service units: Integrated Health Services and Corporate and Strategic Services. Corporate and Strategic Services is a collection of eight portfolios which oversee the delivery of all non-clinical[4] services in the Health Authority (Vancouver Island Health Authority, 2012d). The PCQO is part of the Quality, Research and Safety (QRS) portfolio[5] (Vancouver Island Health Authority, 2012e). This research consists of a Lean improvement of the complaints management framework used by the PCQO, and its scope is limited to the actions and organizational performance of PCQO programs, policies, team members and care reviewers.

2.03 DR 598 Master's Project

In addition to its recommendations for the Vancouver Island Health Authority, this report is intended to satisfy the requirements for the author's DR 598 Master's Project at the University of Victoria. This report will serve the primary document for the University of Victoria. A more concise Project Report will be delivered to the project client, the Vancouver Island Health Authority Patient Care Quality Office[6]. A project summary will also be given to all Rapid Process Improvement Workshop participants.

2.04 Relevant Legislation

The *Patient Care Quality Review Board Act* (Legislative Assembly of British Columbia, 2008) mandates each Health Authority in British Columbia operate a PCQO to receive care quality concerns and to process those concerns in accordance with directions provided by the Minister of Health (Patient Care Quality Review Board Act, 2008). Any person may express a concern related to health care that was either a) delivered or b) requested but not delivered (Legislative Assembly of British Columbia, 2012). If the review completed by the Patient Care Quality Office is not considered to be appropriate, the *Patient Care Quality Review Board Act* (Legislative Assembly of British Columbia, 2008) provides that the concern may be reviewed by the provincial Patient Care Quality Review Board. The PCQO at VIHA operates under the auspices of this legislation.

2.05 Relation to Dispute Resolution

The PCQO is the primary recipient of care quality concerns that cannot be resolved at the local or departmental level where VIHA provided service. As the complainant has already rejected local resolution efforts before arriving at the PCQO, PCQO team members and care reviewers require a high level of proficiency with dispute resolution skills such as interest-based and narrative-based negotiation to enable them to determine interests, establish expectations and provide resolution.

When a complainant contacts the Patient Care Quality Office, they are immediately given the opportunity to tell a story, in their own words, of the circumstances that led to their care quality complaint. This act of storytelling, or narrative, is a relatively new, yet common,

[4] Non-clinical services are those which are not involved in the direct provision of health care to clients.
[5] An organizational chart of the QRS portfolio is included as Appendix H.
[6] This report is included as Appendix L.

form of dispute resolution that evolved out of narrative family therapy. Narrative therapy involves a collaborative and interactional process where participants are encouraged to enhance each other's understanding of issues through detailed and descriptive storytelling (Hansen, 2003).

Influenced by predominating patterns of social thought in the mid 1980's, David White and Michael Epston (1990) promoted narrative as an alternative to the more common 'cause and effect' model of communication. The roots of their new model emphasized post-modernism as a basis for the deep relationality and understanding required for effective narrative therapy interventions.

In contrast to modernist structures that prioritized linear and causal routes to an objective truth, a postmodernist sees every idea as a unique narrative that can influence personal perspectives (Bertrando, 2002). In the late 1990's, John Winslade and Gerald Monk (2001) pioneered the use of narrative as an intensive technique for expression and communication in dispute resolution settings. In comparison to the many theoretical perspectives that can be used to understand and resolve conflict and dispute situations, the narrative perspective is unique in that it can be practically applied as a resolution technique. Going beyond just merely conceptualizing elements or tenets of a conflict, the narrative technique encourages practitioners to apply a defined methodology to all parts of the resolution process in search of a truly unique and specific outcome.

In relation to the way in which the PCQO manages complaints, narrative is used to help parties describe their experiences, histories, and conflict sequences in a deeply interactional way. In both their initial contact with the PCQO and during the detailed intake conversation, complainants work with the PCQO to establish basic interpretations, facts and truths. Intensive communication and discussion creates a shared understanding of Cloke and Goldsmith's (2000) truths and perspectives, and solidifies the historical and interpersonal context of the conflict.

By maintaining focus on narrative, storytelling, and the creation of mutual empathy, the PCQO, together with the complainant, attempts to work together to narrate a story for the future. Through the shared understanding, the PCQO and the complainant seek forward progress together. This forward progress can take the form of any of the PCQO's options for resolution, be it a written response letter with documented information, an in-person meeting with care providers, or even an apology and assurance that the presented concerns have contributed to improvements in healthcare quality. Table 1 portrays the commonalities between narrative and the PCQO process:

Table 1
Comparison Between Narrative and PCQO Process

Narrative	PCQO Process
Use storytelling to help parties focus on experiences, histories, and life cycles.	Clients can tell their story to the PCQO through a letter, over the phone, and in-person.
Gain consensus through shared experiences, perspectives, and beliefs.	PCQO team members seek to validate clients' experiences and relate to their concerns.
Mediator guides parties through perspective-taking, toward reciprocity and future focus.	One goal of the PCQO process is to use client feedback improve practices and future care provision.
Parties finish by narrating a new story for the future.	The PCQO provides clients with a final response letter which reviews their story, concerns and questions.
Mutual understanding creates a future-oriented resolution.	Questions are answered, and the PCQO provides a comprehensive summary of intended future action.

The PCQO complaints management framework was designed to enable PCQO team members and care reviewers to achieve resolution as early as possible within the complaint timeline. Once a complaint is acknowledged, an intake coordinator contacts the complainant in person and attempts to establish expectations and resolve the issue through reflective questioning, reframing and facilitative negotiation. Hearing the complainant's narrative is one of the most important priorities of the intake function. If the perspective of the complainant cannot be reconciled with the perspectives of the organization (VIHA), and resolution is not possible at intake, the case management coordinator initiates a full investigatory review to provide the complainant with a written response that addresses any and all options for resolution, provides comprehensive information about the complaint, and concludes with a future-oriented resolution strategy.

2.06 Research Objectives

The following objectives were intended to be completed in sequential order, and they formed the basis for the research methodology. The research objectives were initially conceptualized by the external project client (the Patient Care Quality Office), and adapted by the researcher. The project client suggested that the researcher begin with a non-research-related observation period within the PCQO.

2.06.1 Observe PCQO operation.

This period did not involve any evaluation or data gathering. The role shadowing and orientation only served to give the researcher a basic understanding of the PCQO complaints management framework, the roles of the PCQO team members and care reviewers, and an understanding of which individuals should be consulted during the Lean evaluation and improvement.

2.06.2 Lean orientation.

In June 2012, the author of this report participated in an *Introduction to Lean Design* in-house training course delivered by the Vancouver Island Health Authority and the Provincial Health Services Authority. The content of this course focused on Lean improvement and evaluation methodology within the field of health care and on the improvement of clinical processes and functions. The content of this course informed the creation of a pre-Lean learning resource.

The learning resource provided an overview of the Lean methodology and Rapid Process Improvement Workshop (RPIW) for participants, as several had not previously been exposed to the Lean methodology[7].

2.06.3 Gather baseline data.

One of the principal research objectives is to gather qualitative and quantitative baseline data prior to the Rapid Process Improvement Workshop. The baseline data provides important information about the current state of the PCQO complaints management framework, and can be compared to qualitative and quantitative follow-up data. This comparison can elicit indication of the extent of any changes or improvements resulting from the Lean improvement and Rapid Process Improvement Workshop.

2.06.4 Conduct a Rapid Process Improvement Workshop.

The Rapid Process Improvement Workshop (RPIW) component of the Lean evaluation proceeds as described in the following Methodology sub-section. The RPIW serves as the principal data gathering phase of this research, and results in two process maps that are included in the Research Design section of this report. The RPIW process is described in more detail in the following Research Stages sub-section.

2.06.5 Summarize and compare results.

The baseline data results can be compared to follow-up data that is gathered in accordance with the recommendations of this report. The current state and future state value stream maps can be directly compared to determine changes or improvements that resulted from the RPIW. The results and recommendations will be described in detail through written and visual summary.

2.06.6 Develop recommendations.

The provision of recommendations is one of the main results-oriented research objectives. Based on the qualitative and quantitative baseline data and the data gathered during the Rapid Process Improvement Workshop, specific recommendations for the improvement of the PCQO complaints management framework have been developed by the research

[7] The pre-RPIW learning resource is included as Appendix G.

participants and the author of this report. Based on the quantitative and qualitative baseline data summary, recommendations will result in a 'leaner' complaints management framework.

2.07 Relevant Literature and Previously Completed Studies

The following sub-section provides a detailed overview of relevant literature, including academic and professional undertakings related to the optimization of complaints management systems, and an overview of the traditional theoretical tenets of qualitative inquiry that underline the Lean improvement methodology. In addition, a review is provided of Lean improvement projects completed in both healthcare and complaints management fields.

2.07.1 Complaint resolution systems.

The PCQO complaints management framework is just one organizational strategy among many. As an overall guideline for the design and improvement of these often-complicated systems, resources regarding the structural components of public complaint handling systems have been published by ombudsman offices in the Australian states of Queensland (2006), Northern Territories (2012), and Western Australia (2011). In addition, in his Lean evaluation of the complaints management framework used by a large post-secondary education institution, Pooyan Yousefi-Fard (2010) undertook a review of common structural characteristics of complaints management processes and frameworks.

In its 2012 report, *Management of Complaints by Public Sector* Agencies, the Australian Northern Territories Ombudsman (2012) presents the opinion that agencies which effectively respond to complaints enjoy a good reputation and a high level of consumer trust. For government and other public-sector organizations, this reputation and trust is essential for meeting the increasing expectations of public sector performance. Furthermore, this ombudsman states that "ultimately, any effort put into a complaints management system will pay dividends in terms of better service delivery, more satisfied customers and fewer resources wasted wrangling with unhappy customers" (p.1). The Ombudsman of Western Australia (2011) defines an effective complaints handling system as having three steps. The first step, *enabling complaints*, requires customer focus, outward visibility of the system, and accessibility. The second step, *responding to complaints*, should contain tenets of responsiveness, objectivity and fairness, confidentiality, remedy, and review. The third step, *accountability and learning*, should contain mechanisms for accountability to the client and stakeholders, as well as for continuous organizational improvement. These steps are considered integral to a consumer's and a complainant's confidence that complaints can be dealt with effectively.

Similar to Western Australia, the state of Queensland's Ombudsman (2006) suggests that a model approach to complaints management would receive, record, process, respond, and report on complaints. Subsequently, this system would be used to improve services and increase client satisfaction. Queensland Ombudsman (2006) suggests that effective complaints management models have three main stages; frontline complaints handling,

internal review or investigation, and an avenue for external review. Furthermore, clients would be even better served by a two-tier model where complex complaints are promptly moved from the front line to a more detailed review process. The potential for a two-tier model at the VIHA PCQO will be discussed in the Recommendations section of this report.
In his work on complaints management system structures, Yousefi-Fard (2010) indicates that dissatisfied people spread news of their dissatisfaction at double the rate of satisfied people, and that on average, only 5% of dissatisfied customers actually submit a formal complaint. However, similar to the Australian literature reviewed above, Yousefi-Fard (2010) also determined that appropriate responses to formal complaints can significantly increase customer loyalty, and that a strong link exists between complaints management frameworks and overall business improvement and organizational growth.
In Figure 1, Yousefi-Fard (2010) illustrates the basic components of a complaints management system:

Figure 1. Complaints Management System Components (Yousefi-Fard, 2010)

The VIHA PCQO's current state complaints management framework adopts a similar appearance to the above diagram; processing complaints through receipt, acknowledgement, intake, and case management; ending with a final response to the client.
In addition to Figure 1, Yousefi-Fard's (2010) report also depicts the ideal layout and mentality of an organization that manages complaints effectively:

Figure 2. Organizational Layout for Complaints Management (Yousefi-Fard, 2010)

Indicated by Figure 2, an attention to effective complaints management and the organization of data for regular reporting can have a concurrent positive effect on the efficiency of an organization's corporate governance as well as the quality and depth of its customer relations. These concurrent effects, as well as the above-reviewed principles of effective public complaints management systems, inform the direction of the PCQO's Lean improvement undertakings.

2.07.2 Lean Design: an overview.

The origins of Lean can be traced to the manufacturing industry; its first manifestations were applied to the improvement of automobile production and assembly. In his 2004 book *The Toyota way: 14 Management Principles from the World's Greatest Manufacturer*, Jeffrey Liker documents how, beginning with the Ford assembly line, Lean principles evolved into their most notable phase of development as part of the Toyota Production System (TPS)[8]. Lean techniques are used as a method of workflow improvement: they help free employees from traditional workflow mindset and the management constraints of mass production (Westmark Consulting, 2012a). Lean is about eliminating waste and prioritizing value within organizational practices.

2.07.2.1 Lean in academia.

The primary purpose of Lean is to improve the quality of a system, process, or product. W. Edwards Deming and Joseph M. Juran, two academics who are considered to be the founders of the quality movement (Patton, 2002) began promoting the importance of quality in manufacturing in the late 1930's. Deming (1986) had long viewed quality from the customer's perspective, and he famously defined quality as meeting or exceeding the customers' expectations (Patton, 2002).

The fundamental characteristic of quality improvement centers on a challenge to an individual's assumption that they are already producing the highest quality product. In 1979, Philip B. Crosby famously quoted "the problem of quality management is not what people don't know about. The problem is what they think they do know". It is within this perspective that the most central tenets of the Lean ideology can be found. Lean challenges people to constantly review what they are doing and to apply themselves to continuous improvement in the pursuit of total quality management (Womack & Jones, 2003).

Robert Patton (2002) notes that in the years since Juran (1951) and Deming's (1986) original forays into the area of industrial quality improvement, quality has evolved into a foremost priority and primary marketing theme of our time. By the early 1990's, the "cult of total quality" (Patton, 2002, p. 146) pervaded the corporate sector, and would shortly permeate just as deeply into the government and non-profit world. Robert Pirsig (1991)

[8] Taiichi Ohno, former CEO of the Toyota Motor Company, pioneered Lean improvement methods in the automobile production industry (Liker, 2004). Innovative concepts such as allowing any employee to halt the assembly line before a defect would be passed to the next stage, and promoting an organizational culture of continuous improvement and Total Quality Management quickly propelled Toyota to the status of one of the world's leading automobile manufacturers (Liker, 2004). More detailed information about Toyota's organizational transformation is available from Liker (2004) and in Ohno's own (1988a, 1988b) publications.

theorizes a link between quality and the value that a customer experiences from an organization, process or product.

In his 1991 book *Lila*, Pirsig described the "metaphysics of quality" (p.365) as his theoretical belief that quality is a perceived experience, and that this experience existed long before the word 'quality' was ever defined in a modern sense. Pirsig (1991) argues that the central characteristic that has enabled humans to perceive quality is value. The following excerpt provides insight into Pirsig's conceptualized link between quality and value; this link can be directly related to Lean's prioritization of value as the central and most important component in any organizational process.

> What the Metaphysics of Quality adds to James's *pragmatism* and his *radical empiricism* is the idea that the primal reality from which subjects and objects spring is *value*...value, the pragmatic test of truth, is also the primary empirical experience… pure experience is value. Experience which is not valued is not experienced…value is at every front of the empirical procession". (Pirsig, 1991, p. 365).

If it is through the realized experience of value that we perceive quality, the process of identifying value should be akin to that of recognizing quality. In order to improve the quality of a process, we can either increase its value or decrease its non-value. The process of identifying value and non-value, and subsequently reformulating a process, is known as quality enhancement. The process of identifying value, and using it to rate a process, is known as quality control. Lean is a quality enhancement process, and it should be clearly distinguished from quality control.

2.07.2.2 Quality enhancement: The foundation for Lean.

While quality control measures, as indicated above, identify and measure minimally acceptable results, quality enhancement highlights and increases value and excellence (Patton, 2002). Quality control defines and standardizes a measure of acceptable results, while quality enhancement, however, involves a level of "individualization and professional judgement that cannot and should not be standardized" (Patton, 2002, p. 48). Thus, while quality control most often relies on quantitative statistical measures, quality enhancement relies more often "on nuances of judgment that are often best captured qualitatively"(Patton, 2002, p. 48). The actual term 'Lean' was not coined until the late 1980's (Graban, 2012). It was chosen by John Krafcik (1988), part of a research team from the Massachusetts Institute of Technology, to describe a system, such as those observed in action at Toyota, that continually enhanced quality by using approximately half of everything (space, materials, human resources) to get a job done. The term described the results of a process of continuous improvement, and eventually became common as a description of the continuous improvement and elimination of waste (Graban, 2012).

2.07.2.3 Locating Lean on the evaluation spectrum.

In his book *Qualitative Evaluation and Research Methods*, Michael Quinn Patton (2002) presents different evaluation methodologies on a scale from standardized and externally

generalizable, to specific and individually customizable. The standardized end of the scale contains a number of outcome-focused methods that prioritize quantitative measures and rating scales, such as summative evaluation. The specified side of the scale contains less systematic methods that focus on using qualitative data to understand the individual nuances and context of the evaluand, such as Formative Evaluation or Action Research. Similar to Lean, Formative evaluations seek to improve a specific program by examining and judging the actions and stages that contribute to an end solution or product (Patton, 2002). The selected methodology is applicable to the selected program only, and thus inductive qualitative measures (open-ended surveys, focus groups) are most frequently used to gather data. While Formative evaluations engage research participants to provide data, the role of the researcher as an expert and as the provider of final recommendations does differ from the Lean methodology.

Action Research aims to solve specific problems within an organization or process. In contrast to the researcher's role as evaluator in Formative evaluation, Action Research engages the people in a program to become part of the change process by studying their own problems and identifying their own solutions (Whyte, 1989). In Action Research (and in Lean), the researcher is distinguished as a facilitator of the process, and not an evaluator. This characteristic mirrors the Lean user-driven process (Womack & Jones, 2003). Methods are less systematic, and specific to a particular problem (Patton, 2002, Graban, 2012, Womack & Jones, 2003). In terms of gathered data, Lean data and Action Research data is informal, and the measures are specifically related to the evaluand, with the participants gathering the data and helping to analyzing it themselves (Patton, 2003).

2.07.2.4 Value and waste.

The critical commodity in any organization is value (Graban, 2012); Womack and Jones (2003, p.17) express value "in terms of a specific product which meets the customer's needs". These authors (2003) go further to express that while value can be added at many stages in a process, most processes skew the real definition of value due to traditional distortions of technology, underappreciated assets, and outdated thinking. The end result is a process or framework that may contain 'non-value-added' stages or actions (*waste*) despite its end product which is still of value to the customer.

The identification and elimination of waste is the central characteristic of Lean improvement. Specifically, waste is considered to be "any human activity which absorbs resources but creates no *value*" (Womack & Jones, 2003, p. 16). Womack and Jones' widely used acronym to represent the eight types of waste, DOWNTIME, represents defects, over-production, waiting, non-utilized talent, transporting, inventory, motion, and extra-processing (Womack & Jones, 2003).In order to determine the location of value and waste within a process, Womack and Jones (2003) created the value stream mapping process.

2.07.2.5 The value stream.

In their overview of Lean principles, Womack and Jones (2003) define the value stream as "the set of all specific actions *required* to bring a specific product…[to] the hands of a consumer" (p.20). It is defined as the practice of breaking a process down into its individual activities and determining value-added or non-value-added output (Jimmerson, 2009) and is considered to be the central tool used in Lean improvement processes (Vinodh, Arvind, & Somaanathan, 2011, Westmark, 2012b, Liker, 2004). To fully determine the extent of waste and value present in a value stream, not only the individual stages and actions but the *interactions* of those stages and actions must be examined. This characteristic supports Womack and Jones' (2003) prioritization of flow as the final consideration of any value stream mapping activity. As part of a Lean improvement process, the initial value stream mapping activity results in a 'current state' map of the framework or procedure that subject to improvement.

2.07.2.6 Flow and the future state value stream.

Once waste has been identified in the current state value stream, value-added actions are combined to create a new or future-state value stream (Womack & Jones, 2003). Described in more detail in the Methodology sub-section of this report, the future-state value stream keeps value added stages close together, to maximize flow and decrease wasteful periods of over-production and waiting. While flow thinking may seem counterintuitive due to a compartmentalized-style tendency to "batch" tasks (Womack and Jones, 2003, p.24), Lean helps organizations switch from "organizational categories (departments) to value-creating *processes*" (p.24).

2.07.3 Lean in healthcare.

Long known for their departmentalized organization, hospitals and other health care providers have begun to experience the beginning of a remarkable transition to flow-centered processes through the implementation of Lean principles and Lean improvement activities (Graban, 2012, Stamatis, 2011). The following sub-sections review the Lean practices of American and Canadian healthcare organizations, private research forays into Lean healthcare, and Mark Graban's (2012) industry-leading book *Lean Hospitals: Improving Quality, Patient Safety, and Employee Engagement.* A review of Lean improvement processes applied to two different (non-healthcare) complaints management frameworks concludes the literature review.

2.07.3.1 Lean in American health care: The Institute for Healthcare Improvement.

In 2005, the Institute for Health Care Improvement (IHI) published a White Paper titled *Going Lean in Health Care*. The paper presents examples of Lean thinking in healthcare that have had "a positive impact on productivity, cost, quality, and timely delivery of services" (p. 1).

Going Lean in Healthcare (IHI, 2005) reports that the Virginia Mason Center in Seattle, Washington has been using Lean management principles since 2003. All Virginia Mason employees are required to attend an 'Introduction to Lean' course, and many have

participated in and lead RPIWs within their program areas. Active Lean improvement work and employee education has saved helped increase program capacity and eliminate waste, resulting in savings of almost $10 million over three years.

ThedaCare Inc., a multi-hospital health services delivery system in Wisconsin, has also experienced success with Lean. By tracking of outcomes related to the implementation of Lean management principles, ThedaCare was able to report an average of $3.3 million in savings, a redeployment of staff saving the equivalent of 33 full-time employees, and a reduction by 50% of the time it takes to complete clinical paperwork for admission (Institute for Healthcare Improvement, 2005).

2.07.3.2 Quality improvement and Lean in Canadian healthcare.

The Ontario Ministry of Health and Long-Term Care (2011) has published a Quality Improvement Plan and subsequent *Quality Improvement Plan Guidance Document* in collaboration with hospitals, Local Health Integration Networks, the Ontario Health Quality Council, and the Ontario Hospital Association. The purpose of the Quality Improvement Plan is to foster "a culture of continuous quality improvement where the needs of patients come first" (Ontario Ministry of Health, 2011, p. 4). Quality improvement activities include staff and patient surveys and ongoing evaluation and improvement activities structured around a Model for Improvement. This Model for Improvement prioritizes approaches like Lean and Six Sigma (a popular evaluation tool similar to Lean) as effective continuous improvement activities.

In June 2010, the Government of Saskatchewan expanded the Lean initiative to all government ministries, including direct training of employees as Lean practitioners (Saskatchewan Public Service Commission, 2010). Early results indicate that within health services, Lean has resulted in improved patient experiences and increased system productivity (Government of Saskatchewan, 2012). The Saskatchewan Ministry of Health released its first Lean Newsletter in July 2012, with information about the success of Lean improvement projects, including final reports from several completed Lean projects. The Ministry of Health (2012) and other provincial government ministries continue to train lean practitioners and increase the implementation of Lean initiatives with the provincial public service as a whole.

In 2010, the British Columbia Leadership Council chose to fully support the use of Lean improvement principles within the six provincial Health Authorities as a process redesign tool, to reduce waste and increase value (British Columbia Ministry of Health, 2011). Key deliverables for the 2010/2011 Lean implementation included the creation of a provincial Lean network and several working groups, and the completion of an annual report summarizing Lean network activity as well as a number of completed Lean evaluations. More than 125 Lean evaluation and improvement projects were completed within the British Columbia Health Authorities in 2010-11(British Columbia Ministry of Health, 2011). As each Health Authority has been given discretion over how to integrate Lean, almost unanimous acceptance has resulted. Acceptance of Lean ranges from the Provincial

Health Services Authority (2009) which has created the imPROVE program and labeled a mindset of continuous improvement within the organization, to independent applications of Lean within Fraser Health Authority (2007) and Northern Health Authority (2010). Within the Vancouver Coastal Health Authority (2011) and the Interior Health Authority (2011), as well as VIHA (2012a, 2012b), Lean principles have been adapted an organization-wide management and leadership approach (British Columbia Ministry of Health, 2011).

2.07.3.3 Mark Graban and Lean Hospitals.

Mark Graban has served as one of the pioneers of Lean improvement techniques in the health care field. Originally exposed to Lean in the field of industrial engineering, Graban (2008, 2012) was one of the first external specialists invited to apply his knowledge toward health care improvement in the mid-1990's. In his justification for the use of Lean in health care, Graban (2008, 2012) pinpointed the fact that hospitals are surprisingly similar to the production facilities that Lean was originally designed for. Hospitals order and deliver supplies, move patients and products through multiple departments and facilities, and use complicated equipment and machinery that requires educated technicians and a complex array of sequential processing functions. According to Graban (2008, 2012), most hospitals and health systems have problems in these areas due to the fact that they are rarely designed as an integrated organization from the beginning.

2.07.3.4 *International Lean case studies.*

The majority of Lean improvement that has taken place in health care and in each of the international case studies profiled by Aherne and Welton (2010) is oriented toward the improvement of clinical processes. For example, Simon Dodds (in Aherne & Whelton, 2010) describes his improvement of the Rapid Access Process for a vascular surgery unit, and Carlos Pinto (in Aherne & Whelton, 2010) reviews his improvement in wait times at a medical oncology unit.

While Lean has been popular in clinical health care settings, its use in non-clinical settings is much less common. In particular, any report of a Lean evaluation of health care complaints management is yet unpublished. While there is certainly no prohibition on using Lean methods for organizational or work flow improvement in a non-clinical role, its techniques are more easily adapted to a situation where there is a strong organizational work flow, and where a process uses multiple stages provide a service or final product to a client. As will be described in detail below, a complaints management system does have these characteristics, and there is a record of effective improvement using Lean methods.

2.07.3.5 Lean and complaints resolution.

To date, there have been two separate publications of Lean evaluation and improvement processes conducted within non-healthcare complaints management systems. The overall structure, approach, and elicited results of these evaluations provide valuable precedent for this research. In 2010, Pooyan Yousefi-Fard conducted a Lean evaluation of the stakeholder complaints management strategy for a post-secondary education institution,

including an RPIW. In 2011, Ad Esse Consulting Ltd. was contracted to conduct a RPIW event for A2Dominion (a U.K. housing conglomerate)'s customer complaints process. Yousefi-Fard's (2010) RPIW was conducted to help the university improve its accessibility and responsiveness to complaints, and subsequently improve customer satisfaction. Yousefi-Fard (2010) determined that accessibility and responsiveness were related to the way complaints flowed through the existing process, and invited students and staff with student service roles to participate in the RPIW. The results indicated that a great deal of waste resulted from the lack of established complaint procedures and a faltering organizational commitment to complaints resolution. The results of the RPIW suggested improving the organizational culture to place value on complaints management, and developing a standardized Customer Service Charter that addresses steps for complaints resolution. In addition, Yousefi-Fard (2010) recommended further procedural support to maximize value and quality through the creation of time frames and progress reports, and the completion of monthly customer service review reports.

In 2010, A2Dominion, a British housing conglomerate, experienced a major disruption to its housing repairs service after its contracted service provider entered receivership. Faced with a resulting average of over 200 complaints per month, A2Dominion contracted Ad Esse to apply Lean improvement techniques to achieve a more streamlined and efficient complaints process. Ad Esse (2011) conducted an RPIW consisting of: 1) current state planning; 2) future state design; and 3) implementation planning.

The Ad Esse (2011) RPIW resulted in a reduction of steps in the A2Dominion complaints process from 34 to 12, and clearly defined structure, purpose, and individual roles for its workers. This new process subsequently effected a 40% reduction in repairs-related complaints, a 64% reduction of the complaints backlog volume, and an increase in client satisfaction with the complaints process from 25% to 86%.

While these two final two reports of RPIW events were not conducted in a healthcare setting, they do demonstrate how Lean improvement techniques have been successfully used in complaints management frameworks. Combined with the above summaries of Lean's implementation into the healthcare field, it becomes clear that this research and improvement event is both warranted, and indeed possible to carry out. The following section details the research design and methodology.

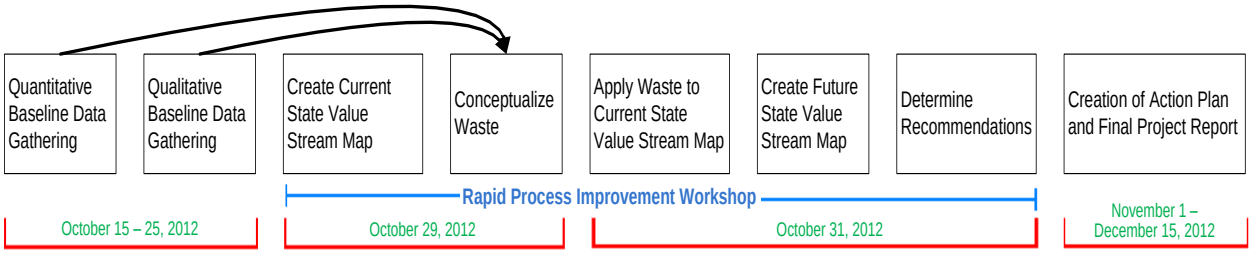
3.0 Research Design

This section contains a visual overview of the research design, portraying each sequential stage in relation to actual dates and overall process. Following the diagram is a detailed description of the application of the Lean improvement methodology, and a description of the identity of the research participants. Following the Methodology sub-section, a summary is provided of the research ethics approvals that were sought from the Vancouver Island Health Authority and the University of Victoria. This section concludes with a comprehensive overview of the theoretical considerations and practical actions taken to complete the data analysis stage of the research.

3.01 Research Stages

This research was carried out in multiple stages, over a two-month period. The stages are sequentially presented in Figure 3. The first stages consist of qualitative and quantitative baseline data gathering. These are followed by the Rapid Process Improvement Workshop, within which the current state value stream mapping, conceptualization of waste, future state value stream mapping, and determination of recommendations takes place. The Rapid Process Improvement Workshop is followed by a six week period when the recommendations are crafted into formalized action plans and integrated into the aforementioned two final project reports; one for the University of Victoria and one for the Vancouver Island Health Authority.

Figure 3. Research Stages



3.2 Methodology

In accordance with the above diagram, this sub-section will describe each stage of the research with regards to the Lean methodology and any other applicable methodologies for data gathering or analysis.

3.02.1 Participants.

The RPIW participants are PCQO team members and program-level care reviewers. All participants are VIHA employees, and are involved in the management of care quality complaints. The specific PCQO team positions include one Program Assistant, five Patient Care Quality Officers and one PCQO Team Leader. The specific care reviewer positions include Director, Medical Director, and Physician Site Chiefs from various clinical program areas within VIHA.

In addition to the contributions of human subjects, quantitative baseline data is extracted from the PQCO's internal records management system; Patient Safety and Learning System (PSLS). The data extracted from PSLS was originally entered by PCQO team members; these are the same team members that participate in this research as human subjects. No other data was used for this research.

3.02.2 Baseline data gathering.

Quantitative and qualitative baseline data was gathered to provide information about the PCQO complaints management framework in its current state. Quantitative baseline data was drawn from the Patient Safety and Learning System (PSLS). Qualitative baseline data was gathered through 1-hour pre-RPIW private interviews with the 14 RPIW participants.

3.02.2.1 Quantitative baseline data.

Quantitative baseline data was gathered to determine the quantitative value of activities in the current state and future state value stream. Specifically, PSLS data was used to determine PCQO team members' compliance with Patient Care Quality Review Board Act (2008) legislated and PCQO internal timelines for different stages of the complaints management framework. Each complaint file in PSLS contains a documentable date chain; this date chain is initially blank, and each date is filled in by PCQO team members as a file progresses through each successive stage of the complaints management framework. Timeline averages consist of the mean amount of days between the completion of one stage and a subsequent stage, as documented in PSLS by PCQO team members. A data set of all PCQO complaints from an eight month time frame was obtained from PSLS, from which completion time averages for each stage of the complaints management framework were extrapolated. The resulting number of business days between each successive stage indicates the amount of business days that the file remained at each particular stage.

A new PSLS Data Standard was implemented within the PCQO on October 1, 2012. In order for the baseline quantitative data to be comparable to the follow-up quantitative data that will be collected in future evaluations, the baseline data set has been edited to ensure consistency with the new standards.

The original data set consisted of all client files received and closed by the PCQO from January 1, 2012 to August 31, 2012. Requests for Information, Requests for Assistance and Compliments were removed from the data, as these types of files do not populate a date chain in PSLS. In addition, selected outlier data has been excluded from timeline averages as it is difficult to determine whether this data is the result of PCQO performance or inconsistent documentation.

The remaining data used to create this report consists of 469 care quality complaints; 57 of which proceeded through every stage of the complaints management framework. These average timelines can be compared to the PCQO's legislated and internal timelines to determine a rate or percentage of compliance.

3.02.2.2 Qualitative baseline data.

Interview participants were chosen via purposive criterion sampling, a method in which cases that meet a pre-determined criterion of importance are deliberately selected by the researcher (Patton, 2002). Participants were carefully selected in order to provide specific insight into the PCQO complaints management framework. Criterion sampling is commonly used in quality assurance efforts, and was necessary for this particular research due to the specificity of the program that is being evaluated. The criteria of importance for the selection of participants included 1) direct involvement in the PCQO complaints management framework; 2) involvement with the program-level care review process; 3) a defined quality improvement job duty or a demonstrated willingness to partake in quality improvement initiatives; and 4) sufficient availability to attend and participate in the entire Rapid Process Improvement Workshop.

In the semi-structured open ended interviews, each participant was asked the same ten standardized questions[9] relating to the PCQO complaints management framework. Concurrent with a semi-structured style (Whiting, 2008), these questions were open-ended in nature, and were asked personally and verbally, inviting participants to respond with narrative and detailed story. The open-ended nature of the interview is defined by any discretionary open-ended prompts or elaborating questions that could be asked by the researcher (Monroe, 2010). As these interviews were private, the risks associated with non-response and the influence of social desirability was greatly decreased in comparison to the group setting of the RPIW. Barriball and While (2004) support the importance of addressing these two risk factors when an interview is semi-structured, as participants are not as strongly prompted to answer every question in a strictly controlled environment.

In addition to the risks identified by Barriball and While (2004), the other principal consideration for which private interviews were selected was the potential for participants to be uncomfortable with full disclosure during the group-format RPIW. In order to give participants an opportunity to contribute opinions fully, two of the private interview questions prompted for any information or concerns that a participant may not feel comfortable sharing in a group. Participants were assured that the responses to all interview questions would be presented in a strictly non-identifiable manner.

3.02.3 Rapid Process Improvement Workshop (RPIW).

The Rapid Process Improvement Workshop (RPIW) is the action phase of a Lean evaluation. Modeled on a Japanese manufacturing doctrine called *kaizen*, or "continuous improvement" (Vinodh, Arvind, and Somanaathan, 2011, p.470), RPIWs engage process users to collaboratively map the current chain of events, test the chain in action, measure effectiveness, and take action to improve the chain for the next cycle. The following sub-sections describe the specific RPIW stages that were undertaken for the PCQO's Lean improvement.

3.02.3.1 Current state value stream mapping.

[9] Interview questions are included as Appendix J.

On day one of the RPIW, participants (PCQO team members and program-level care reviewers) worked together through focus group-style consultation to create a current state value stream map. Each team member and care reviewer contributed to a stage and step-based visual representation of the complaints management framework as they experienced it from their working role. The author of this report, acting as the researcher and facilitator, assisted the group with their use and application of the Lean improvement methods and the value stream mapping processes. This current state value stream mapping process resulted in a stage-by-stage process map with corresponding timelines for each particular stage.

3.02.3.2. Identification of waste and future state value stream mapping.

After creating the current state value stream map, the facilitator (this author) assisted RPIW participants in identifying waste[10] and non-value-added activity, using Womack and Jones' (1996) eight types of waste[11].

The future state value stream mapping process took part on Day Two of the RPIW. The facilitator assisted participants in designing a new value stream that maintained the same output and value-added actions while avoiding the non-value-added activity and waste that had been identified in the current state. Qualitative and quantitative baseline data was consulted to assist participants in their reformulation of value-added and non-value-added stages and processes. The future state value stream that was produced during the PCQO RPIW is included in Section Four of this report[12].

3.02.4 Evaluation and recommendations.

On Day Two of the Rapid Process Improvement Workshop, participants were tasked with the formulation of detailed final recommendations that would affect the implementation of the future state value stream. The recommendations are included in Section Five of this report. It is notable that during the period between the end of the RPIW and the beginning of the implementation of recommendations, the PCQO will continue to work within the current state framework. While the future state value stream is often implemented immediately after completion in many Lean improvement projects, the PCQO future state will be tested as a single program pilot before being fully implemented throughout the Health Authority.

3.03 Possible Limitations or Anticipated Problems

It is important to establish a value stream that is exclusively related to the PCQO complaints management framework. Input regarding streamlining or evaluation of related processes or VIHA programs can be taken into account for future research or evaluation. The researcher was careful to ensure that input from PCQO team members and care reviewers is relevant to the complaints management framework.

3.03.1 Hitting the moving target.

[10] The identified waste is included as Appendix F.

[11] The DOWNTIME chart used to map waste is included as Appendix C.

[12] Pictures from the RPIW are included in Appendix I.

As the PCQO remained fully operational during this evaluation, PCQO team members and care reviewers may have been tempted to make small changes to the process as they regularly identified inefficiencies or came across problems through their regular working duties. These small changes[13] were acknowledged by the researcher and negotiated to ensure alignment with the larger scale goals of the evaluation. The decision to identify and acknowledge potential factors that may influence the effectiveness of the evaluation is supported in literature by Daniel Druckman's (2005) writings on interventions as moving targets in his book *Doing Research: Methods of Inquiry for Conflict Analysis*.
In his review of "moving targets" (2005, p.303), Druckman recommends that "intervenors (*sic*) must adjust their strategies to circumstances… [and] progress can, however, be made by…reducing the number of factors thought to have substantial impacts on the effectiveness of an intervention" (p. 303). In addition to noting minor changes that occurred during the RPIW period, and in line with Druckman's (2005) recommendations, a defined stabilization period (i.e. no procedural changes) was implemented within the PCQO during the Rapid Process Improvement Workshop to ensure that participants and the researcher could accurately analyze the complaints management framework in a stable current state.

3.04 Ethical Considerations

Application for ethical approval was submitted to the University of Victoria (UVic) – Vancouver Island Health Authority (VIHA) Joint Research Ethics Subcommittee, and the University of Victoria Human Research Ethics Board. The researcher was informed that the proposed research does not fall within the UVic/VIHA Joint Subcommittee's scope of review[14]. The University of Victoria HREB Certificate of Approval was issued on August 2, 2012[15].

3.05 Methods of Data Analysis

This sub-section describes the methods used to analyze the quantitative baseline data and qualitative baseline data, determine waste during the Rapid Process Improvement Workshop, and to create the current state and future state value streams.

3.05.1 Qualitative baseline data analysis.

The 14 participants took part in private interviews with the researcher prior to the Rapid Process Improvement Event. The interview consisted of a standardized format with two main parts. Part one consisted of ten open-ended questions about participants' perception of waste and non-value-added activity in the PCQO complaints management framework, and Part two consisted of an open discussion about complaints management that was intended to give the participants an opportunity to ask any outstanding questions or make any additional suggestions that they might not feel comfortable discussing in the group format

[13] Some small changes noted by the researcher included two PCQO team members exchanging roles (without any changes to the roles themselves) as well as the implementation of standardized definitions for data entry and data integrity with the Patient Safety and Learning System (PSLS) database.
[14] Documentation from the VIHA Ethics Coordinator is included as Appendix B.
[15] The Certificate of Approval is included as Appendix A.

of the RPIW. The researcher documented participants' responses electronically and used content analysis to elicit Raw Data Themes and Higher Order Themes.

The selection of an appropriate method of content analysis involved a careful review of the research objectives and characteristics, with the intention of ensuring a methodical and reliable search for common themes and trends in the interview data. In order to ensure that the method of content analysis was most appropriate for the raw interview data, methodological distinctions were made between inductive and deductive content analysis, conventional, directed, and summative content analysis, as well as qualitative and quantitative analysis.

A consideration of Satu Elvo and Helvi Kyngäs' 2007 article, *The Qualitative Content Analysis Process* yielded a clear indication that an inductive content analysis would be most appropriate for the interview data. As the private interviews were conducted without preconceived knowledge of potential response types, categorization of themes was completed afterward, as opposed to a deductive method where interview responses would have been sorted into predetermined categories (Elvo & Kyngas, 2007). In addition, Hsiu-Fang and Shannon (2005) assisted in confirming that the Conventional style of content analysis, where categories are derived directly from the text data, would be preferential over a Directed or Summative style of content analysis. These latter methods, by directing analysis in relation to preconceived categories and terms, would not have been useful or possible with an open-ended and inductive interview style. One final consideration in the selection of a content analysis method was whether to use a Qualitative or Quantitative style of analysis. In quantitative content analysis, the frequency of predefined key terms is systematically counted, with a coding scheme defined in relation to a hypothesis (White & Marsh, 2006). This method is commonly used with deductive content analysis, and thus, concurrent with the reasoning above, would not be appropriate for this research. White and Marsh (2006) also review the Qualitative style of content analysis, where, most appropriately for this research, potential themes arise from a careful inductive review of data, with purposeful and iterative identification of significant concepts and patterns. The principal distinction of the decision to employ an Inductive, Conventional, Qualitative content analysis style is that the interviewer had no preconceived notion of what types of waste or non-value added-activity might be identified in the interviews. Therefore, analyzing the content solely in consideration of the elicited data provides the most transparent and accurate results.

In line with an Inductive Conventional Qualitative content analysis style, the responses of interview participants were recorded as a continuous text file, organized only in relation to the ten standardized questions. Multiple Raw Data themes were categorized through careful consideration and close reading; these Raw Data themes were sorted into six Higher Order Themes. In Qualitative content analysis, the categorization of themes is not an exact process, as patterns, key words, phrases, and themes emerge over time in relation to close reading and detailed review (United States Foreign Assistance, 2012).

3.05.2 Quantitative baseline data analysis.

The methods of data analysis for the quantitative baseline data are limited to basic measures of central tendency with the timeline data. Frequencies of complaints in different Health Authority program areas can be extrapolated from PSLS, and timeline data for complaints management framework stages can be accessed for each particular complaint file. As previously mentioned, selected outlier data was excluded from timeline averages in order to better align the contents of the data set with the PCQO's reformulated Data Standards. The red text indicates the Patient Care Quality Review Board Act (PCQRBA) legislated timelines and the PCQO internal timelines. The following outlier data was excluded from the original data set:

Table 2
Excluded Quantitative Data

Category	**Excluded Values**	**Relevant Timeline**
Days from 'received[16]' to 'acknowledged[17]'	>9	PCQRBA timeline= 2
Days from 'acknowledged' to 'actioned	>9	PCQO timeline = 5
Days from 'actioned' to 'response[18]'	>15	PCQO timeline = 5
Days from 'actioned' to 'holding[19]'	>50	PCQO timeline = 30
Days from 'actioned' to 'replied[20]'	>90	PCQRBA timeline= 40

Timeline averages consist of mean days between the completion of one stage and a subsequent stage, as documented in PSLS by PCQO team members. This data can be directly compared to follow up data (which can include the same exclusions) to document any changes or improvements to timelines as a result of the Rapid Process Improvement Workshop[21]. The collection and analysis of follow-up data is not part of this research, but is included in the final recommendation.

[16] Date file received by PCQO.
[17] Date PCQO acknowledges complainant of receipt of file.
[18] Date PCQO sends review form to program level.
[19] Date PCQO receives review findings from program level.
[20] Date PCQO sends final response to complainant.
[21] The data set used to calculate time frame averages is included as Appendix D.

4.0 Findings

This section presents the research results. A detailed summary will be given of the quantitative and qualitative baseline data that was gathered via the structure and methods described above, followed by the results of the value stream mapping and waste identification processes.

4.01 Qualitative baseline data summary.

In the same manner as the quantitative baseline data, the qualitative baseline data was presented to participants at the beginning of the RPIW, for their consideration in the identification of waste[22].

The Raw Data Themes were noted as they were addressed in the future state value stream mapping process. The Higher Order Themes are presented in the following list[23].

4.01.1 Higher order themes.

1. Waste is prevalent in the complaints management framework.
2. Complaints management can be made easier.
3. Information sharing and collaboration can be optimized.
4. Measurement and data analysis can help.
5. Value needs to be created for the complainant.
6. Value needs to be created for the complaint recipient.
7. Stakeholders need to work together for improvement.

4.02 Quantitative baseline data summary.

Table 3 presents the quantitative baseline data with regards to the PCQO's compliance with legislated response timelines (Patient Care Quality Review Board, 2008) and internal standards. The data include care quality complaints received and closed by the PCQO between January 1, 2012 and August 31, 2012.

Table 3

PCQO Timeline Compliance in Business Days

Complaints Management Framework Stage	**PCQO/*PCQRBA* Timeline**	**PCQO Mean Completion**	**Compliance %**
Received - Acknowledged	2	2.3	+15%
Acknowledged - Actioned	5	3.6	-28%
Actioned - Response	5	5.6	+12%
Actioned - Holding	30	27.7	-7%
Received - Acknowledged	40	50.6	+27%

[22] See RPIW pictures in Appendix I.

[23] A complete transcript of the Higher Order Themes and Raw Data Themes is included in Appendix E.

4.03 Current State Value Stream Map Summary

In Figure 4, different stages of the complaints management framework are represented by blue headers, and different steps by individual boxes. Estimated time frames are indicated in red text. The red box summarizes the number of stages and steps in the value stream map and reviews the quantitative baseline data in relation to the stages. To demonstrate the 'leaner' appearance of the future state value stream, both current state and future state value streams are presented adjacently, as a conclusion to this section.

4.04 Identification of waste.

Participants identified waste in the current state value stream in accordance with the DOWNTIME waste modeling process. The waste and non-value-added activity that was most frequently identified in the pre-RPIW interviews, as well as by participants during the RPIW, is documented in a series of tables that identify waste in accordance with its location in each stage of the complaints management framework.

4.04 Future State Value Stream Map Summary

Participants decided that the Acknowledgement and Intake[24] stages would be best redesigned during a future Lean improvement process, so that the RPIW could be used to address the parts of the complaints management framework that contained the most waste. The future state map in Figure 5 follows the same format as the current state map; however, time frames are estimated in relation to new deadlines conceptualized by participants. Actual time frames for the completion of future state stages will be determined through the gathering of follow-up baseline data. Estimated improvement can be determined by comparing the data in the red boxes at the end of each value stream.

[24] These stages are shaded in red.

Figure 4. Current State Value Stream Map

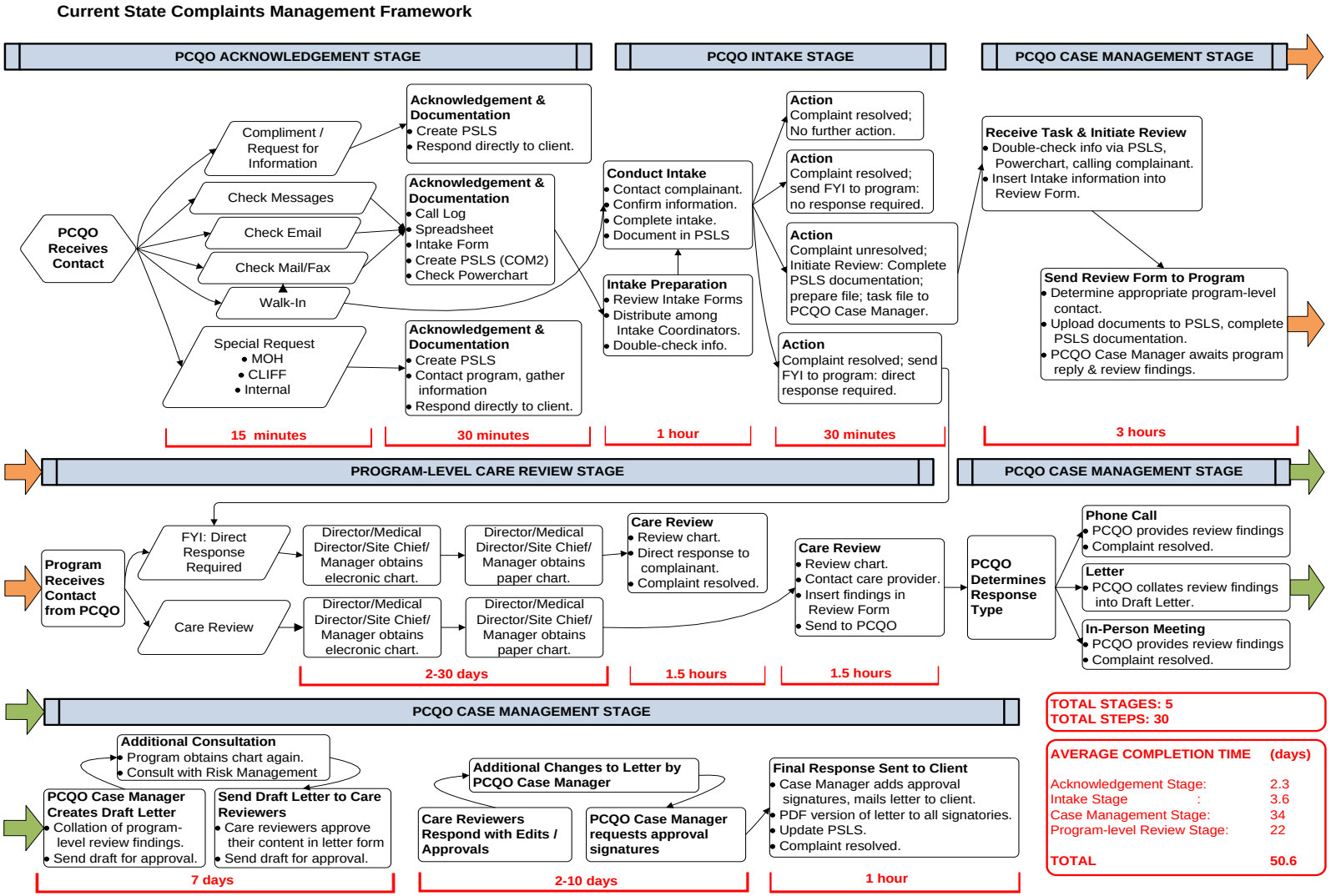
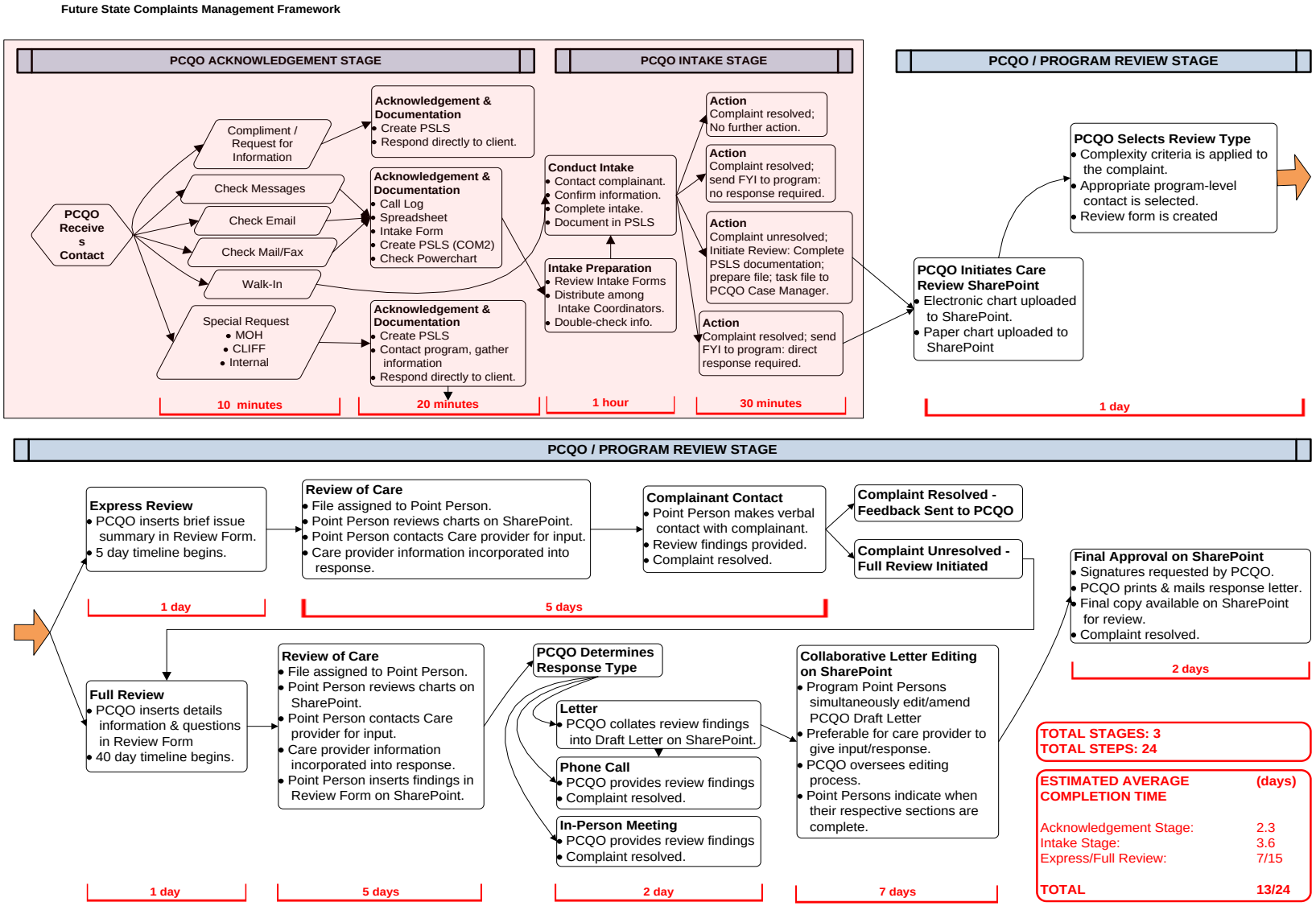


Figure 5. Future State Value Stream Map



The presentation of baseline data and Rapid Process Improvement Workshop data concludes Section Four of this report. As mentioned in the Methodology sub-section, participants concluded the RPIW with detailed recommendations necessary for the implementation of the future state value stream. These recommendations must be adhered to by VIHA and acted on in a timely manner in order to achieve the expected successful outcome of this Lean improvement process.

5.0 Recommendations

In order to implement the future state value stream, 15 recommendations must be completed by the PCQO in the indicated sequential order. Time frames are not included due to several recommendations' requirement for consultation and partnership with external stakeholders; it is too difficult to assign a timeline when the availability of external resources is unknown. In addition, the viability of many recommendations depends on the sequential completion of prior recommendations. If a recommendation is implemented late due to circumstances beyond control, the subsequent effect on the timeline of each sequential recommendation would be exponential.

5.01 Designate a PCQO Lean Project Manager

The PCQO should designate a Project Manager to be responsible for implementing recommendations. The Project Manager should have the ability to make contact and work with both internal and external stakeholders named throughout the recommendations. The Project Manager should lead and coordinate the involvement and contributions of participants in the recommendation implementation process. The Project Manager should be the primary contact for the PCQO Lean improvement process, and should regularly consult with internal and external stakeholders, program-level leadership, and executive leadership, when necessary. The Project Manager should provide regular progress reports to stakeholders, project sponsors, and internal leaders.

5.02 Improve the Acknowledgement-Intake Process

At the beginning of Day Two of the RPIW, participants (correctly) determined that there was not enough time to create a future state value stream of the entire complaints management framework. As indicated in the value stream maps above, RPIW participants chose to append the Acknowledgment and Intake stages of the complaints management framework to a future Lean improvement process.

This recommendation requires that PCQO team members complete a future state value stream of the Acknowledgement and Intake stages, as soon as possible. The PCQO Lean Project Manager should be responsible for the organization and facilitation of this process. PCQO team members involved in the Acknowledgement and Intake process should be kept informed of the Project Manager's progress in scheduling and conducting the future state value stream mapping process. Regular updates will maintain motivation and confidence that this portion of the Lean improvement remains an important priority.

5.03 Enable PCQO to Obtain the Patient's Medical Chart

One of the most consistently identified waste points was the time that it takes for program-level care reviewers to obtain and review a patient's medical chart. Reviewing the patient's chart is essential for obtaining the medical and care-related information that is passed on to the PCQO via the care review form. In the current state, PCQO team members cannot access the detailed records of a patient's medical chart. The program-level care reviewers can access the electronic portion (diagnostic test results, admission and transfer information) of a chart however they must attend the Health Records office of a care

facility, in person, to access the paper portion (nursing notes, physician notes, and vital signs).

During the RPIW, participants stated that if the medical chart was attached to a review form when they received it from the PCQO, they would be able to complete care reviews up to 15 days faster. It is recommended that the PCQO establish a process for obtaining the patient's medical chart upon initiation of a review; this process would see the PCQO include the medical chart with the review form before sending it to the program.

The PCQO should engage in consultation with VIHA Health Records in order to determine a method for PCQO access to electronic and paper versions of medical charts. For both versions of the chart, PCQO team members' ability to access documentation as non-direct care providers must be approved by VIHA Information Stewardship, Access and Privacy (ISAP). This access should be justified and requested through the use of VIHA's internal Privacy Impact Assessment (PIA) and Security Assessment processes.

5.04 Create a PCQO Care Review SharePoint

A significant waste point identified repeatedly in the pre-RPIW interviews and during the actual RPIW is the constant transfer and handover of documents and information between different stakeholders in the care review process. PCQO team members constantly contact program-level care reviewers to send review forms, complete care reviews, return review findings, and to edit and approve final response letters. In the current state, this is done via email and phone conversation, resulting in multiple versions of documents and many copies of similar and dissimilar documents being distributed to multiple stakeholders. The consequential waste is evident as duplication, over-production, and extra-processing.

During the future state value stream mapping process, participants created the recommendation that the care review process be completed on a universally accessible SharePoint site. This SharePoint should contain the patient's medical chart (as per Recommendation #3) and be a central location for completing the PCQO review form and final response letter. PCQO team members should upload a completed review form to the SharePoint, and grant access to the appropriate program-level care reviewers. These care reviewers should then review the medical chart, and write their review findings directly on the review form. Once review findings have been entered by all care reviewers, the PCQO case manager should create a draft letter and upload it to the SharePoint; granting the same access permissions as the review form. Program-level care reviewers should then review their review findings and make any necessary edits, leaving the PCQO case manager with a completed draft letter. The PCQO case manager should request that care reviewers approve the letter and add electronic signatures. After an amount of time determined in consultation with VIHA ISAP, the PCQO should then destroy the patient's medical record.

Creation of the PCQO SharePoint should be completed in consultation with VIHA ISAP and the VIHA Quality Research and Safety (QRS) portfolio. QRS currently operates a SharePoint that contains patient identifiable information; this SharePoint should be reviewed as a potential template for the PCQO SharePoint.

5.05 Establish Complexity Criteria for Triaging Complaints

The single most distinguishing characteristic of the future state value stream map is the 'two-tier' system for completing a program-level care review. For those complaints that are not resolved at intake, instead of always initiating a 40-day legislated full review process, the PCQO case manager should determine whether a complaint can be resolved through an express review or full review.

Express review complaints will be less complex in nature, and should be resolved by a chart review, connection with the care provider, and verbal response to the complainant. Full review complaints are more complex in nature, and can only be resolved through a comprehensive care review.

In order to determine whether a complaint should receive an express or full review, a complexity criteria survey should be applied to the complaint by the PCQO case manager and program level-care reviewer. This complexity criteria survey should consist of a series of questions, whose responses can then be coded into a numeric point system. A predetermined amount of points should route a complaint to either express or full review. Question responses (factors) that add complexity should be assigned more points, and factors that do not add complexity should receive less.

The specific questions that form the complexity criteria should be determined through consultation with PCQO team members and program-level care reviewers. This consultation should take place as a focus group, guided by the PCQO Lean Project Manager who should also responsible for creating and implementing the complexity criteria survey, and using quantitative timeline data from PSLS to longitudinally evaluate its accuracy.

5.06 Create SharePoint Care Review Forms

Once the PCQO SharePoint has been activated, a number of forms and templates must be created to enable PCQO team members and program-level care reviewers to work collaboratively on the same complaint file.

The express review care review form should consist of a template to which information can be added by the PCQO case manager and the program-level care reviewers. In the case of an express review, the form should contain demographic information, a brief summary of the complaint issue, and a "not appropriate for express review" confirmation box. Once the program-level point person has completed a care review, they should update the review form on SharePoint with either a summary of the review findings and direct resolution attempt, or they should mark the file as "not appropriate for express review", at which point the file should proceed to a full review.

The full review care review form should contain detailed demographic information, a more detailed summary of the background and context of the complaint, as well as specific questions to which program-level care reviewers must respond. After reviewing the chart and speaking with the direct care providers, the point person should write the review findings (as a response to the questions) directly into the SharePoint review form.

A template of both express review and full review care review forms should be created through consultation with PCQO team members and program-level care reviewers. These review forms should be modeled on the current state review form.

5.07 Establish Express Review Process

Once a PCQO case manager determines, through the application of complexity criteria, that a complaint file should process to express review, they will complete the review form, upload it to the SharePoint and grant the necessary access permissions.

Once the point person has gathered the necessary information through a review of the medical chart and consultations with physicians and other care providers, they should contact the complainant directly to provide the review information and attempt resolution. If successful, the point person should notify the PCQO that the complaint is resolved. The PCQO should then contact the complainant to confirm resolution and close the PCQO file. If the complaint is not able to be resolved through the express review process, it should be transferred to full review. As agreed by participants during the RPIW, the point person should complete an express review within five days of being notified by the PCQO.

5.08 Establish Full Review Process

Once a PCQO Case Manager has determined, through the application of complexity criteria, that a complaint file should process to express review, they should complete the review form, upload it to the SharePoint and grant the necessary access permissions. The PCQO Case Manager should use SharePoint to notify the program-level point person that a file has been activated for full review. The point person should then review the chart and contact the patient's care providers as they respond to the questions in the review form. Responses should be entered directly into the review form, and the care provider should always be given the opportunity to provide direct information and feedback. After the care review is complete, the point person should enter review findings into the review form (within five days) and notify the PCQO to draft a final response letter.

5.09 Draft Response Letters on SharePoint

In the current state, the PCQO case manager receives review findings via email from a point person or multiple program-level care reviewers. To facilitate the editing and approval process for draft letters, the draft letter should be written in a word processing document that is uploaded to the PCQO SharePoint. Once the PCQO case manager has completed the draft version, they should notify all program-level care reviewers who contributed content to that letter. RPIW participants agreed on a two day time frame for completing the draft letter.

5.10 Edit and Approve Response Letters on SharePoint

It is recommended that the review and editing process, instead of being completed through by email with multiple copies of the draft response letter, should be completed on the draft letter document on SharePoint. This document should be read and write-enabled, and each program-level point person should be able to review and edit their clinical information that has been amalgamated into letter form by the PCQO case manager.

During the RPIW, participants agreed that the time frame for program-level review and editing should be five days. In addition, it was agreed that the PCQO case manager should be responsible for managing the editing process and for notifying the program-level care reviewers when a document is open or closed for review and editing.

5.11 Involve the Care Provider in Care Review Process

Timely and direct consultation with care providers is an important component of the future state value stream. In both the express review and full review processes, consultation with the most responsible physician, other physicians, and other clinical care providers should be an essential and immediate activity in the care review process.

In the pre-RPIW interviews, and during the RPIW itself, participants consistently indicated that physician and care provider consultation often results in information that can be used to immediately resolve a complaint. Physicians and other clinical care providers should be personally consulted with during a care review, and should be given the opportunity to provide direct written or verbal information as part of a resolution effort. Care provider consultation should be undertaken and managed by the program-level point person.

5.12 Establish an Implementation Plan

Implementing the future state value stream map of the program level review process requires clear and detailed directions for both the PCQO and each VIHA program. The implementation plan should be consist of a project charter that clearly defines the future state value stream and how the recommendations will result in its implementation. This project charter should be created by the PCQO Lean Project Manager in consultation with leaders from QRS and PCQO. The project charter should be customized for each recipient or group of recipients.

The project charter and implementation plan should clearly indicate how the recipient's role in complaints management will change with the implementation of the future state value stream. It should also lay out a framework for how different players communicate in the new complaints management framework, and should delineate a hierarchical line of authority for process related questions and other consultation.

5.13 Initiate a Future State Pilot Project

The PCQO Lean Project Manager should implement the future state value stream as a new complaints management framework through a pilot project in a single VIHA program. The pilot style of implementation was conceptualized by RPIW participants; VIHA Emergency Services and Trauma Care volunteered as the subject program for the pilot project.

The PCQO Lean Project Manager should designate a three month period as the time frame for implementation and completion of the pilot project, during which follow-up data can be gathered. As stated in the Research Stages and Methodology sub-sections of this document, follow-up data should be gathered in the same manner as the baseline data, and a direct comparison of the two will indicate changes or improvements that can be associated with the implementation of the future state value stream. The follow-up data gathering and analysis process should be referred to as the Future State Pilot Project Outcome Evaluation.

The PCQO Lean Project Manager should work with VIHA Emergency Services and Trauma Care, using the above-mentioned implementation plan, to complete the pilot project. The pilot project should commence immediately following the completion of Recommendations #1-12. If the outcome evaluation indicates that the implementation of the future state value stream pilot resulted in quantitative and qualitative improvements, the PCQO Lean Project Manager should then work with all VIHA programs to achieve full implementation.

5.14 Collect Follow-up Data and Establish Data Collection and Reporting Processes

Qualitative follow-up data should be gathered through a series of short post-RPIW interviews with RPIW participants. The PCQO Lean Project Manager should design the interview questions to be as similar to the pre-RPIW interview questions as possible. Content analysis can elicit Raw Data and Higher Order themes from the qualitative follow-up data; these themes can be compared to the qualitative baseline data themes to determine changes.

Quantitative follow-up data should be collected with the same criteria as the quantitative baseline data; the data collection period should be for a minimum of six months following the start of the pilot project. Six months of data collection will establish a data pool that is comparable to the eight month data pool used to create the quantitative baseline data set. The resulting follow-up complaints management framework time frame averages should then be compared to the baseline data time frame averages to determine quantitative changes and improvements in the PCQO's time frame compliance.

The PCQO Lean Project Manager should design a data gathering and analysis methodology for the collection of follow-up data. The Project Manager should consult with the VIHA Research Ethics Board (REB) and submit any necessary applications for REB approval, prior to collecting data.

In addition, during both the pre-RPIW interviews and the RPIW process, participants indicated that they would benefit from additional and more comprehensive data reports. Participants iterated that results-based data would be useful for determining the effect of clinical program improvements on the frequency and severity of complaints. Detailed timeline data could help programs further streamline their internal processes to complete responses to complaints more quickly. Complaint subject trend data would enable programs to target specific areas for improvements, based on the complaint frequency. In addition, similar types of data for compliment files would enable programs to identify quality and recognize excellence.

The PCQO Lean Project Manager should work with the PCQO to design a more comprehensive data gathering and analysis process, with continuing use of the Patient Safety and Learning System data tracking program. This new process should result in a more detailed data reporting capacity. The specific methods for data gathering should be determined by the PCQO in consultation with the program-level leaders who would receive the new reports.

5.15 Measure Client Satisfaction

RPIW participants agreed that after a complaint file is closed, the PCQO should contact its former client to determine the extent to which the complaints management framework added value and met their expectations.

The PCQO Lean Design Project Manager should work with PCQO team members to develop the framework for measuring client satisfaction. This framework should include a research proposal, including a methodology for data gathering and analysis. The development of a client satisfaction survey will require consultation with the VIHA Research Ethics Board. The implementation of this recommendation can be undertaken immediately as the gathering of baseline survey data will not affect the outcome of the PCQO Lean improvement project.

6.0 Conclusion

The implementation of the 15 recommendations is integral to the successful outcome of this project. Once the future state value stream is implemented, the collection of follow-up data will provide quantitative and qualitative evidence of changes and improvements to the PCQO complaints management framework. As a conclusion to this report, a summary of the projected benefits of this research is provided. Beneficiaries include the RPIW participants, other VIHA employees involved in the management of complaints, PCQO clients, and the state of knowledge for health care complaint resolution in British Columbia and Canada.

6.01 Projected Benefit to RPIW Participants

Consistent with the theoretical concepts of action-oriented research (Whyte, 1989, Patton, 2002), and the central characteristics of Lean (Womack & Jones, 2003, Graban, 2012), the Rapid Process Improvement Workshop participants effected their own benefit through participation in this research. As has been previously mentioned, all data collected by the researcher is the product of the participants. The quantitative baseline data, the themes from the pre-RPIW interview data, and the current state and future state value streams: all of this data was created by participants for the sole purpose of improving the PCQO complaints management framework.

As all RPIW participants are intricately and deeply involved in the resolution of complaints for VIHA, they will serve as the most direct beneficiaries of any and all improvements that result from the PCQO Lean improvement process. In addition, the actual practice of creating current state and future state value stream maps in the group setting provides an invaluable benefit. For all RPIW participants, knowing to the fullest extent "where we are now" facilitates a concerted effort of moving forward to the (now equally well-understood) "where we want to be". This mutual understanding fosters transparency, and creates the team dynamic and group focus that is essential for the continued efforts needed to the implement recommendations and create a culture of continuous improvement.

The recommendation to collect follow-up data, and establish additional data collection and reporting processes will enable the benefits to RPIW participants to be quantitatively and qualitatively defined.

6.02 Projected Benefit to VIHA Employees Involved in Complaints Management

Whether the efficiencies of a more efficient and effective complaints management framework can be quantified as time frame improvements or frequency reductions, or whether they can be qualified through reports of higher morale and a greater understanding of the PCQO process, anyone with a complaints management function should benefit from the implementation of the recommendations in this report. In addition, the practice of documenting each stage and action in the complaints management framework will foster the level of transparency and mutual understanding that participants need to work together effectively. Understanding not only their own role in complaints management, but the roles

of those that they work with will enable an undeniable latent improvement on teamwork and collaboration for the complex and interrelated framework of process stakeholders.

6.03 Projected Benefit to PCQO Clients

Increasing value for the PCQO client (the complainant) is a central tenet of this research. In line with the most central concept of the Lean improvement methodology, value for the customer is one of the most important considerations that process improvement participants must make (Graban, 2012, Womack & Jones, 2003). This consideration was continually identified during the data gathering portions of this research, and reflections on value for the client were frequently noted during the pre-RPIW interviews and RPIW itself.

6.04 Projected Benefit to the State of Knowledge

This research serves as a precedent for the application of Lean improvement methods to health care complaint resolution systems. Previous research on this subject is yet unpublished. In British Columbia, each health authority adheres to a legislative requirement to operate Patient Care Quality Offices (Legislative Assembly of British Columbia, 2008). Improvement and optimization of the methods for complaints management within the Patient Care Quality Office can serve as a valuable model for evaluation and improvement projects within the other health authorities.

In jurisdictions where complaints management processes such as a PCQO are not a legislated requirement, care quality complaints, while constituting organizational risk, still serve as a valuable opportunity for organizations to improve client satisfaction and quality of care. Presenting care quality concerns to clinical programs and direct care providers as a learning opportunity can also lead to a direct and immediate improvement in services. While these aforementioned actions create a clear benefit for health care organizations and health care providers, allocation of resources must always be balanced with clinical needs to provide direct care. Therefore, the maintenance and continuous improvement of complaints management processes should be an important priority for all health care organizations. The structure of this research provides a valuable transferable framework for those organizations and for the improvement of quality in healthcare everywhere.

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Appendices

A. University of Victoria Human Research Ethics Board Certificate of Approval

Figure A1: Certificate of Approval

University of Victoria

Human Research Ethics Board
Office of Research Services
Administrative Services Building
PO Box 1700 STN CSC
Victoria British Columbia V8W 2Y2 Canada
Tel 250-472-4545, Fax 250-721-8960
Email ethics@uvic.ca Web www.research.uvic.ca

Certificate of Approval

PRINCIPAL INVESTIGATOR	Benjamin Brzezynski	ETHICS PROTOCOL NUMBER	12-290
UVic STATUS:	Master's Student	ORIGINAL APPROVAL DATE:	01-Aug-12
UVic DEPARTMENT:	PADM	APPROVED ON:	01-Aug-12
SUPERVISOR:	Dr. Lyn Davis	APPROVAL EXPIRY DATE:	31-Jul-13

PROJECT TITLE: **Managing Care Quality Concerns at the VIHA Patient Care Quality Office: A Lean Evaluation**

RESEARCH TEAM MEMBERS: None

DECLARED PROJECT FUNDING: None

CONDITIONS OF APPROVAL

This Certificate of Approval is valid for the above term provided there is no change in the protocol.

Modifications
To make any changes to the approved research procedures in your study, please submit a "Request for Modification" form. You must receive ethics approval before proceeding with your modified protocol.

Renewals
Your ethics approval must be current for the period during which you are recruiting participants or collecting data. To renew your protocol, please submit a "Request for Renewal" form before the expiry date on your certificate. You will be sent an emailed reminder prompting you to renew your protocol about six weeks before your expiry date.

Project Closures
When you have completed all data collection activities and will have no further contact with participants, please notify the Human Research Ethics Board by submitting a "Notice of Project Completion" form.

Certification

This certifies that the UVic Human Research Ethics Board has examined this research protocol and concluded that, in all respects, the proposed research meets the appropriate standards of ethics as outlined by the University of Victoria Research Regulations Involving Human Participants.

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B. Vancouver Island Health Authority Research Ethics Board Letter

Figure B1. VIHA Research Ethics Board Letter

Lynn Cummings, Nursing Research Facilitator,
Chair of Health Research Ethics Board
Vancouver Island Health Authority
1952 Bay Street, Victoria, British Columbia, V8R 1J8

June 25, 2012

Benjamin Brzezynski
Co-op Student
Patient Care Quality Office
Vancouver Island Health Authority
1952 Bay Street, Victoria, BC V8R 1J8

Dear Ben:

I am writing to confirm that at our meeting on June 7th, we discussed your co-op project commissioned by Laura Nielsen, Director, Quality and Patient Safety and concluded that the project was a quality improvement project serving both Vancouver Island Health Authority's (VIHA) objective to enhance organizational stakeholder participation in the current complaints management process while meeting the academic requirement for your Master's program in Dispute Resolution. It was agreed that your project met the Tri Council Policy Statement (2) definition of activities not requiring a Research Ethics Board (REB) review (Article 2.5, page 20) and therefore VIHA will not be reviewing your project. However, I understand from the University of Victoria (UVIC), that because your project is also for the purposes of satisfying an academic requirement, UVIC will be conducting an ethics review.

I would be pleased to offer any assistance that I can for your ethics review should you need it and all the best in your VIHA project and success in your academic endeavours.

Sincerely,

Lynn Cummings, Nursing Research Facilitator
Chair of VIHA Health Research Ethics Board

Research and Academic Development
Memorial Pavilion, KW133, 1st Floor, 1952 Bay Street, Victoria, BC V8R 1J8
Tel: 250-370-8356 Fax: 250-370-8106

C. DOWNTIME Chart

Figure C1. DOWNTIME Chart

Waste Type	Examples
Defects Doing something incorrectly; inspecting for or finding errors. Re-doing or re-checking work that has already been done.	
Over-production Doing more than what is needed by the client, or doing it sooner than is needed.	
Waiting Idle time created when people, information, equipment or materials are not available when needed.	
Non-utilized talent Staff not having the opportunity to create change. Staff not being used to the best of their abilities.	
Transportation Products or information moved further or more times than the minimum necessary to complete the process.	
Inventory Excessive, or not enough, product, supplies, or information needed to complete a stage or action.	
Motion Unnecessary movement of employees in the system. Any movement of bodies that does not increase value to the client.	
Extra-processing Activities that do not add value or are redundant from the client's perspective.	

D. Quantitative Baseline Data

ID	Interaction type	Date received	Ack. done	Received – Ack.	Actioned done	Ack - Action	Response done	Action - Response	Holding done	Action - Holding	Replied done	Action - Replied
17857	Complaint	12/29/11	12/29/11	1	01/06/12	5	01/06/12				01/06/12	
21944	Complaint	05/01/12	05/07/12	5	05/07/12	1	05/07/12		05/07/12		05/07/12	
25205	Complaint	05/24/12	07/27/12		08/01/12	4	08/01/12		08/02/12		08/02/12	
23252	Complaint	06/07/12	06/08/12	2	06/08/12	1	06/08/12		06/11/12		06/13/12	
18070	Complaint	01/08/12	01/09/12	1	01/10/12	2					01/23/12	
25549	Complaint	07/24/12	08/08/12		08/09/12	2	08/14/12	4	08/24/12	12	08/27/12	13
22255	Complaint	05/11/12	05/11/12	1	05/18/12	6	05/30/12	8	06/01/12	10	06/06/12	13
24033	Complaint	06/22/12	06/22/12	1	06/22/12	1	07/17/12		07/17/12		07/17/12	
18065	Complaint	01/09/12	01/09/12	1	01/12/12	4	01/25/12	10	01/25/12	10	02/09/12	21
22030	Complaint	05/03/12	05/04/12	2	05/10/12	5	05/18/12	7	05/29/12	13	06/11/12	22
17791	Complaint	12/22/11	12/23/11	2	01/03/12	5	12/30/11		01/27/12	18	02/07/12	25
21182	Complaint	04/10/12	04/12/12	3	04/23/12	8	04/30/12	6	05/30/12	27	05/30/12	27
21991	Complaint	04/16/12	04/24/12	7	05/01/12	6	05/01/12	1	06/06/12	26	06/07/12	27
20354	Complaint	03/23/12	03/23/12	1	03/23/12	1	03/30/12	6	04/16/12	16	05/02/12	28
20484	Complaint	03/20/12	03/29/12	8	04/12/12		04/20/12	7	05/10/12	21	05/28/12	32
17724	Complaint	12/20/11	12/30/11	7	01/03/12	2	01/03/12	1	01/03/12	1	02/17/12	33
19627	Complaint	02/28/12	03/05/12	5	03/06/12	2	03/21/12	12	04/23/12	34	04/23/12	34
19836	Complaint	03/05/12	03/07/12	3	03/13/12	5	03/30/12	14	04/30/12	34	04/30/12	34
19203	Complaint	02/16/12	02/16/12	1	02/23/12	6	03/19/12		03/26/12	23	04/11/12	34
20082	Complaint	03/16/12	03/16/12	1	03/16/12	1	03/20/12	3	04/13/12	20	05/04/12	35
19902	Complaint	03/02/12	03/09/12	6	03/12/12	2	03/14/12	3	05/01/12	36	05/02/12	37
24137	Complaint	06/27/12	06/28/12	2	07/04/12	4	07/09/12	4	07/24/12	15	08/28/12	40
22934	Complaint	05/29/12	05/29/12	1	06/04/12	5	06/19/12	12	07/31/12	41	07/31/12	41
21379	Complaint	04/16/12	04/18/12	3	04/24/12	5	04/26/12	3	06/26/12	45	06/26/12	45
21006	Complaint	04/05/12	04/13/12	6	04/19/12	5	04/24/12	4	05/17/12	21	06/21/12	45
22072	Complaint	05/08/12	05/04/12		05/09/12	4	05/15/12	5	07/12/12	45	07/13/12	46
18227	Complaint	01/13/12	02/09/12	1	02/24/12	6	02/24/12	1	03/13/12	13	05/01/12	47
23036	Complaint	06/01/12	06/04/12	2	06/04/12	1	06/12/12	7	06/13/12	8	08/09/12	48
23810	Complaint	06/22/12	06/22/12	1	06/26/12	3	07/03/12	5	08/17/12	38	08/31/12	48
20775	Complaint	03/27/12	03/28/12	2	04/04/12	6	04/11/12	5	06/06/12	44	06/12/12	48
23618	Complaint	06/15/12	06/15/12	1	06/15/12	1	07/05/12	14	07/12/12	19	08/23/12	49
21352	Complaint	04/17/12	04/18/12	2	04/25/12	6	05/09/12	11	06/04/12	28	07/04/12	49
21035	Complaint	04/04/12	04/05/12	2	04/16/12	7	04/20/12	5	05/23/12	27	06/26/12	51
22932	Complaint	05/30/12	05/31/12	2	06/13/12		07/05/12		07/30/12	33	08/24/12	52

19795	Complaint	03/06/12	02/29/12		02/29/12	1					05/14/12	53
20158	Complaint	03/13/12	03/13/12	1	03/21/12	7	03/29/12	7	05/29/12	48	06/05/12	53
20013	Complaint	03/13/12	03/13/12	1	03/16/12	4	05/08/12		05/09/12	38	06/04/12	55
20671	Complaint	03/28/12	03/28/12	1	03/29/12	2	04/02/12	3	05/28/12	41	06/15/12	55
20821	Complaint	03/30/12	03/30/12	1	04/13/12		04/20/12	6	06/06/12	38	06/29/12	55
21273	Complaint	04/19/12	04/19/12	1	04/19/12	1	04/26/12	6			07/09/12	56
20018	Complaint	03/13/12	03/15/12	3	03/29/12		04/04/12	5	05/30/12	43	06/19/12	57
19012	Complaint	02/03/12	02/08/12	4	02/09/12	2	04/02/12		04/03/12	39	05/01/12	58
21002	Complaint	04/05/12	04/13/12	6	04/18/12	4	04/20/12	3	05/03/12	12	07/10/12	58
19966	Complaint	03/12/12	03/12/12	1	03/27/12		04/03/12	6	06/04/12	48	06/18/12	58
19829	Complaint	03/02/12	03/07/12	4	03/12/12	4	03/30/12		05/31/12		06/04/12	59
21355	Complaint	04/19/12	04/23/12	3	04/30/12	6	05/03/12	4			07/25/12	61
21185	Complaint	04/10/12	04/12/12	3	04/23/12	8	04/27/12	5			07/19/12	62
22425	Complaint	05/17/12	05/17/12	1	05/28/12	7	06/01/12	5	08/15/12		08/22/12	62
21190	Complaint	04/11/12	04/12/12	2	04/20/12	7	05/01/12	8	07/04/12		07/19/12	63
18681	Complaint	01/25/12	01/27/12	3	01/30/12	2	01/31/12	2	04/24/12		05/01/12	66
21751	Complaint	04/30/12	05/02/12	3	05/16/12		05/23/12	5	06/26/12	29	08/17/12	66
18491	Complaint	01/23/12	01/19/12		02/02/12		01/30/12		03/05/12	23	05/08/12	68
22379	Complaint	05/16/12	05/16/12	1	05/24/12	6	06/18/12		07/10/12	33	08/28/12	68
19903	Complaint	03/08/12	03/08/12	1	03/08/12	1	03/15/12	6	06/18/12		06/18/12	71
21347	Complaint	04/17/12	04/23/12	5	04/24/12	2	04/20/12		07/17/12		08/02/12	71
18370	Complaint	01/17/12	01/18/12	2	01/20/12	3	03/22/12		03/22/12	45	05/02/12	73
20152	Complaint	03/14/12	03/14/12	1	03/20/12	5	03/12/12		06/22/12		07/04/12	74
20217	Complaint	03/19/12	03/20/12	2	03/27/12	6	03/27/12	1	06/10/12		07/11/12	74
22310	Complaint	05/08/12	05/14/12	5	05/18/12	5	05/25/12	5	07/25/12	47	08/31/12	74
19130	Complaint	02/13/12	02/13/12	1	02/24/12		02/14/12		03/19/12	17	06/13/12	77
21939	Complaint	05/01/12	05/01/12	1	05/07/12	5	05/10/12	4	05/31/12	18	08/27/12	79
21367	Complaint	04/20/12	04/20/12	1	04/30/12	7					08/29/12	86
23056	Complaint	05/31/12	06/04/12	3	06/05/12	2						
23919	Complaint	06/25/12	06/22/12		06/28/12	5						
24136	Complaint	06/27/12										
24420	Complaint	06/29/12										
24459	Complaint	07/05/12										
24488	Complaint	07/09/12	07/09/12	1	07/09/12	1						
24493	Complaint	05/24/12	07/09/12		07/09/12	1						
24576	Complaint	07/11/12	07/11/12	1								
24611	Complaint	07/11/12	07/11/12	1	07/11/12	1						
24644	Complaint	07/11/12										
24645	Complaint	05/24/12	07/12/12									
24646	Complaint	07/12/12	07/12/12	1								

24665	Complaint	07/12/12	07/12/12	1								
24731	Complaint	05/24/12	07/17/12		07/17/12	1						
24733	Complaint	07/16/12	07/16/12	1								
24736	Complaint	07/16/12	07/17/12	2								
24738	Complaint	07/16/12										
24786	Complaint	05/24/12	07/17/12									
24963	Complaint	07/20/12	07/23/12	2	07/23/12	1						
25025	Complaint	07/23/12	07/23/12	1	07/23/12	1						
25191	Complaint	07/24/12										
25194	Complaint	07/23/12										
25199	Complaint	07/23/12										
25200	Complaint	07/23/12										
25216	Complaint	07/24/12										
25223	Complaint	07/27/12										
25261	Complaint	07/28/12										
25339	Complaint	07/31/12										
25378	Complaint	07/30/12										
25412	Complaint	08/02/12										
25438	Complaint	08/01/12										
26091	Complaint	08/21/12										
18485	Complaint	01/18/12	01/18/12	1	01/24/12	5						
18493	Complaint	01/23/12	01/20/12		01/25/12	4						
18683	Complaint	01/23/12	01/24/12	2	01/24/12	1						
18732	Complaint	01/30/12	01/27/12		02/02/12	5						
18736	Complaint	01/29/12	01/31/12	2	02/07/12	6						
18850	Complaint	01/31/12	01/31/12	1	02/09/12	8						
19062	Complaint	02/03/12	02/10/12	6	02/10/12	1						
19173	Complaint	02/13/12	02/15/12	3	03/15/12							
19175	Complaint	02/13/12	02/15/12	3	02/16/12	2						
19236	Complaint	02/16/12	02/16/12	1	02/16/12	1						
19251	Complaint	02/14/12	02/15/12	2	02/29/12							
19319	Complaint	02/21/12	02/21/12	1	03/01/12	8						
19377	Complaint	02/21/12	03/15/12		02/24/12							
19395	Complaint	02/23/12	02/23/12	1	03/01/12	6						
19398	Complaint	02/23/12	02/23/12	1	03/22/12							
19409	Complaint	02/24/12	02/24/12	1	02/24/12	1						
19411	Complaint	02/24/12	02/24/12	1	02/24/12	1						
19612	Complaint	02/29/12	02/29/12	1	05/16/12							
19667	Complaint	02/22/12	02/28/12	5	03/06/12	6						
19891	Complaint	03/06/12	03/06/12	1	03/06/12	1						
19905	Complaint	03/06/12	03/06/12	1	03/14/12	7						
19906	Complaint	03/01/12	03/05/12	3	03/13/12	7						
19910	Complaint	03/01/12	02/29/12		03/08/12	7						
20207	Complaint	03/16/12	03/19/12	2	03/22/12	4						

20208	Complaint	03/16/12	03/19/12	2	03/28/12	8						
20472	Complaint	03/22/12	03/27/12	4	04/02/12	5						
20474	Complaint	03/22/12	03/22/12	1	04/02/12	8						
20575	Complaint	03/26/12	03/26/12	1	03/30/12	5						
20580	Complaint	03/23/12	03/28/12	4	04/02/12	4						
20591	Complaint	03/27/12	03/28/12	2	04/02/12	4						
20776	Complaint	03/30/12	03/30/12	1	04/10/12	7						
20782	Complaint	03/30/12	04/04/12	4	04/11/12	5						
20795	Complaint	03/28/12	03/29/12	2	04/10/12	8						
20830	Complaint	04/02/12	04/04/12	3	04/04/12	1						
21005	Complaint	04/02/12	04/05/12	4	04/13/12	6						
21014	Complaint	04/04/12	04/05/12	2	04/13/12	6						
21021	Complaint	04/12/12	04/11/12		04/13/12	3						
21025	Complaint	04/05/12	04/10/12	3	04/17/12	6						
21030	Complaint	04/03/12	04/11/12	6	04/13/12	3						
21039	Complaint	04/03/12	04/13/12	8	04/13/12	1						
21042	Complaint	04/02/12	04/05/12	4	04/13/12	6						
21046	Complaint	04/04/12	04/10/12	4	04/19/12							
21048	Complaint	04/03/12	04/05/12	3	04/13/12	6						
21191	Complaint	04/11/12	04/12/12	2	04/13/12	2						
21206	Complaint	05/13/12	04/13/12		04/09/12							
21308	Complaint	04/19/12	04/20/12	2	04/20/12	1						
21403	Complaint	04/17/12	04/26/12	8	04/26/12	1						
21404	Complaint	04/17/12	04/18/12	2	04/25/12	6						
21704	Complaint	04/19/12	05/01/12	9	05/02/12	2						
21783	Complaint	04/26/12	04/26/12	1	05/03/12	6						
21788	Complaint	04/30/12	05/01/12	2	05/03/12	3						
21833	Complaint	04/27/12	04/30/12	2	05/07/12	6						
21876	Complaint	04/26/12	05/11/12		05/17/12	5						
21878	Complaint	04/27/12	04/30/12	2	05/03/12	4						
21880	Complaint	04/30/12	05/16/12		05/24/12	6						
21934	Complaint	05/01/12	05/01/12	1	05/07/12	5						
21997	Complaint	05/01/12	05/01/12	1	05/09/12	7						
22009	Complaint	05/03/12	05/07/12	3	05/08/12	2						
22035	Complaint	05/04/12	05/04/12	1	05/07/12	2						
22064	Complaint	05/03/12	04/23/12		05/07/12							
22067	Complaint	05/08/12	04/23/12		05/01/12	7						
22108	Complaint	05/07/12	05/08/12	2	05/09/12	2						
22121	Complaint	05/07/12	05/07/12	1	05/11/12	5						
22123	Complaint	05/04/12	05/11/12	6	05/14/12	2						
22132	Complaint	04/23/12	04/23/12	1	05/24/12							
22234	Complaint	05/10/12	05/11/12	2	05/14/12	2						
22249	Complaint	05/11/12	05/11/12	1	05/11/12	1						
22302	Complaint	05/10/12	05/14/12	3	05/17/12	4						
22308	Complaint	05/11/12	05/14/12	2	05/17/12	4						

22322	Complaint	05/15/12	05/15/12	1	05/30/12							
22480	Complaint	05/18/12	05/18/12	1	05/25/12	5						
22545	Complaint	05/09/12	05/11/12	3	05/11/12	1						
22649	Complaint	05/23/12	05/23/12	1	05/29/12	5						
22661	Complaint	05/25/12	05/25/12	1	05/30/12	4						
22706	Complaint	05/28/12	05/28/12	1	06/05/12	7						
23097	Complaint	06/05/12	06/05/12	1	06/06/12	2						
23111	Complaint	06/05/12	06/05/12	1	06/06/12	2						
23159	Complaint	06/06/12	06/06/12	1	06/14/12	7						
23187	Complaint	06/06/12	06/07/12	2	06/11/12	3						
23192	Complaint	06/07/12	06/06/12		06/11/12	4						
23199	Complaint	06/04/12	06/06/12	3	06/12/12	5						
23248	Complaint	06/05/12	06/07/12	3	06/12/12	4						
23258	Complaint	06/05/12	06/07/12	3	06/12/12	4						
23399	Complaint	06/12/12	06/18/12	5	06/18/12	1						
23640	Complaint	06/15/12	06/15/12	1	06/15/12	1						
23651	Complaint	06/18/12	06/19/12	2	06/21/12	3						
23895	Complaint	06/21/12	06/21/12	1	06/25/12	3						
23905	Complaint	06/20/12	06/20/12	1	06/22/12	3						
23908	Complaint	06/21/12	06/22/12	2	06/25/12	2						
23913	Complaint	06/19/12	06/20/12	2	06/26/12	5						
23969	Complaint	06/22/12	06/25/12	2	07/13/12							
23975	Complaint	06/20/12	06/22/12	3	06/29/12	6						
23976	Complaint	06/25/12	06/26/12	2	06/28/12	3						
23980	Complaint	06/25/12	06/27/12	3	06/29/12	3						
24066	Complaint	06/28/12	06/28/12	1	07/03/12	3						
24075	Complaint	06/27/12	06/28/12	2	07/03/12	3						
24307	Complaint	06/29/12	06/29/12	1	06/29/12	1						
24332	Complaint	05/24/12	06/04/12	8	07/06/12							
24333	Complaint	05/24/12	07/04/12		07/06/12	3						
25165	Complaint	07/20/12	07/24/12	3	07/26/12	3						
25400	Complaint	08/01/12	08/01/12	1	08/09/12	7						
25405	Complaint	08/02/12	08/02/12	1	08/10/12	7						
25418	Complaint	08/02/12	08/02/12	1	08/09/12	6						
25461	Complaint	08/03/12	08/03/12	1	08/09/12	5						
25463	Complaint	08/03/12										
25569	Complaint	08/07/12	08/08/12	2	08/10/12	3						
25616	Complaint	08/07/12	08/09/12	3	08/13/12	3						
25635	Complaint	08/08/12	08/09/12	2	08/23/12							
25664	Complaint	08/09/12	08/10/12	2	08/14/12	3						
25685	Complaint	08/10/12	08/10/12	1	08/13/12	2						
25688	Complaint	08/08/12	08/10/12	3	08/13/12	2						
25697	Complaint	08/09/12	08/10/12	2	08/15/12	4						
25720	Complaint	08/13/12	08/13/12	1	08/17/12	5						
25732	Complaint	08/13/12	08/13/12	1	08/15/12	3						

25814	Complaint	08/14/12	08/14/12	1	08/15/12	2						
25823	Complaint	08/14/12	08/14/12	1	08/15/12	2						
25885	Complaint	08/15/12	08/21/12	5	08/24/12	4						
25939	Complaint	08/15/12	08/17/12	3	08/20/12	2						
25955	Complaint	08/16/12	08/16/12	1	08/21/12	4						
25957	Complaint	08/15/12	08/17/12	3	08/21/12	3						
26119	Complaint	08/22/12	08/22/12	1	08/23/12	2						
26137	Complaint	08/22/12	08/24/12	3	08/27/12	2						
26307	Complaint	08/28/12	08/28/12	1	08/29/12	2						
26393	Complaint	08/15/12	08/31/12		08/31/12	1						
14182	Complaint	07/19/11	06/05/12	1	06/05/12	1						
16968	Complaint	11/17/11	11/24/11	6	05/08/12							
17684	Complaint	12/20/11	12/20/11	1	01/18/12							
17855	Complaint	12/28/11	01/09/12	7	01/09/12	1						
17936	Complaint	01/04/12	01/04/12	1	01/10/12	4						
18058	Complaint	01/09/12	01/09/12	1	01/11/12	3						
18067	Complaint	01/09/12	01/09/12	1	01/12/12	4						
18096	Complaint	01/10/12	01/10/12	1	01/12/12	3						
18197	Complaint	01/12/12	01/10/12		01/10/12	1						
18220	Complaint	01/11/12	01/13/12	3								
18229	Complaint	01/10/12	01/16/12	5	01/16/12	1						
18231	Complaint	01/13/12	01/12/12									
18373	Complaint	01/13/12	01/16/12	2	01/20/12	5						
18379	Complaint	01/18/12	01/16/12		01/19/12	4						
18471	Complaint	01/20/12	01/19/12		01/19/12	1						
18486	Complaint	01/18/12	01/18/12	1	01/24/12	5						
18487	Complaint	01/18/12	01/23/12	4	01/24/12	2						
18490	Complaint	01/16/12	01/20/12	5								
18502	Complaint	01/20/12	01/23/12	2	02/06/12							
18550	Complaint	01/24/12	01/24/12	1	01/24/12	1						
18601	Complaint	01/26/12	01/24/12									
18604	Complaint	01/23/12	01/27/12	5	02/01/12	4						
18606	Complaint	01/23/12	01/24/12	2								
18611	Complaint	01/26/12	01/27/12	2	01/27/12	1						
18613	Complaint	01/26/12	02/07/12	9	02/07/12	1						
18615	Complaint	01/26/12	01/23/12		01/27/12	5						
18617	Complaint	01/26/12	01/27/12	2	01/30/12	2						
18652	Complaint	01/17/12	01/20/12	4	01/30/12	7						
18653	Complaint	01/18/12	01/26/12	7	01/30/12	3						
18655	Complaint	01/15/12	01/16/12	1								
18661	Complaint	01/25/12	01/25/12	1								
18673	Complaint	01/24/12	01/24/12	1	01/30/12	5						
18676	Complaint	01/25/12	01/26/12	2	01/30/12	3						
18677	Complaint	01/24/12										
18682	Complaint	01/25/12	01/27/12	3	01/31/12	3						

18714	Complaint	01/30/12	01/26/12	1	01/26/12	1						
18723	Complaint	01/26/12	02/01/12	5	02/01/12	1						
18726	Complaint	01/26/12	01/27/12	2								
18730	Complaint	01/27/12	01/30/12	2	01/31/12	2						
18737	Complaint	01/30/12	01/30/12	1	05/14/12							
18747	Complaint	01/30/12	01/30/12	1	02/02/12	4						
18756	Complaint	01/31/12	01/31/12	1	02/06/12	5						
18803	Complaint	01/27/12	01/27/12	1	01/30/12	2						
18824	Complaint	02/01/12	02/01/12	1	02/07/12	5						
18999	Complaint	02/03/12	02/10/12	6	02/10/12	1						
19002	Complaint	02/02/12	02/07/12	4	03/09/12							
19006	Complaint	02/03/12	02/10/12	6	02/10/12	1						
19008	Complaint	02/03/12	02/07/12	3	02/10/12	4						
19010	Complaint	02/03/12	02/06/12	2	02/09/12	4						
19013	Complaint	02/06/12	02/06/12	1								
19020	Complaint	02/02/12	02/07/12	4	02/10/12	4						
19065	Complaint	02/09/12										
19067	Complaint	02/07/12										
19069	Complaint	02/09/12										
19088	Complaint	02/10/12	02/10/12	1	02/17/12	6						
19211	Complaint	02/16/12	02/16/12	1	02/21/12	4						
19214	Complaint	02/14/12	02/16/12	3	02/22/12	5						
19341	Complaint	02/22/12	02/22/12	1	02/22/12	1						
19351	Complaint	02/22/12	02/22/12	1	02/22/12	1						
19385	Complaint	02/20/12										
19414	Complaint	02/24/12										
19682	Complaint	03/01/12	03/01/12	1	03/05/12	3						
19683	Complaint	03/01/12	03/01/12	1	03/05/12	3						
19721	Complaint	03/02/12	03/02/12	1	03/06/12	3						
19765	Complaint	02/10/12										
19830	Complaint	03/01/12	03/01/12	1	03/01/12	1						
19835	Complaint	03/04/12	03/06/12	2	03/19/12							
19839	Complaint	03/04/12	03/06/12	2	03/20/12							
19869	Complaint	03/01/12	03/05/12	3	03/14/12	8						
19911	Complaint	03/09/12	03/09/12	1	03/15/12	5						
19969	Complaint	03/12/12	03/12/12	1	03/19/12	6						
19971	Complaint	03/12/12	03/12/12	1	03/19/12	6						
19998	Complaint	03/13/12	03/13/12	1	03/19/12	5						
20098	Complaint	03/05/12	03/05/12	1	03/15/12	9						
20156	Complaint	03/13/12	03/14/12	2	05/08/12							
20161	Complaint	03/07/12	03/07/12	1	03/22/12							
20162	Complaint	03/14/12	03/14/12	1	03/21/12	6						
20163	Complaint	03/14/12	03/19/12	4	03/20/12	2						
20193	Complaint	03/20/12	03/20/12	1								
20196	Complaint	03/16/12	03/16/12	1	03/30/12							

20198	Complaint	03/16/12	03/16/12	1	03/21/12	4						
20202	Complaint	03/17/12	03/21/12	3	03/26/12	4						
20205	Complaint	03/16/12	03/16/12	1	03/21/12	4						
20206	Complaint	03/16/12	03/19/12	2	04/13/12							
20230	Complaint	03/20/12										
20479	Complaint	03/22/12	03/27/12	4	03/27/12	1						
20481	Complaint	03/21/12	03/26/12	4	04/16/12							
20489	Complaint	03/19/12	03/21/12	3	03/29/12	7						
20492	Complaint	03/20/12	03/28/12	7	05/08/12							
20499	Complaint	03/27/12	03/27/12	1	04/10/12							
20542	Complaint	03/27/12	03/27/12	1	03/27/12	1						
20579	Complaint	03/28/12	03/28/12	1	03/28/12	1						
20645	Complaint	03/22/12	03/26/12	3	05/14/12							
20766	Complaint	03/26/12	04/04/12	8								
20793	Complaint	03/22/12	02/29/12									
20841	Complaint	04/04/12										
20868	Complaint	03/12/12	04/05/12		04/05/12	1						
20961	Complaint	04/11/12	04/11/12	1	06/06/12							
20991	Complaint	04/12/12	03/30/12		03/30/12	1						
20998	Complaint	04/12/12	04/02/12		04/12/12	8						
21007	Complaint	04/12/12	04/05/12		04/13/12	6						
21008	Complaint	04/05/12	04/12/12	5	04/12/12	1						
21010	Complaint	04/12/12	04/05/12		04/12/12	5						
21012	Complaint	04/04/12	04/05/12	2	04/12/12	5						
21022	Complaint	04/05/12	04/10/12	3	04/16/12	5						
21044	Complaint	04/09/12	04/10/12	1	04/17/12	6						
21050	Complaint	04/05/12	04/18/12	9	04/18/12	1						
21180	Complaint	04/10/12	04/13/12	4	04/13/12	1						
21184	Complaint	04/02/12	04/02/12	1	05/08/12							
21187	Complaint	04/02/12	04/17/12		04/17/12	1						
21204	Complaint	04/13/12	04/17/12	3	05/14/12							
21353	Complaint	04/23/12	04/18/12		04/24/12	5						
21364	Complaint	04/20/12	04/20/12	1	04/27/12	6						
21370	Complaint	04/18/12	04/18/12	1	05/02/12							
21371	Complaint	04/16/12	04/16/12	1	05/15/12							
21384	Complaint	04/16/12	04/23/12	6	05/01/12	7						
21407	Complaint	04/23/12	04/19/12		04/24/12	4						
21484	Complaint	04/23/12	05/09/12		05/09/12	1						
21489	Complaint	04/02/12	04/24/12		04/27/12	4						
21699	Complaint	04/11/12										
21707	Complaint	04/20/12	05/24/12		05/29/12	4						
21708	Complaint	04/24/12	04/24/12	1	05/15/12							
21709	Complaint	04/24/12	04/24/12	1	05/15/12							
21713	Complaint	04/25/12	04/30/12	4	04/30/12	1						
21738	Complaint	04/17/12	04/24/12	6	05/01/12	6						

21739	Complaint	04/26/12	05/01/12	4	05/02/12	2						
21785	Complaint	05/01/12	05/01/12	1	05/07/12	5						
21906	Complaint	04/28/12	05/07/12	6	05/08/12	2						
22007	Complaint	05/01/12	05/02/12	2	05/09/12	6						
22038	Complaint	05/02/12	05/07/12	4	05/09/12	3						
22043	Complaint	05/04/12	05/10/12	5	05/10/12	1						
22045	Complaint	05/04/12	05/09/12	4	05/24/12							
22130	Complaint	05/07/12	05/07/12	1	05/16/12	8						
22233	Complaint	05/10/12	05/11/12	2	05/15/12	3						
22294	Complaint	05/14/12	05/09/12		05/16/12	6						
22301	Complaint	05/14/12	05/14/12	1	05/18/12	5						
22313	Complaint	05/14/12	05/14/12	1	05/18/12	5						
22443	Complaint	05/17/12	05/17/12	1	05/18/12	2						
22475	Complaint	05/17/12	05/18/12	2	05/18/12	1						
22476	Complaint	05/17/12	05/18/12	2	05/18/12	1						
22479	Complaint	05/18/12	05/18/12	1	05/22/12	2						
22523	Complaint	05/16/12	06/08/12									
22532	Complaint	05/18/12	05/22/12	2	05/23/12	2						
22539	Complaint	05/23/12	05/25/12	3	05/28/12	2						
22554	Complaint	05/23/12	05/23/12	1	05/25/12	3						
22588	Complaint	05/24/12	05/24/12	1	05/28/12	3						
22610	Complaint	05/24/12	05/25/12	2	05/25/12	1						
22648	Complaint	05/24/12				0						
22693	Complaint	05/28/12	05/28/12	1	06/04/12	6						
22935	Complaint	06/01/12	05/30/12		06/04/12	4						
22939	Complaint	06/01/12	05/31/12		06/01/12	2						
22946	Complaint	06/01/12	06/01/12	1	06/01/12	1						
22952	Complaint	05/31/12	06/01/12	2								
23040	Complaint	06/01/12				0						
23160	Complaint	06/06/12	06/08/12	3	06/11/12	2						
23186	Complaint	06/07/12	06/07/12	1	06/12/12	4						
23202	Complaint	06/07/12	06/07/12	1	06/13/12	5						
23211	Complaint	06/07/12	06/13/12	5	06/13/12	1						
23260	Complaint	06/08/12	07/12/12									
23261	Complaint	06/08/12	06/08/12	1	06/08/12	1						
23301	Complaint	06/11/12	06/05/12		06/06/12	2						
23315	Complaint	06/11/12	06/11/12	1	06/12/12	2						
23320	Complaint	06/11/12	06/11/12	1	06/12/12	2						
23506	Complaint	06/14/12	06/15/12	2								
23513	Complaint	06/12/12	06/14/12	3	06/18/12	3						
23632	Complaint	06/14/12	06/18/12	3	06/25/12	6						
23635	Complaint	06/19/12	06/19/12	1	07/05/12							
23642	Complaint	06/14/12	06/19/12	4	06/19/12	1						
23769	Complaint	06/21/12	06/21/12	1	06/22/12	2						
23791	Complaint	06/20/12	07/13/12		07/16/12	2						

23939	Complaint	06/22/12	06/22/12	1	07/03/12	7						
23973	Complaint	06/20/12	06/22/12	3								
23977	Complaint	06/22/12	06/26/12	3	06/27/12	2						
23985	Complaint	06/26/12	06/25/12		07/23/12							
24013	Complaint	06/22/12	06/25/12	2	06/29/12	5						
24031	Complaint	06/27/12										
24094	Complaint	06/26/12	07/13/12		07/17/12	3						
24130	Complaint	05/24/12	06/28/12		07/05/12	5						
24153	Complaint	06/28/12	06/29/12	2	07/04/12	3						
24280	Complaint	06/27/12	07/04/12	5	07/04/12	1						
24289	Complaint	07/28/12	07/03/12		07/04/12	2						
24325	Complaint	06/29/12										
24329	Complaint	06/29/12	07/04/12	3	07/26/12							
24336	Complaint	06/29/12	07/04/12	3	07/06/12	3						
24368	Complaint	07/04/12	07/05/12	2	07/10/12	4						
24370	Complaint	07/05/12	07/05/12	1								
24436	Complaint	07/04/12	07/06/12	3	07/10/12	3						
24454	Complaint	07/04/12										
24481	Complaint	05/24/12	07/09/12									
24523	Complaint	07/06/12	07/09/12	2								
24544	Complaint	07/10/12	07/09/12									
24566	Complaint	07/10/12	07/10/12	1								
24572	Complaint	07/11/12	07/11/12	1	07/11/12	1						
24679	Complaint	07/13/12	07/09/12		07/09/12	1						
24698	Complaint	07/11/12										
24706	Complaint	07/13/12										
24732	Complaint	07/16/12	07/17/12	2	07/17/12	1						
24743	Complaint	07/16/12	07/16/12	1								
24772	Complaint	05/24/12	07/17/12									
24790	Complaint	07/17/12	07/17/12	1	07/17/12	1						
24935	Complaint	07/06/12										
25011	Complaint	07/23/12	07/23/12	1	07/23/12	1						
25044	Complaint	07/24/12	07/24/12	1	07/27/12	4						
25056	Complaint	07/23/12	07/25/12	3	07/25/12	1						
25075	Complaint	07/20/12	07/20/12	1	07/24/12	3						
25099	Complaint	07/19/12										
25100	Complaint	07/17/12	07/25/12	7	07/26/12	2						
25101	Complaint	07/23/12			08/02/12							
25105	Complaint	07/23/12	07/26/12	4	07/27/12	2						
25152	Complaint	07/26/12										
25170	Complaint	07/27/12	07/30/12	2	07/30/12	1						
25171	Complaint	07/27/12	07/30/12	2	07/30/12	1						
25174	Complaint	07/20/12	07/24/12	3	07/31/12	6						
25177	Complaint	07/23/12	07/30/12	6	07/30/12	1						
25181	Complaint	07/20/12	07/30/12	7								

25185	Complaint	07/27/12	07/27/12	1	08/03/12	6						
25210	Complaint	07/30/12	07/27/12									
25213	Complaint	07/30/12	07/27/12		08/03/12	6						
25220	Complaint	07/30/12	07/30/12	1								
25274	Complaint	07/27/12	07/30/12	2								
25302	Complaint	07/28/12										
25362	Complaint	07/31/12										
25430	Complaint	08/02/12										
25465	Complaint	08/03/12										
25824	Complaint	08/14/12	08/15/12	2								
25959	Complaint	08/15/12	08/20/12	4	08/29/12	8						
25967	Complaint	08/17/12	08/24/12	6	08/27/12	2						
26043	Complaint	08/20/12	08/21/12	2	08/21/12	1						
26198	Complaint	08/22/12										
26275	Complaint	08/27/12	08/27/12	1	08/27/12	1						
26398	Complaint	08/30/12	08/30/12	1	08/30/12	1						
15721	Complaint	09/22/11	01/12/12		01/13/12	2	01/19/12	5	03/24/12			
17989	Complaint	01/02/12	01/23/12		01/31/12	7	01/10/12		02/10/12	9	06/07/12	
18228	Complaint	01/11/12	01/12/12	2	01/16/12	3	01/18/12	3	03/15/12	44	06/29/12	
18492	Complaint	01/19/12	01/19/12	1	01/24/12	4						
18721	Complaint	01/26/12	01/30/12	3	02/02/12	4						
18728	Complaint	01/26/12	01/30/12	3	02/07/12	7						
18733	Complaint	01/29/12	01/30/12	1	02/08/12	8						
18739	Complaint	01/30/12	01/30/12	1	02/06/12	6						
18872	Complaint	01/30/12	02/02/12	4	02/10/12	7						
18998	Complaint	02/07/12	02/07/12	1	02/13/12	5						
19061	Complaint	02/09/12	02/09/12	1	02/13/12	3						
19233	Complaint	02/13/12	02/13/12	1	02/14/12	2						
19288	Complaint	02/20/12	02/20/12	1	02/20/12	1						
19380	Complaint	02/22/12	02/23/12	2	02/27/12	3						
20204	Complaint	03/16/12	03/19/12	2	03/27/12	7	03/26/12		08/16/12		08/22/12	
25180	Complaint	07/23/12	07/27/12	5	08/02/12	5						
21935	Complaint	04/30/12	04/30/12	1	05/04/12	5						
26048	Complaint	08/20/12	08/21/12	2	08/21/12	1						
			Mean	2.3471074		3.55263158		5.613636364		27.77777778		50.64285714
			n =	363		340		44		45		56
			Within timeline:	242		267		26		25		16
			Proportion:	67%		79%		59%		56%		29%

E. Qualitative Baseline Data: Interview Content Analysis

Table E1

Post-Content Analysis Interview Data

Raw Data Themes	**Higher Order Themes**
- *Creating PSLS files is slow.* - *The front-end documentation tools are cumbersome.* - *Reviewing intake and transforming information into the review form can be overly complicated.* - *Case managers duplicating work that is often completed by intake.* - *Communicating with staff on 24/7 schedules is difficult.* - *Obtaining medical charts is time consuming.* - *Small edits back and forth, handover everywhere, multiple approvals, email reply-all is wasteful.* - *Waiting for and editing review findings and approvals at case management stage is not efficient.* - *Obtaining final letter signatures can take forever.* - *Waste occurs when right individuals not targeted immediately.* - *"I can spend the entire review period chasing consent".* - *Determining when/how to reject unfounded/inaccurate complaints and questions can waste a lot of time.*	Waste is prevalent in the complaints management framework.
- *Taking time on the front end will save time later.* - *The PCQO needs to triage cases and assign caseload more carefully among team members.* - *More PCQO authority and access to records and charts.* - *Copy of the chart attached to review form. Need simpler intake. questions and a simpler review form.* - *Sending information and/or review form to program managers directly would be faster.* - *Better training would help staff and care reviewers understand their role and the review process.* - *Having appropriate and workable timelines.*	Complaints management can be made easier.
- *Bringing everyone together early is best for communication.* - *Everyone working on the same document, like a GoogleDocs or a SharePoint.* - *PCQO officers attached to a particular program or with specialized responsibilities.* - *Making telephone contact earlier in the process.*	Information sharing and collaboration can be optimized.

- *Less Medical Director responsibility/involvement.*	
- *Identify potential problem files early on.* - *Develop complexity criteria to triage complaints.* - *Time frame data and volume metrics would be helpful.* - *Knowing overall complaint themes and categories would be very useful for follow-up and analysis.* - *Need results-based data. Did we implement changes did they help?*	Measurement and data analysis can help.
- *Clarification of our process. No distracters or wordsmithing in letters. Regular progress updates.* - *Phone calls seem to help, direct contact with the physician or care provider is good.* - *We should provide timelines, transparency, honesty and justice. The undiluted voice of the caregiver is important.* - *Follow up satisfaction survey attached to PCQO process.*	Value needs to be created for the complainant.
- *They need to feel safe to participate honestly and trust PCQO to represent their best interests.* - *Immediate knowledge that complaint has occurred. Content of the complaint, no prejudgement; coaching/capacity building. "here is what happens now"* - *PCQO staff needs awareness, readiness. Particularly regarding suicide and harm potential.* - *They need rapid access to records so they do not need to stew and panic after hearing of the complaint.*	Value needs to be created for the complaint recipient.
- *We need to areas for future improvements, and then have specific projects and timelines.* - *I want to understand how the entire process works.* - *Being able to meet people in person is better.* - *We need to think of each other as customers.* - *Leadership beyond the Team Leader and more communication within the portfolio would help.* - *"I want them to know that we are trying to help; trying to make things easy."* - *"We get quite defensive about what people should do. When we look at values of care, they are meant mostly for self-examination, not to point fingers at other".* - *"There is a genuineness that people want to really get to the bottom of this stuff."* - *Improvement might not be able to be quantified, but overall satisfaction and understanding can be improved. The human nature of healthcare makes this tough.*	Stakeholders need to work together for improvement.

F. Identified Waste

Table F1

Waste – Acknowledgement Stage

Defects	- data entry into multiple tracking systems.
Over-production	- using two different computer systems to document files.
Waiting	- not defining a clear deadline for third party consent.
Transportation	- handing a paper file to intake coordinators.
Motion	- program assistant does not sit near intake coordinators.
Extra-processing	- tracking files in an additional excel spreadsheet.

Table F2

Waste – Intake Stage

Defects	- duplication of entering patient information into multiple files. - not having an understanding of complexity factors. - double-checking basic file information for completion/errors.
Over-production	- entering info into spreadsheets, PSLS, and paper files. - unnecessarily requesting program-level contact with complainant. - unnecessarily requesting program-level contact with PCQO.
Waiting	- not defining a clear deadline for third party consent.
Extra-processing	- multiple systems and forms (PSLS, paper form, spreadsheet). - client is asked to tell story multiple times. - tasks sent to case manager via PSLS and Outlook

Table F3

Waste – Case Management Stage

Defects	- double-checking basic file information for completion/errors. - not knowing the appropriate program-level contact. - receiving inadequate/incomplete information from program .
Over-production	- creating complication questions from intake notes. - multiple contacts with the patient. - tracking information in multiple systems. - program level does not have a central point of contact.
Waiting	- waiting for records and information from the intake stage. - not defining a clear deadline for third party consent. - waiting for draft letter approvals, edits.

	- waiting for final letter approvals.
Non-utilized talent	- inadequate education for new PCQO staff. - inadequate education of PCQO process for program-level staff
Transportation	- constant emails. - no central point of contact.
Inventory	- having to wait for electronic signatures. - multiple copies of draft letters.
Motion	- triple-checking patient information. - multiple attempts to contact individuals via phone and email. - PCQO team members not sharing the same office space.
Extra-processing	- confirming program-level contact information. - multiple forwards and hand-offs of information. - constant reply-all and email copying. - multiple program databases.

Table F4

Waste – Program-level Review Stage

Defects	- emailing the same review form to multiple programs. - having to review the chart again to gather more information. - Review form questions that are too complex. - deciphering multiple questions on review form.
Over-production	- constantly reviewing PCQO process and guidelines. - multiple copies of letters for approval. - multiple review forms for multiple programs.
Waiting	- waiting to connect with a clinician. - waiting to access the paper chart. - not defining a clear deadline for third party consent.
Non-utilized talent	- not immediately contacting the physician/care provider. - sending a physician/director to gather patient charts.
Transportation	- sending records back and forth to Health Records. - no central point of contact.
Inventory	- working with multiple programs simultaneously.
Motion	- gathering patient charts from multiple facilities. - movement of patient charts between facilities. - no central location for letter editing and approval.
Extra-processing	- understanding multiple review forms. - multiple emails and contact with staff, complainant - multiple edits, approvals, draft copies with PCQO.

G. Pre-Rapid Process Improvement Workshop Information

Figures G1-G18. Pre-RPIW PowerPoint Slides

What is Lean?

- Lean is a process improvement tool. The term *Lean* refers to an absence of waste.
- In a multi-stage process, *value* can be referred to as something that the customer would be willing to pay for. *Non-value-added* activity (waste) does not benefit the customer.
- Through a stage-by-stage examination of an existing process, Lean methods identify and remove waste to maximize flow and value for the customer.
- A Lean evaluation removes common types of waste such as duplication (e.g. completing the same form twice), waiting (e.g. mandatory time gaps between stages) and over-processing (e.g. using too many stages/people to complete one simple action).
- **Identifying many small improvements can lead to a large overall change.**

Vancouver Island Health Authority. (2012). What is Lean? Retrieved from <https://intranet.viha.ca/admin_resources/lean/Pages/what_is.aspx>.

3

A History of Lean

Period	Approach
Late 1800's	In the late 1800's, production was characterized by skilled labour and the creation of a unique product for each customer. This resulted in low production volume and high unit cost.
Early 1900's	With the introduction of the assembly line, standardized processes and homogeneous products greatly lowered costs and production time.
1960-2000	Lean methodology evolved from the Toyota Production System (TPS), pioneered in the 1960's by Taichi Ohno of the Toyota Motor Company. TPS prioritizes worker empowerment, the elimination of waste and a relentless pursuit of improvement as characteristics central to automobile production. TPS invested every Toyota employee in its philosophy, and through continuous decrease in cost and improvement in quality, propelled Toyota to the position of the world's leading automobile manufacturer.
2000-Present	Modern Lean methods can be applied to any multi-stage process that ends with a final product. Lean's defining characteristics of continuous improvement, elimination of waste, and total quality management are integral to the lowering of costs and augmentation of production in enterprises around the world.

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Westmark Consulting, LLP. (2010). Introduction to Lean: Vancouver Island Health Authority. Retrieved from <https://intranet.viha.ca/admin_resources/lean/Documents/Introduction%20to%20Lean%20-%20Days%201%20and%202%20Jan%202010%20Final.pdf>

4

Principles of Lean

- Define value.
  - Examine a process to determine what actions provide direct benefit to a "paying customer". (Value-added)
  - Determine what actions do not provide value, but are still required (Non-value-added but Necessary).
- Eliminate Waste.
  - 8 Types of Waste
    - D - **Defects: errors of any kind, mistakes requiring re-work or backtracking.**
    - O - **Over-production: Producing a higher amount of product than needed.**
    - W - **Waiting: any period of time in which no value is being added to a product.**
    - N - **Non-standardization: too many or continually differing resources going into one task.**
    - T - **Transporting: Physical movement of a product that does not add value.**
    - I - **Inventory: unnecessary products or resources that inhibit production time.**
    - M - **Motion: Excess movement of people, distracting them from adding value to a product.**
    - E - **Excess Processing: Extra work that is not proportional to extra value added.**
- Achieve Flow.
  - The "product" should flow through the process without unnecessary delay at any stage.
  - Adopt a "pull system" (from the customer) instead of a "push" (to the customer).
- Continuous Improvement.
  - A mindset in which day-to-day action seeks to analyze and improve processes in response to changing business environments.
  - "Seek perfection" – the smallest increases in efficiency, combined, can create significant improvement.
- Respect for People.
  - People add the value to a process. Underutilizing the abilities of people creates waste. Overburdening people creates waste. People working together is central to efficiency and continuous improvement.

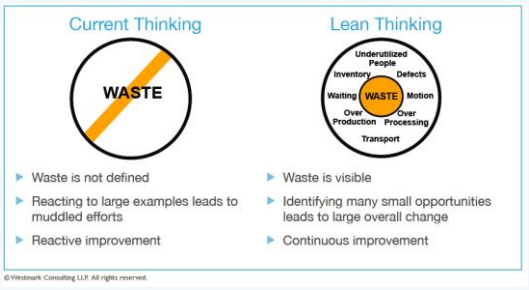
Westmark Consulting, LLP. (2010). Introduction to Lean: Vancouver Island Health Authority. Retrieved from <https://intranet.viha.ca/admin_resources/lean/Documents/Introduction%20to%20Lean%20-%20Days%201%20and%202%20Jan%202010%20Final.pdf>

Ontario Ministry of Health and Long-term Care. (2010). Patient flow toolkit: The 8 types of waste – DOWNTIME. Retrieved from <http://www.patientflowtoolkit.ca/documents/Training/Project%20Lean%20Training%202%20days/day%201/Day%201%20-%20EOS%20PPL20-%20Lean%20Thinking%20and%20Principles.pdf>

Vancouver Island Health Authority (2012). 8 types of waste. Retrieved from <https://intranet.viha.ca/admin_resources/lean/Documents/LEAN_waste_diagram.pdf>

5

Lean Thinking



Westmark Consulting, LLP. (2010). Introduction to Lean: Vancouver Island Health Authority. Retrieved from <https://intranet.viha.ca/admin_resources/lean/Documents/Introduction%20to%20Lean%20-%20Days%201%20and%202%20Jan%202010%20Final.pdf>

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Why Does the PCQO need Lean?

A need for increased efficiency and process improvement has been identified throughout the complaints management framework. Each team member/care reviewer's understanding of the process as a whole will result in collaborative and user-driven improvement, rooted in the context of creating value for the customer. The following improvements are achieved through Lean:

- **Process Design**
  - Processes become more efficient and effective.
- **Client Service**
  - Central positioning of client = increased accountability and quality.
- **Cost Reduction**
  - Elimination of waste results in reduced cost and opportunity for staff to take on other responsibilities / new projects.
- **Employee Engagement**
  - Fosters problem-solving ethic and increased ownership of final product. All employees become engaged in all stages of the framework; suggestions for improvement can come from anyone.
- **Cultural Transformation**
  - Long-term behavioural change results in focus on value, quality, and respect for people. Organizational efficiency becomes continual, impetus for future improvement is encouraged.

Karen Martin & Associates & Progrisiv Edge. (2006). Value stream mapping: A powerful tool for improving healthcare processes. Retrieved from <https://intranet.viha.ca/admin_resources/lean/Documents/Value%20Stream%20Mapping%20How%20To%20Example.pdf>

Westmark Consulting, LLP. (2010). Introduction to Lean: Vancouver Island Health Authority. Retrieved from <https://intranet.viha.ca/admin_resources/lean/Documents/Introduction%20to%20Lean%20-%20Days%201%20and%202%20Jan%202010%20Final.pdf>

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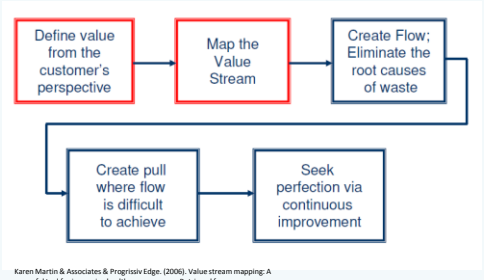
Lean Methodology



Karen Martin & Associates & Progrisiv Edge. (2006). Value stream mapping: A powerful tool for improving healthcare processes. Retrieved from <https://intranet.viha.ca/admin_resources/lean/Documents/Value%20Stream%20Mapping%20How%20To%20Example.pdf>

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Overview: The Rapid Process Improvement Workshop

- **Step 1:** Current State Value Stream Mapping
  - Participants will create a physical stage-by-stage map (diagram) of the complaints management framework as it currently exists.
- **Step 2:** Review of Baseline Data
  - Participants will review baseline data to understand what stages of the framework use the most resources (e.g. time). This baseline data will provide context to the determination of waste.
- **Step 3:** Determination of Waste
  - Participants will analyze the current state map to determine waste (D.O.W.N.T.I.M.E.). Waste indicators will be directly applied to the current stage diagram.
- **Step 4:** Future State Value Stream Mapping
  - Participants will re-design the current state diagram to un-incorporate waste while maintaining the same output for the customer.
- **Step 5:** Determining Improvement
  - Post-improvement data collection will indicate improvement in both quantitative terms (e.g. reduced time to complete an action) and qualitative (e.g higher morale, better understanding of the process).

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What is Value Stream Mapping?

- A visual tool that helps participants see and understand the process as a whole, including the flow of material and information.
- A map of all actions required to deliver a final product to the customer.
- Big picture perspective: improving the whole instead of fixing small parts individually.
- A pencil and paper tool that physically represents the process.

Westmark Consulting, LLP. (2010). Introduction to Lean: Vancouver Island Health Authority. Retrieved from <https://intranet.viha.ca/admin_resources/lean/Documents/Introduction%20to%20Lean%20-%20Days%201%20and%202%20Jan%202010%20Final.pdf>

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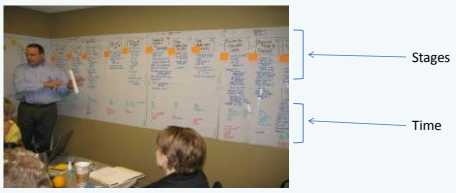
Current-State Value Steam Mapping

- Participants will create a physical map of the complaints management framework along the wall of the room, using post-it notes and hand-drawn diagrams.
- The Value Stream Map will illustrate process stages, as well as time required for each stage to be completed.
- Time will be designated as Value-added (VA) or Non-value-added (NVA).



Lean Homecare Consulting Group LLC. (2009). Process mapping exercise. Retrieved from <http://leanhomecare.com/yahoo_site_ admin/assets/images/Value_Stream_Mapping_Class_ 247201129_std.jpg>

11

Rapid Process Improvement Workshop: Renewing a Driver's License

Example:

The following slides demonstrate the Rapid Process Improvement Workshop process, applied to the framework used to renew a driver's license in British Columbia.

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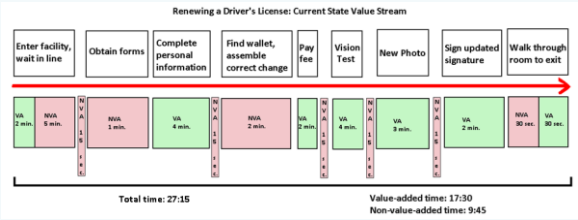
Example Step 1: Current State Value Stream Map



VA = Value-added
NVA = Non-value-added

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Example Step 2: Review of Baseline Data

- Baseline data supports participants in determining non-value-added activity and the impact of waste on a process.

Renewing a Driver's License: Data Comparison Chart (accumulated time)					
	Complete & submit personal information forms	Payment	Vision Test	New Photo	Exit
Current State	12:15	16:30	20:45	24:00	27:15
Future State					
Improvement	?	?	?	?	?

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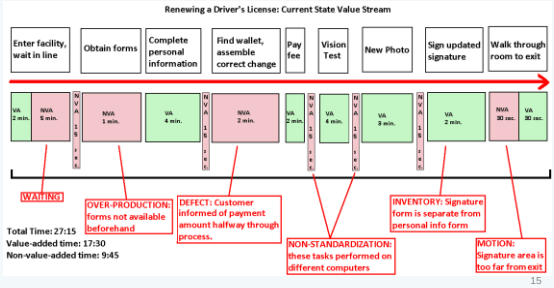
Example Step 3:
Non-value-added Activity and Waste

- Following creation of the Current State Value stream, participants determine non-value-added activity and apply 'waste' to the diagram.



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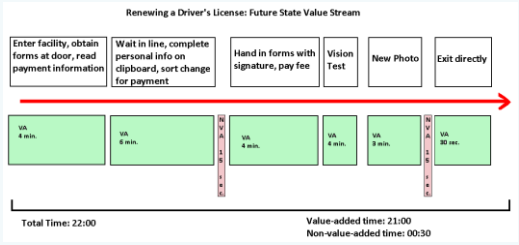
Example Step 4:
Future State Value Stream Mapping

- Participants will create a 'Leaner' future state Value Stream Map with decreased NVA activity.
- Time is decreased, resources are decreased, and most importantly, the customer experiences a process that provides them with value at every stage.



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Example Step 5:
Determining Improvement with Baseline and Follow-up Data

- Baseline data can be compared to follow-up data to gauge the effectiveness of Lean.

Renewing a Driver's License: Data Comparison Chart (accumulated time)					
	Complete & submit personal information forms	Payment	Vision Test	New Photo	Exit
Current State	12:15	16:30	20:45	24:00	27:15
Future State	10:15	14:15	18:15	21:15	22:00
Improvement	16.4%	13.6%	12.1%	11.5%	20.3%

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Sample PCQO Data Comparison Chart

- The following data will support the PCQO Rapid Process Improvement Workshop:

Sample PCQO Data Comparison Chart						
	Receipt – Acknowledgement	Acknowledgement – Intake	Intake – Review Findings Sent to Program	Intake – Review Findings Received from Program	Intake – Final Response Sent to Complainant	File Open – File close
Current State	(# of days)	(# of days)	(# of days)	(# of days)	(# of days)	(# of days)
Future State	(# of days)	(# of days)	(# of days)	(# of days)	(# of days)	(# of days)
Improvement	xx %	xx %	xx %	xx %	xx %	xx %

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Patient Care Quality Office
RPIW Schedule

Monday, October 29, 2012
8:30am: Introductions, completion of consent forms.
9:00am: Introduction to Lean.
9:30am: Current State Value Stream Mapping – PCQO Process.
12:00pm: Lunch.
12:45pm: Current State Value Stream Mapping – Program-level review process.
3:00pm: Overview of non-value-added activity and 8 Types of Waste.
4:00pm: End of day 1.

Tuesday, October 30, 2012
No group activity to take place. Independent conceptualization of non-value-added activity & waste.

Wednesday, October 31, 2012
8:30am: Coffee & refreshments.
9:00am: Review of non-value-added activity and 8 Types of Waste.
9:30am: Application of non-value-added activity and 8 Types of Waste to Current State Value Streams.
11:00am: Creation of Future State Value Stream – PCQO Process
12:30pm: Lunch.
1:30pm: Creation of Future State Value Stream – Program-level review process.
3:30pm: Re-cap and end of day 2.

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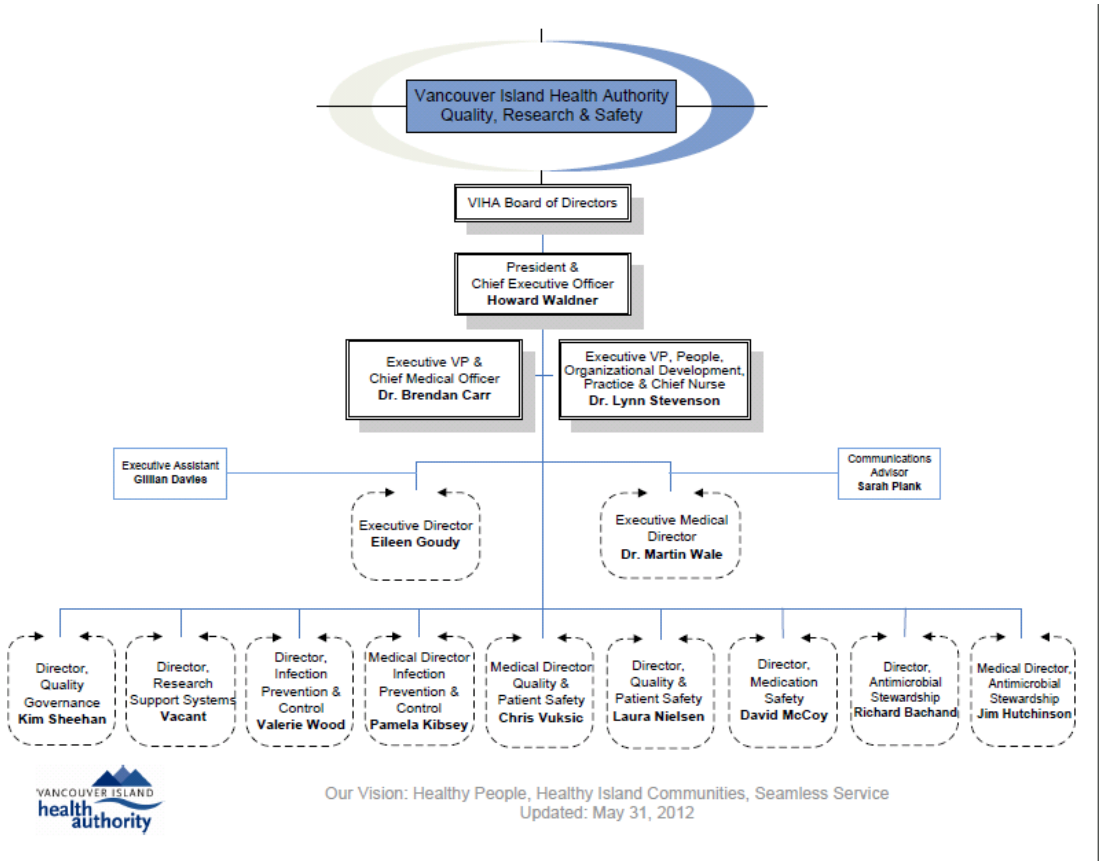
H. Quality, Research & Safety Organizational Chart

Figure H1. Organizational Chart



I. Rapid Process Improvement Workshop Pictures

Figure I1. Current State and Future State Value Stream Maps

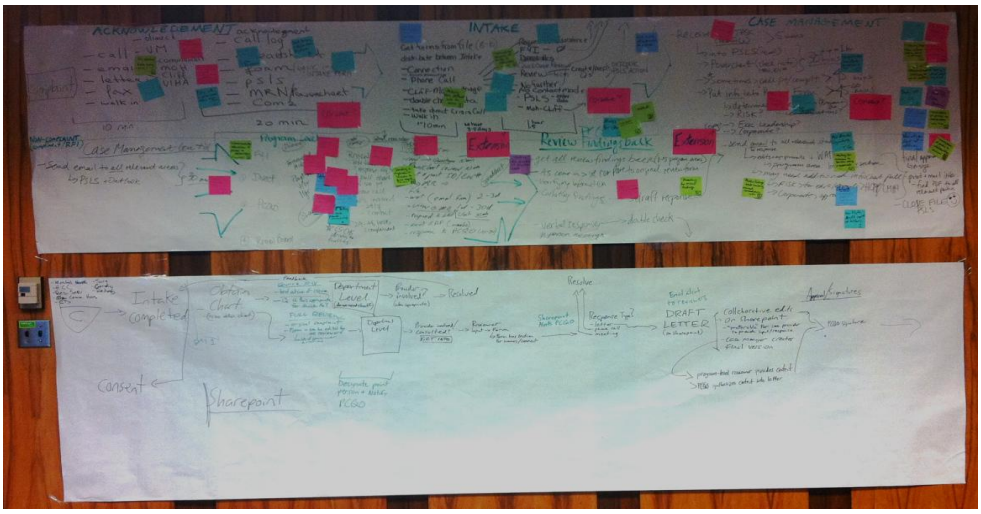
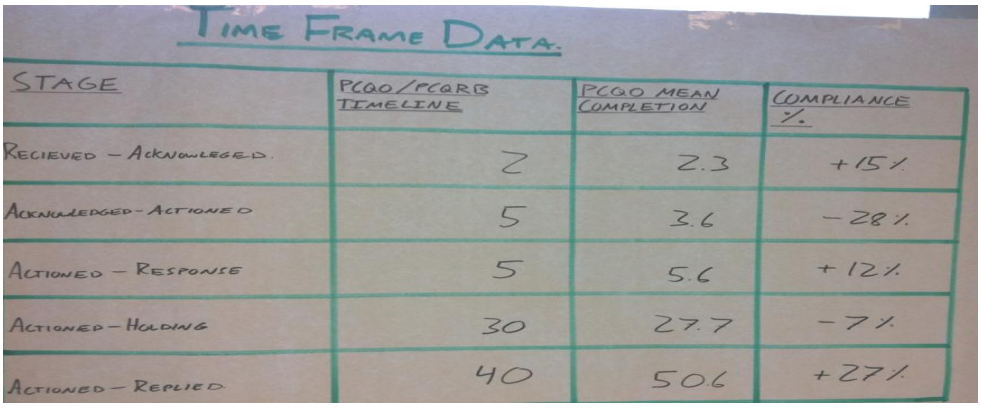


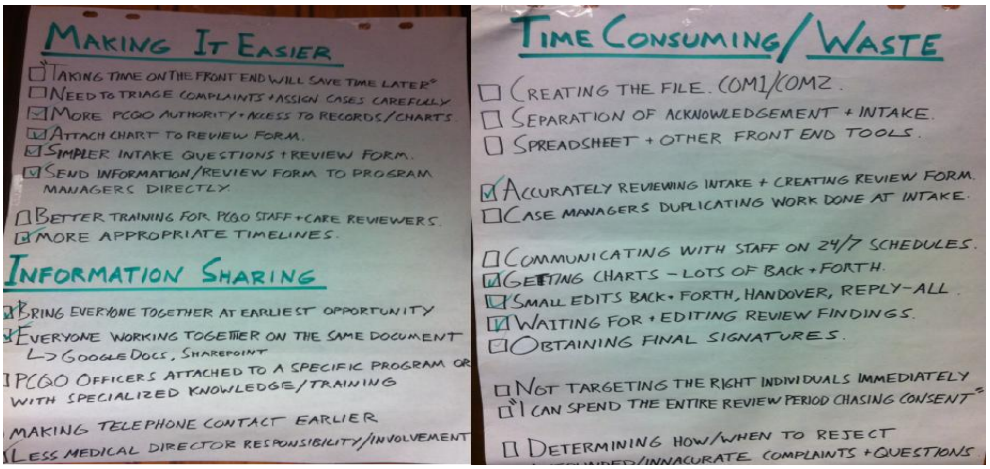
Figure I2. Quantitative Baseline Data



TIME FRAME DATA.

STAGE	PCQO/PCQRB TIMELINE	PCQO MEAN COMPLETION	COMPLIANCE %
RECIEVED – ACKNOWLEGED.	2	2.3	+15%
ACKNOWLEDGED – ACTIONED	5	3.6	−28%
ACTIONED – RESPONSE	5	5.6	+12%
ACTIONED – HOLDING	30	27.7	−7%
ACTIONED – REPLIED	40	50.6	+27%

Figure I3. Summarized Qualitative Baseline Data



MAKING IT EASIER

- ☐ TAKING TIME ON THE FRONT END WILL SAVE TIME LATER
- ☐ NEED TO TRIAGE COMPLAINTS + ASSIGN CASES CAREFULLY
- ☑ MORE PCQO AUTHORITY + ACCESS TO RECORDS/CHARTS
- ☑ ATTACH CHART TO REVIEW FORM.
- ☑ SIMPLER INTAKE QUESTIONS + REVIEW FORM.
- ☑ SEND INFORMATION/REVIEW FORM TO PROGRAM MANAGERS DIRECTLY.
- ☐ BETTER TRAINING FOR PCQO STAFF + CARE REVIEWERS
- ☑ MORE APPROPRIATE TIMELINES.

INFORMATION SHARING

- ☑ BRING EVERYONE TOGETHER AT EARLIEST OPPORTUNITY
- ☑ EVERYONE WORKING TOGETHER ON THE SAME DOCUMENT
  - ↳ GOOGLE DOCS, SHAREPOINT
- ☐ PCQO OFFICERS ATTACHED TO A SPECIFIC PROGRAM OR WITH SPECIALIZED KNOWLEDGE/TRAINING
- ☐ MAKING TELEPHONE CONTACT EARLIER
- ☐ LESS MEDICAL DIRECTOR RESPONSIBILITY/INVOLVEMENT

TIME CONSUMING/WASTE

- ☐ CREATING THE FILE. COM1/COM2.
- ☐ SEPARATION OF ACKNOWLEDGEMENT + INTAKE.
- ☐ SPREADSHEET + OTHER FRONT END TOOLS.
- ☑ ACCURATELY REVIEWING INTAKE + CREATING REVIEW FORM.
- ☐ CASE MANAGERS DUPLICATING WORK DONE AT INTAKE.
- ☐ COMMUNICATING WITH STAFF ON 24/7 SCHEDULES.
- ☑ GETTING CHARTS – LOTS OF BACK + FORTH.
- ☐ SMALL EDITS BACK + FORTH, HANDOVER, REPLY-ALL
- ☑ WAITING FOR + EDITING REVIEW FINDINGS.
- ☐ OBTAINING FINAL SIGNATURES.
- ☐ NOT TARGETING THE RIGHT INDIVIDUALS IMMEDIATELY
- ☐ I CAN SPEND THE ENTIRE REVIEW PERIOD CHASING CONSENT
- ☐ DETERMINING HOW/WHEN TO REJECT

J. Qualitative Interview Questions

1. What area of the complaints management framework do you find most time consuming?
2. What area of the complaints management framework has the most waste?
3. Which stages of the complaints management framework are not necessary?
4. What could be done to make management of care quality concerns easier for you?
5. What can be done to reduce motion and time waste associated with information sharing?
6. Do you have any suggestions about the current state value stream map that you would like to share in private?
7. Do you have any suggestions about the future state value stream map that you would like to share in private?
8. What type of data measurement, if any, would be most useful for you?
9. What needs to be done to ensure that the complainant has the best experience possible?
10. What needs to be done to ensure that recipients of care quality concerns have the best experience possible?

K. Credited Participants

The following individuals participated in the PCQO Lean improvement. These participants are identified in accordance with their request to be credited by name in the final project report, as per their indication on the participant consent form.

Robert Awai

Kim Banfield

Dr. John Copen

Kristy Heeren

Jennifer Matheson-Parkhill

Dr. Chris Morrow

Laura Nielsen

Norman Peters

Xela Rysstad

Dr. Chris Vuksic

Yvonne Zwaag

L. Supervisory Committee

Dr. Lyn Davis, Supervisor
(School of Public Health and Social Policy, Faculty of Human and Social Development)

Dr. Thea Vakil, Second Reader
(School of Public Administration, Faculty of Human and Social Development)

Carole Sundborg, External Project Client
Vancouver Island Health Authority

M. Client Deliverable

Vancouver Island Health Authority
Quality, Research & Safety

Final Project Report

Managing Care Quality Concerns at the VIHA Patient Care Quality Office: A Lean Evaluation

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December 24, 2012

Contents

Executive Summary

This report summarizes the results of a Lean improvement process that was applied to the Vancouver Island Health Authority (VIHA) Patient Care Quality Office (PCQO)'s complaints management framework. On October 29 and 31, 2012, PCQO staff participated in a two-day Rapid Process Improvement Workshop (RPIW) with care reviewers from VIHA's Emergency Services and Trauma Care, Psychiatry, Continuing Health Services, Contracted Services and Orthopedics programs. Pre-RPIW interviews identified common concerns surrounding duplication and task repetition within the complaints management framework stages, the complicated process of obtaining medical charts, and the inefficient method of editing and approving final PCQO response letters.

On Day One of the RPIW, participants created a current state value stream of the PCQO complaints management framework, and identified non-value-added activity and waste within that framework. On Day Two, participants created a future state value stream by redesigning the program-level care review stages of the Framework and appending the Acknowledgement and Intake stages to a subsequent improvement process.

The future state model of the program-level care review process consists of a two-tier process, based on the complexity of a complaint. At the completion of the complaint intake, if the PCQO determines that the complaint requires further action for resolution, the Patient Care Quality Officer will initiate an express or eull review.

Express review complaints are resolved within five business days by the program-level point person and the care provider. On a SharePoint site, the PCQO provides a brief summary of the complaint along with the patient's medical chart. The point person reviews this

information, contacts the complainant, and notifies the PCQO when the complaint is resolved. If the complaint is not resolved, the point person refers it to a full review.

A full review is completed within 40 business days. The PCQO forwards the medical chart and review form with questions to the program-level point person. The collation of review findings, drafting of letters, editing and final approval is completed on the SharePoint site. The point person obtains input from the relevant care provider(s) for every review.

The future state value stream addresses and rectifies many of the non-value-added stages in the current state model. Participants concluded the RPIW with the following sequentially organized recommendations for improvement.

1. Designate a PCQO Lean Project Manager.
2. Complete a separate Lean improvement of the Acknowledgement and Intake complaints management framework stages.
3. Enable the PCQO to obtain relevant portions of the patient's medical chart.
4. Create a PCQO Care Review SharePoint.
5. Establish Complexity Criteria for triaging complaints.
6. Create SharePoint care review forms.
7. Establish a PCQO express review process.
8. Establish a PCQO full review process.
9. Draft PCQO response letters on SharePoint.
10. Edit and approve response letters on SharePoint.
11. Involve the care provider in the care review process.
12. Establish a Communication and Implementation Plan.
13. Initiate a PCQO Future State Pilot Project.

14. Collect follow-up data and establish data collection and reporting processes.

15. Measure client satisfaction.

Individual timelines for the implementation of recommendations have not been established, as the completion of each recommendation is dependent on the completion of the recommendation in sequence before it. Buy-in from participants and complaints management framework stakeholders is essential for the successful implementation of recommendations. Timely initiation of the implementation process will ensure the motivation and commitment of these individuals. Follow-up data can be compared to pre-RPIW data to determine any changes or improvement resulting from the implementation of recommendations.

1.0 Introduction

From the Vancouver Island Health Authority (VIHA)'s perspective, achieving world class quality means listening to those within the organization and those outside, sharing ideas, and continuously improving quality through on-going communication and self-assessment (VIHA, 2012b). One way that patients, their families and their representatives can contribute to VIHA's goal of world class quality is to bring their concerns about quality of care to the Patient Care Quality Office (PCQO). The PCQO provides an accessible and transparent point of contact for clients to submit a complaint, compliment, or request for information. The PCQO help deliver compliments to the individuals responsible for providing care, and coordinates comprehensive and collaborative reviews of care quality concerns (VIHA, 2012c).

A need to evaluate and streamline the PCQO complaints management framework became necessary to allow PCQO team members and care reviewers to effectively deal with care quality concern volume. The author of this report lead an overall evaluation and improvement of the PCQO's complaints management framework to remove overproduction and non-value-added tasks from the framework, and to enable PCQO team members and program-level care reviewers to have input into the evaluation and improvement of their working roles.

This report contains a sequential overview of background, methods, findings, and recommendations, along with additional headings and subsections specifically related to the methodology and research structure. Six main sections constitute its overall structure: 1.0) Introduction; 2.0) The Lean Improvement Methodology; 3.0) Research Design; 4.0) Findings; 5.0) Recommendations; and 6.0) Conclusion.

2.0 The Lean Improvement Methodology

Lean originated in the manufacturing industry; its first manifestations were applied to the improvement of automobile production and assembly. In his 2004 book *The Toyota way: 14 Management Principles from the World's Greatest Manufacturer*, Jeffrey Liker documents how, beginning with the Ford assembly line, Lean principles evolved into their most notable phase of development as part of the Toyota Production System (TPS)[25]. Lean techniques are used as a method of workflow improvement: they help free employees from the traditional workflow mindset and the management constraints of mass production (Westmark Consulting, 2012a). Lean is about eliminating waste and prioritizing value within organizational practices.

2.01 Value and Waste

The critical commodity in any organization is value (Graban, 2012); Womack and Jones (2003, p.17) express value "in terms of a specific product which meets the customer's needs". These authors go further to express that while value can be added at many stages in a process, most processes skew the real definition of value due to traditional distortions of technology, underappreciated assets, and outdated thinking. The end result is a process or framework that may contain 'non-value-added' stages or actions (*waste*) despite an end product that is still of value to the customer. The identification and elimination of waste is the central characteristic of Lean improvement. Specifically, waste is considered to be "any

[25] Taiichi Ohno, former CEO of the Toyota Motor Company, pioneered Lean improvement methods in the automobile production industry (Liker, 2004). Innovative concepts such as allowing any employee to halt the assembly line before a defect would be passed to the next stage, and promoting an organizational culture of continuous improvement and Total Quality Management quickly propelled Toyota to the status of one of the world's leading automobile manufacturers (Liker, 2004). More detailed information about Toyota's organizational transformation is available from Liker (2004) and in Ohno's own (1988a, 1988b) publications.

human activity which absorbs resources but creates no *value*" (Womack & Jones, 2003, p. 16). Womack and Jones' widely used acronym to represent the eight types of waste, DOWNTIME, represents defects, over-production, waiting, non-utilized talent, transporting, inventory, motion, and extra-processing.

2.02 The Value Stream

In their overview of Lean principles, Womack and Jones (2003) define the value stream as "the set of all specific actions *required* to bring a specific product…[to] the hands of a consumer" (p.20). Indeed, the value stream is the central tool used in Lean improvement processes (Vinodh, Arvind, & Somaanathan, 2011, Westmark, 2012a, Liker, 2004); it is the practice of breaking a process down into its individual activities and determining value-added or non-value-added output (Jimmerson, 2009). To fully determine the extent of waste and value present in a value stream, not only the individual stages and actions but the *interactions* of those stages and actions must be examined (Stamatis, 2011). This characteristic supports the prioritization of flow as the final consideration of any value stream mapping activity. As part of a Lean improvement process, the initial value stream mapping activity results in a 'current state' map of the framework or procedure that is subject to improvement.

2.03 Flow and the Future State Value Stream

After the current state value stream is analyzed to identify value and waste, value-added actions are combined to create a new or future state value stream (Womack & Jones, 2003). The future state value stream keeps value added stages close together, to maximize flow and decrease wasteful periods of over-production and waiting. While flow thinking may seem counterintuitive due to a compartmentalized-style tendency to "batch" tasks (Womack

and Jones, 2003, p.24), Lean helps organizations switch from "organizational categories (departments) to value-creating *processes*" (p.24).

2.04 Quality Improvement and Lean British Columbia

In 2010, the British Columbia Leadership Council chose to fully support the use of Lean improvement principles as a process redesign tool within the six provincial Health Authorities, to reduce waste and increase value (British Columbia Ministry of Health, 2011). Key deliverables for the 2010/2011 Lean implementation included the creation of a provincial Lean network and several working groups, and the completion of an annual report summarizing Lean network activity and completed Lean evaluations.

More than 125 Lean evaluation and improvement projects were completed within the British Columbia Health Authorities in 2010-11(British Columbia Ministry of Health, 2011). Acceptance of Lean ranges from the Provincial Health Services Authority (2009) which has created the imPROVE program and labeled a mindset of continuous improvement within the organization, to independent applications of Lean within Fraser Health Authority (2007) and Northern Health Authority (2010). Within the Vancouver Coastal Health Authority (2011) and the Interior Health Authority (2011), as well as VIHA (2012a, 2012b), Lean principles have been adapted an organization-wide management and leadership approach (British Columbia Ministry of Health, 2011).

3.0 Research Design

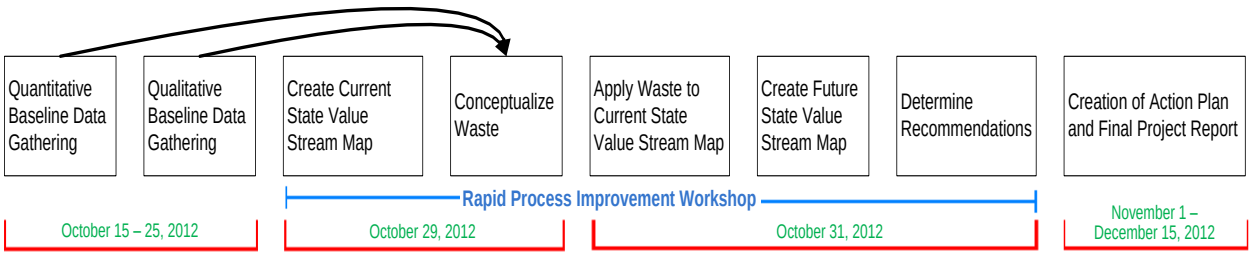
This section contains a visual overview of the research design, portraying each sequential stage in relation to actual dates and overall process. Following the Methodology

sub-section, a summary is provided of the respective research ethics approvals that were sought from the Vancouver Island Health Authority and the University of Victoria.

3.01 Research Stages

As depecited in Figure 1, this research was carried out in multiple stages, over a two-month period. The first stages consist of qualitative and quantitative baseline data gathering. These are followed by the Rapid Process Improvement Workshop, within which the current state value stream mapping, conceptualization of waste, future state value stream mapping, and determination of recommendations took place. The Rapid Process Improvement Workshop was followed by a six week period during which this report was prepared.

Figure 1. Research Stages



3.02 Participants

The RPIW participants consisted of PCQO team members and program-level care reviewers. All were VIHA employees involved in the management of care quality complaints. The specific PCQO team positions include one Program Assistant, five Patient Care Quality Officers and one PCQO Team Leader. The specific care reviewer positions include Director, Medical Director, and Physician Site Chiefs from a variety of clinical program areas within VIHA.

3.03 Methodology

3.03.1 Baseline data gathering.

Quantitative baseline data was drawn from the PCQO's records management system; Patient Safety and Learning System (PSLS). Qualitative baseline data was gathered through one-hour pre-RPIW private interviews with RPIW participants. After being collected and summarized, the qualitative and quantitative quality data was used to assist PCQO team members and care reviewers in identifying value and waste in the current state value stream.

3.03.1.1 Quantitative baseline data.

PSLS data was analyzed to determine PCQO team members' compliance with Patient Care Quality Review Board Act (2008) legislated and PCQO internal timelines for different stages of the complaints management framework. Time frame averages consist of the mean amount of days between the completion of one stage and a subsequent stage, as documented in PSLS by PCQO team members.

The quantitative baseline data consists of 469 care quality complaints received between January 1, 2012 and August 30, 2012. Fifty-seven of these complaints proceeded through every stage of the complaints management framework. The average time lines for stage completion can be compared to the PCQO's legislated and internal time lines to determine a rate or percentage of compliance.

3.03.1.2 Qualitative baseline data.

The pre-RPIW interview consisted of a standardized format with two main parts. Part one consisted of 10 open-ended questions about participants' perception of waste and non-value-added activity in the PCQO complaints management framework[26]. Part two consisted of an open discussion about complaints management that was intended to give the participants an

[26] The interview questions are included in Appendix D.

opportunity to ask any outstanding questions or make any additional suggestions that they might not feel comfortable discussing in the group format of the RPIW. The researcher documented participants' responses electronically and used content analysis to elicit Raw Data Themes and Higher Order Themes.

3.03.2 Rapid Process Improvement Workshop (RPIW).

The Rapid Process Improvement Workshop (RPIW) is the action phase of Lean. Modeled on a Japanese manufacturing doctrine called *kaizen*, or "continuous improvement" (Vinodh, Arvind, and Somanaathan, 2011), RPIWs engage process users to collaboratively map the current chain of events, test the chain in action, measure effectiveness, and take action to improve the chain for the next cycle. The following sub-sections describe the specific RPIW stages that were undertaken for the PCQO's Lean improvement.

3.03.2.1 Current state value stream mapping.

On day one of the RPIW, participants (PCQO team members and program-level care reviewers) worked together in focus group-style consultation to create a current state value stream map. Each team member and care reviewer contributed to a stage and step-based visual representation of the complaints management framework as they experienced it from their working role. The current state value stream mapping process resulted in a stage-by-stage process map, with corresponding timelines for each particular stage. The process map and its time frame component is presented in Section Four of this report.

3.03.2.2. Identification of waste and future state value stream mapping.

After creating the current state value stream map, the facilitator (this author) assisted RPIW participants in identifying waste[27] and non-value-added activity, using Womack and Jones' (1996) eight types of waste[28].

[27] The identified waste is included in Appendix F

The future state value stream mapping process took part on Day Two of the RPIW. The facilitator assisted participants in designing a new value stream that maintained the same output and value-added actions while avoiding the non-value-added activity and waste that had been identified in the current state. Qualitative and quantitative baseline data was consulted to assist participants in their reformulation of value-added and non-value-added stages and processes. The future state value stream that was produced during the PCQO RPIW is included in Section Four of this report[29].

3.03.3 Evaluation and recommendations.

On Day Two of the Rapid Process Improvement Workshop, participants were tasked with the formulation of detailed final recommendations that would affect the implementation of the future state value stream. The recommendations are included in Section Five of this report. It is notable that during the period between the end of the RPIW and the beginning of the implementation of recommendations, the PCQO will continue to work within the current state framework. While the future state value stream is often implemented immediately after completion in many Lean improvement projects, the PCQO future state will be tested as a single program pilot before being fully implemented throughout the Health Authority.

3.04 Ethical Considerations

Application for ethical approval was first submitted to the University of Victoria (UVic) – Vancouver Island Health Authority (VIHA) Joint Research Ethics Subcommittee, and subsequently to the University of Victoria Human Research Ethics Board.

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[28] The DOWNTIME chart used to map waste is included in Appendix E.

[29] Pictures from the RPIW are included in Appendix G.

3.04.1 UVic-VIHA Joint Ethics Subcommittee.

University of Victoria research that involves the Vancouver Island Health Authority (VIHA) requires an application to the UVic/VIHA Joint Research Ethics Sub-committee (University of Victoria, 2012). The researcher was informed that the proposed research does not fall within the UVic/VIHA Joint Subcommittee's scope of review[30].

3.04.2 University of Victoria Human Research Ethics Board (HREB).

The researcher submitted an application to the University of Victoria Human Research Ethics Board (HREB) on July 4, 2012. The University of Victoria HREB Certificate of Approval was issued on August 2, 2012[31].

4.0 Findings

Following the baseline data summary are the results of the value stream mapping and waste identification processes. These results include a detailed visual process map of the current state value stream, an overview of the different types of waste that was identified by participants, and a second process map of the future state value stream.

4.01 Qualitative Baseline Data Summary

The transcribed interview notes were anonymized, collated, and sorted into Raw Data Themes and Higher Order Themes[32]. The Higher Order Themes are presented in the following list.

4.01.1 Higher order themes.

8. Waste is prevalent in the complaints management framework.

[30] Documentation from the VIHA Ethics Coordinator is included in Appendix B.
[31] The Certificate of Approval is included in Appendix A.
[32] A complete transcript of the Higher Order Themes and Raw Data Themes is included in Appendix C.

9. Complaints management can be made easier.
10. Information sharing and collaboration can be optimized.
11. Measurement and data analysis can help.
12. Value needs to be created for the complainant.
13. Value needs to be created for the complaint recipient.
14. Stakeholders need to work together for improvement.

4.02 Quantitative Baseline Data Summary

The quantitative baseline data consists of the number of days passed for care quality complaints to reach each successive stage of the VIHA PCQO complaints management framework. Table 3 presents this information in regards to the PCQO's compliance with legislated response timelines (Patient Care Quality Review Board, 2008), and internal standards. The data include care quality complaints received and closed by the PCQO between January 1, 2012 and August 31, 2012.

Table 3

PCQO Time Frame Compliance in Business Days

Complaints Management Framework Stage	**PCQO/*PCQRBA* Timeline**	**PCQO Mean Completion**	**Compliance %**
Received - Acknowledged	2	2.3	+15%
Acknowledged - Actioned	5	3.6	-28%
Actioned - Response	5	5.6	+12%
Actioned - Holding	30	27.7	-7%
Received - Acknowledged	40	50.6	+27%

4.03 Current State Value Stream Map Summary

In Figure 2, different stages of the complaints management framework are represented by blue headers, and different steps by individual boxes. Estimated time frames are indicated

in red text. The red box summarizes the number of stages and steps in the value stream map and reviews the quantitative baseline data in relation to the stages. To demonstrate the 'leaner' appearance of the future state value stream, both current state and future state value streams are presented adjacently, as a conclusion to this section.

4.04 Future State Value Stream Map Summary

After considering baseline data, completing the current state value stream map, and identifying waste, RPIW participants decided that the Acknowledgement and Intake[33] stages would be best redesigned during a future Lean improvement process, so that the RPIW could be used to address the parts of the complaints management framework that contained the most waste. The future state map in Figure 3 follows the same format as the current state map; however, time frames are estimated in relation to new deadlines conceptualized by participants. Actual time frames for the completion of future state stages will be determined through the gathering of follow-up baseline data. Estimated improvement can be determined by comparing the data in the red boxes at the end of each value stream.

[33] These stages are shaded in red.

Figure 2. Current State Value Stream Map

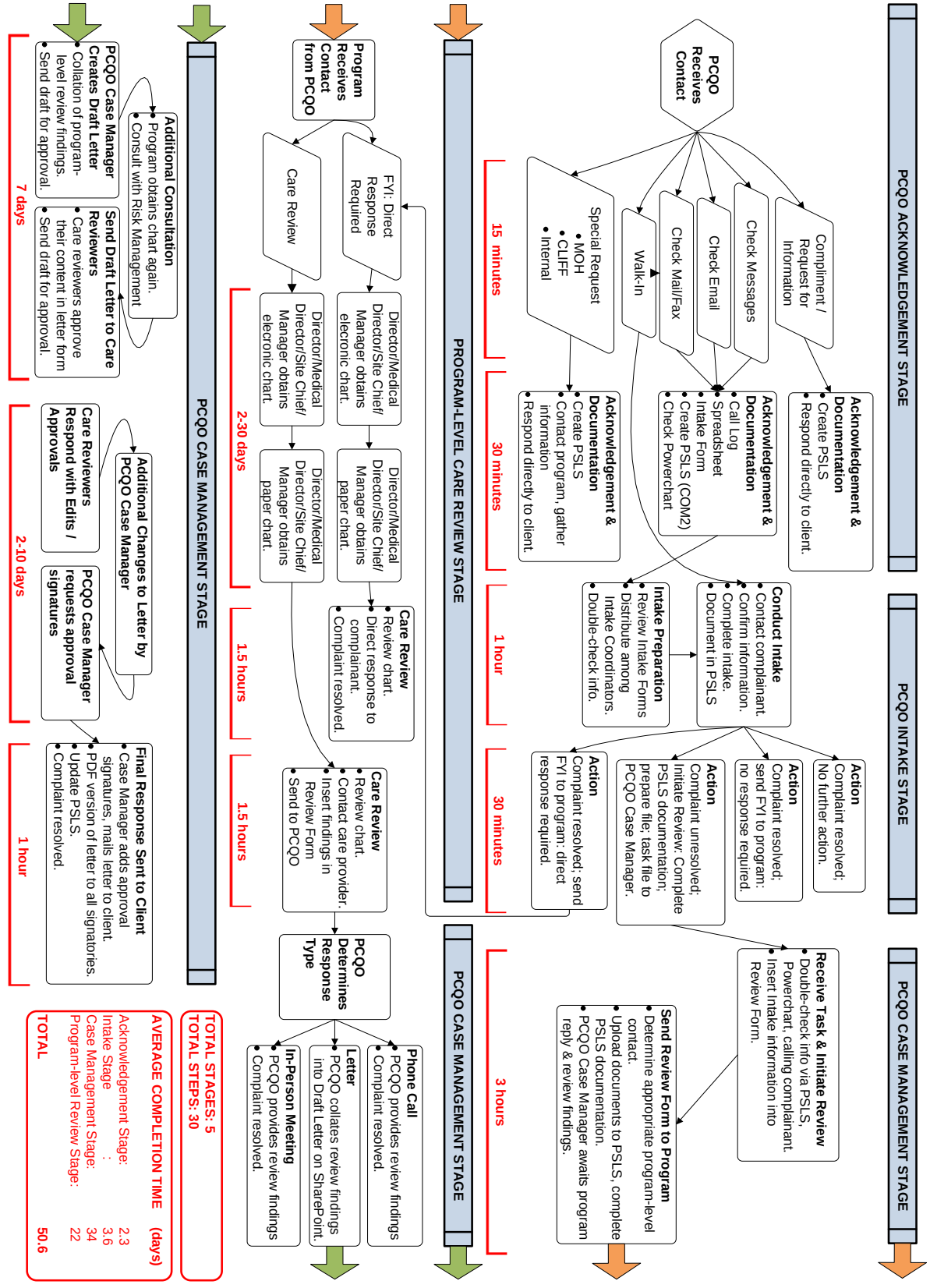
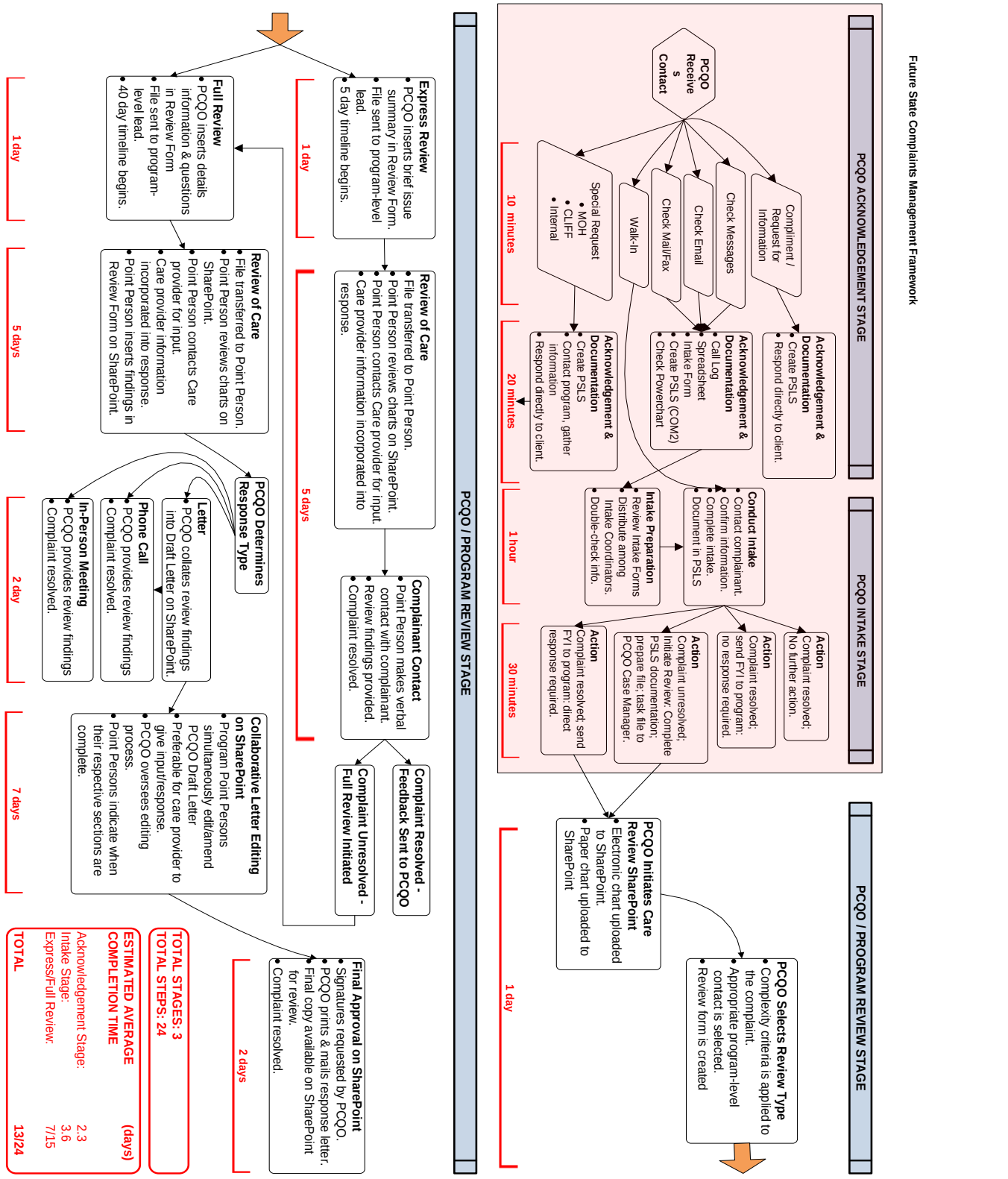


Figure 3. Future State Value Stream Map



5.0 Recommendations

In order to implement the future state value stream, 15 recommendations must be completed by the PCQO. These recommendations must be completed in the indicated sequential order. Time lines are not included due to several recommendations' requirement for consultation and partnership with external stakeholders; it is too difficult to assign a timeline when the availability of external resources is unknown. In addition, the viability of many recommendations depends on the sequential completion of prior recommendations. If a recommendation is implemented late due to circumstances beyond control, the subsequent effect on the timeline of each sequential recommendation would be exponential.

5.01 Designate of a PCQO Lean Project Manager

The PCQO should designate a Project Manager to be responsible for implementing recommendations. The Project Manager should have the ability to make contact and work with both internal and external stakeholders named throughout the recommendations. The Project Manager should lead and coordinate the involvement and contributions of participants in the recommendation implementation process. The Project Manager should be the primary contact for the PCQO Lean improvement process, and should regularly consult with internal and external stakeholders, program-level leadership, and executive leadership, when necessary. The Project Manager should provide regular progress reports to stakeholders, project sponsors, and internal leaders.

5.02 Improve the Acknowledgement-Intake Process

At the beginning of Day Two of the RPIW, participants (correctly) determined that there was not enough time to create a future state value stream of the entire complaints

management framework. As indicated in the value stream maps above, RPIW participants chose to append the Acknowledgment and Intake stages of the complaints management framework to a future Lean improvement process.

This recommendation requires that PCQO team members complete a future state value stream of the Acknowledgement and Intake stages, as soon as possible. The PCQO Lean Project Manager should be responsible for the organization and facilitation of this process.

PCQO team members involved in the Acknowledgement and Intake process should be kept informed of the Project Manager's progress in scheduling and conducting the future state value stream mapping process. Regular updates will maintain motivation and confidence that this portion of the Lean improvement remains an important priority.

5.03 Enable PCQO to Obtain the Patient's Medical Chart

One of the most consistently identified waste points was the time that it takes for program-level care reviewers to obtain and review a patient's medical chart. Reviewing the patient's chart is essential for obtaining the medical and care-related information that is passed on to the PCQO via the care review form. In the current state, PCQO team members cannot access the detailed records of a patient's medical chart. The program-level care reviewers can access the electronic portion (diagnostic test results, admission and transfer information) of a chart however they must attend the Health Records office of a care facility, in person, to access the paper portion (nursing notes, physician notes, and vital signs).

During the RPIW, participants stated that if the medical chart was attached to a review form when they received it from the PCQO, they would be able to complete care reviews up to 15 days faster. It is recommended that the PCQO establish a process for obtaining the

patient's medical chart upon initiation of a review; this process would see the PCQO include the medical chart with the review form before sending it to the program.

The PCQO should engage in consultation with VIHA Health Records in order to determine a method for PCQO access to electronic and paper versions of medical charts. For both versions of the chart, PCQO team members' ability to access documentation as non-direct care providers must be approved by VIHA Information Stewardship, Access and Privacy (ISAP). This access should be justified and requested through the use of VIHA's internal Privacy Impact Assessment (PIA) and Security Assessment processes.

5.04 Create a PCQO Care Review SharePoint

A significant waste point identified repeatedly in the pre-RPIW interviews and during the actual RPIW is the constant transfer and handover of documents and information between different stakeholders in the care review process. PCQO team members constantly contact program-level care reviewers to send review forms, complete care reviews, return review findings, and to edit and approve final response letters. In the current state, this is done via email and phone conversation, resulting in multiple versions of documents and many copies of similar and dissimilar documents being distributed to multiple stakeholders. The consequential waste is evident as duplication, over-production, and extra-processing.

During the future state value stream mapping process, participants created the recommendation that the care review process be completed on a universally accessible SharePoint site. This SharePoint should contain the patient's medical chart (as per Recommendation #3) and be a central location for completing the PCQO review form and final response letter. PCQO team members should upload a completed review form to the SharePoint, and grant access to the appropriate program-level care reviewers. These care

reviewers should then review the medical chart, and write their review findings directly on the review form. Once review findings have been entered by all care reviewers, the PCQO case manager should create a draft letter and upload it to the SharePoint; granting the same access permissions as the review form. Program-level care reviewers should then review their review findings and make any necessary edits, leaving the PCQO case manager with a completed draft letter. The PCQO case manager should request that care reviewers approve the letter and add electronic signatures. After an amount of time determined in consultation with VIHA ISAP, the PCQO should then destroy the patient's medical record.

Creation of the PCQO SharePoint should be completed in consultation with VIHA ISAP and the VIHA Quality Research and Safety (QRS) portfolio. QRS currently operates a SharePoint that contains patient identifiable information; this SharePoint should be reviewed as a potential template for the PCQO SharePoint.

5.05 Establish Complexity Criteria for Triaging Complaints

The single most distinguishing characteristic of the future state value stream map is the 'two-tier' system for completing a program-level care review. For those complaints that are not resolved at intake, instead of always initiating a 40-day legislated full review process, the PCQO case manager should determine whether a complaint can be resolved through an express review or full review.

Express review complaints will be less complex in nature, and should be resolved by a chart review, connection with the care provider, and verbal response to the complainant. Full review complaints are more complex in nature, and can only be resolved through a comprehensive care review.

In order to determine whether a complaint should receive an express or full review, a complexity criteria survey should be applied to the complaint by the PCQO case manager and program level-care reviewer. This complexity criteria survey should consist of a series of questions, whose responses can then be coded into a numeric point system. A predetermined amount of points should route a complaint to either express or full review. Question responses (factors) that add complexity should be assigned more points, and factors that do not add complexity should receive less.

The specific questions that form the complexity criteria should be determined through consultation with PCQO team members and program-level care reviewers. This consultation should take place as a focus group, guided by the PCQO Lean Project Manager who should also responsible for creating and implementing the complexity criteria survey, and using quantitative time frame data from PSLS to longitudinally evaluate its accuracy.

5.06 Create SharePoint Care Review Forms

Once the PCQO SharePoint has been activated, a number of forms and templates must be created to enable PCQO team members and program-level care reviewers to work collaboratively on the same complaint file.

The express review care review form should consist of a template to which information can be added by the PCQO case manager and the program-level care reviewers. In the case of an express review, the form should contain demographic information, a brief summary of the complaint issue, and a “not appropriate for express review” confirmation box. Once the program-level point person has completed a care review, they should update the review form on SharePoint with either a summary of the review findings and direct resolution

attempt, or they should mark the file as “not appropriate for express review”, at which point the file should proceed to a full review.

The full review care review form should contain detailed demographic information, a more detailed summary of the background and context of the complaint, as well as specific questions to which program-level care reviewers must respond. After reviewing the chart and speaking with the direct care providers, the point person should write the review findings (as a response to the questions) directly into the SharePoint review form.

A template of both express review and full review care review forms should be created through consultation with PCQO team members and program-level care reviewers. These review forms should be modeled on the current state review form.

5.07 Establish Express Review Process

Once a PCQO case manager determines, through the application of complexity criteria, that a complaint file should process to express review, they will complete the review form, upload it to the SharePoint and grant the necessary access permissions.

Once the point person has gathered the necessary information through a review of the medical chart and consultations with physicians and other care providers, they should contact the complainant directly to provide the review information and attempt resolution. If successful, the point person should notify the PCQO that the complaint is resolved. The PCQO should then contact the complainant to confirm resolution and close the PCQO file.

If the complaint is not able to be resolved through the express review process, it should be transferred to full review. As agreed by participants during the RPIW, the point person should complete an express review within five days of being notified by the PCQO.

5.08 Establish Full Review Process

Once a PCQO Case Manager has determined, through the application of complexity criteria, that a complaint file should process to express review, they should complete the review form, upload it to the SharePoint and grant the necessary access permissions. The PCQO Case Manager should use SharePoint to notify the program-level point person that a file has been activated for full review. The point person should then review the chart and contact the patient's care providers as they respond to the questions in the review form. Responses should be entered directly into the review form, and the care provider should always be given the opportunity to provide direct information and feedback. After the care review is complete, the point person should enter review findings into the review form (within five days) and notify the PCQO to draft a final response letter.

5.09 Draft Response Letters on SharePoint

In the current state, the PCQO case manager receives review findings via email from a point person or multiple program-level care reviewers. To facilitate the editing and approval process for draft letters, the draft letter should be written in a word processing document that is uploaded to the PCQO SharePoint. Once the PCQO case manager has completed the draft version, they should notify all program-level care reviewers who contributed content to that letter. RPIW participants agreed on a two day time frame for completing the draft letter.

5.10 Edit and Approve Response Letters on SharePoint

It is recommended that the review and editing process, instead of being completed through by email with multiple copies of the draft response letter, should be completed on the draft letter document on SharePoint. This document should be read and write-enabled, and

each program-level point person should be able to review and edit their clinical information that has been amalgamated into letter form by the PCQO case manager.

During the RPIW, participants agreed that the time frame for program-level review and editing should be five days. In addition, it was agreed that the PCQO case manager should be responsible for managing the editing process and for notifying the program-level care reviewers when a document is open or closed for review and editing.

5.11 Involve the Care Provider in Care Review Process

Timely and direct consultation with care providers is an important component of the future state value stream. In both the express review and full review processes, consultation with the most responsible physician, other physicians, and other clinical care providers should be an essential and immediate activity in the care review process.

In the pre-RPIW interviews, and during the RPIW itself, participants consistently indicated that physician and care provider consultation often results in information that can be used to immediately resolve a complaint. Physicians and other clinical care providers should be personally consulted with during a care review, and should be given the opportunity to provide direct written or verbal information as part of a resolution effort. Care provider consultation should be undertaken and managed by the program-level point person.

5.12 Establish an Implementation Plan

Implementing the future state value stream map of the program level review process requires clear and detailed directions for both the PCQO and each VIHA program. The Implementation Plan should be consist of a project charter that clearly defines the future state value stream and how the recommendations will result in its implementation. This project charter should be created by the PCQO Lean Project Manager in consultation with leaders

from QRS and PCQO. The project charter should be customized for each recipient or group of recipients.

The project charter and Implementation Plan should clearly indicate how the recipient's role in complaints management will change with the implementation of the future state value stream. It should also lay out a framework for how different players communicate in the new complaints management framework, and should delineate a hierarchical line of authority for process related questions and other consultation.

5.13 Initiate a Future State Pilot Project

The PCQO Lean Project Manager should implement the future state value stream as a new complaints management framework through a pilot project in a single VIHA program. The pilot style of implementation was conceptualized by RPIW participants; VIHA Emergency Services and Trauma Care volunteered as the subject program for the pilot project.

The PCQO Lean Project Manager should designate a three month period as the time frame for implementation and completion of the pilot project, during which follow-up data can be gathered. As stated in the Research Stages and Methodology sub-sections of this document, follow-up data should be gathered in the same manner as the baseline data, and a direct comparison of the two will indicate changes or improvements that can be associated with the implementation of the future state value stream. The follow-up data gathering and analysis process should be referred to as the Future State Pilot Project Outcome Evaluation.

The PCQO Lean Project Manager should work with VIHA Emergency Services and Trauma Care, using the above-mentioned Implementation Plan, to complete the pilot project. The pilot project should commence immediately following the completion of Recommendations #1-12. If the outcome evaluation indicates that the implementation of the

future state value stream pilot resulted in quantitative and qualitative improvements, the PCQO Lean Project Manager should then work with all VIHA programs to achieve full implementation.

5.14 Collect Follow-up Data and Establish Data Collection and Reporting Processes

Qualitative follow-up data should be gathered through a series of short post-RPIW interviews with RPIW participants. The PCQO Lean Project Manager should design the interview questions to be as similar to the pre-RPIW interview questions as possible. Content analysis can elicit Raw Data and Higher Order themes from the qualitative follow-up data; these themes can be compared to the qualitative baseline data themes to determine changes.

Quantitative follow-up data should be collected with the same criteria as the quantitative baseline data; the data collection period should be for a minimum of six months following the start of the pilot project. Six months of data collection will establish a data pool that is comparable to the eight month data pool used to create the quantitative baseline data set. The resulting follow-up complaints management framework time frame averages should then be compared to the baseline data time frame averages to determine quantitative changes and improvements in the PCQO's time frame compliance.

The PCQO Lean Project Manager should design a data gathering and analysis methodology for the collection of follow-up data. The Project Manager should consult with the VIHA Research Ethics Board (REB) and submit any necessary applications for REB approval, prior to collecting data.

In addition, during both the pre-RPIW interviews and the RPIW process, participants indicated that they would benefit from additional and more comprehensive data reports. Participants iterated that results-based data would be useful for determining the effect of

clinical program improvements on the frequency and severity of complaints. Detailed timeline data could help programs further streamline their internal processes to complete responses to complaints more quickly. Complaint subject trend data would enable programs to target specific areas for improvements, based on the complaint frequency. In addition, similar types of data for compliment files would enable programs to identify quality and recognize excellence.

The PCQO Lean Project Manager should work with the PCQO to design a more comprehensive data gathering and analysis process, with continuing use of the Patient Safety and Learning System data tracking program. This new process should result in a more detailed data reporting capacity. The specific methods for data gathering should be determined by the PCQO in consultation with the program-level leaders who would receive the new reports.

5.15 Measure Client Satisfaction

RPIW participants agreed that after a complaint file is closed, the PCQO should contact its former client to determine the extent to which the complaints management framework added value and met their expectations. The PCQO Lean Design Project Manager should work with PCQO team members to develop the framework for measuring client satisfaction. This framework should include a research proposal, including a methodology for data gathering and analysis. The development of a client satisfaction survey will require consultation with the VIHA Research Ethics Board. The implementation of this recommendation can be undertaken immediately as the gathering of baseline survey data will not affect the outcome of the PCQO Lean improvement project.

6.0 Conclusion

The implementation of the 15 recommendations is integral to the successful outcome of this project. Once the future state value stream is implemented, the collection of follow-up data will provide quantitative and qualitative evidence of changes and improvements to the PCQO complaints management framework. As a conclusion to this report, a summary of the projected benefits of this research is provided. Beneficiaries include the RPIW participants, other VIHA employees involved in the management of complaints, PCQO clients, and the state of knowledge for health care complaint resolution in British Columbia and Canada.

6.01 Projected Benefit to RPIW Participants

Consistent with the theoretical concepts of action-oriented research (Whyte, 1989, Patton, 2002), and the central characteristics of Lean (Womack & Jones, 2003, Graban, 2012), the Rapid Process Improvement Workshop participants effected their own benefit through participation in this research. As has been previously mentioned, all data collected by the researcher is the product of the participants. The quantitative baseline data, the themes from the pre-RPIW interview data, and the current state and future state value streams: all of this data was created by participants for the sole purpose of improving the PCQO complaints management framework.

As all RPIW participants are intricately and deeply involved in the resolution of complaints for VIHA, they will serve as the most direct beneficiaries of any and all improvements that result from the PCQO Lean improvement process. In addition, the actual practice of creating current state and future state value stream maps in the group setting provides an invaluable benefit. For all RPIW participants, knowing to the fullest extent

"where we are now" facilitates a concerted effort of moving forward to the (now equally well-understood) "where we want to be". This mutual understanding fosters transparency, and creates the team dynamic and group focus that is essential for the continued efforts needed to the implement recommendations and create a culture of continuous improvement.

The recommendation to collect follow-up data, and establish additional data collection and reporting processes will enable the benefits to RPIW participants to be quantitatively and qualitatively defined.

6.02 Projected Benefit to VIHA Employees Involved in Complaints Management

Whether the efficiencies of a more efficient and effective complaints management framework can be quantified as time frame improvements or frequency reductions, or whether they can be qualified through reports of higher morale and a greater understanding of the PCQO process, anyone with a complaints management function should benefit from the implementation of the recommendations in this report. In addition, the practice of documenting each stage and action in the complaints management framework will foster the level of transparency and mutual understanding that participants need to work together effectively. Understanding not only their own role in complaints management, but the roles of those that they work with will enable an undeniable latent improvement on teamwork and collaboration for the complex and interrelated framework of process stakeholders.

6.03 Projected Benefit to PCQO Clients

Increasing value for the PCQO client (the complainant) is a central tenet of this research. In line with the most central concept of the Lean improvement methodology, value for the customer is one of the most important considerations that process improvement participants must make (Graban, 2012, Womack & Jones, 2003). This consideration was

continually identified during the data gathering portions of this research, and reflections on value for the client were frequently noted during the pre-RPIW interviews and RPIW itself.

6.04 Projected Benefit to the State of Knowledge

This research serves as a precedent for the application of Lean improvement methods to health care complaint resolution systems. Previous research on this subject is yet unpublished. In British Columbia, each health authority adheres to a legislative requirement to operate Patient Care Quality Offices (Legislative Assembly of British Columbia, 2008). Improvement and optimization of the methods for complaints management within the Patient Care Quality Office can serve as a valuable model for evaluation and improvement projects within the other health authorities.

In jurisdictions where complaints management processes such as a PCQO are not a legislated requirement, care quality complaints, while constituting organizational risk, still serve as a valuable opportunity for organizations to improve client satisfaction and quality of care. Presenting care quality concerns to clinical programs and direct care providers as a learning opportunity can also lead to a direct and immediate improvement in services. While these aforementioned actions create a clear benefit for health care organizations and health care providers, allocation of resources must always be balanced with clinical needs to provide direct care. Therefore, the maintenance and continuous improvement of complaints management processes should be an important priority for all health care organizations. The structure of this research provides a valuable transferable framework for those organizations and for the improvement of quality in healthcare everywhere.

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Appendices

N. University of Victoria Human Research Ethics Board Certificate of Approval

Figure A1: Certificate of Approval

University of Victoria

Human Research Ethics Board
Office of Research Services
Administrative Services Building
PO Box 1700 STN CSC
Victoria British Columbia V8W 2Y2 Canada
Tel 250-472-4545, Fax 250-721-8960
Email ethics@uvic.ca Web www.research.uvic.ca

Certificate of Approval

PRINCIPAL INVESTIGATOR	Benjamin Brzezynski	ETHICS PROTOCOL NUMBER	12-290
UVic STATUS:	Master's Student	ORIGINAL APPROVAL DATE:	01-Aug-12
UVic DEPARTMENT:	PADM	APPROVED ON:	01-Aug-12
SUPERVISOR:	Dr. Lyn Davis	APPROVAL EXPIRY DATE:	31-Jul-13

PROJECT TITLE: **Managing Care Quality Concerns at the VIHA Patient Care Quality Office: A Lean Evaluation**

RESEARCH TEAM MEMBERS: None

DECLARED PROJECT FUNDING: None

CONDITIONS OF APPROVAL

This Certificate of Approval is valid for the above term provided there is no change in the protocol.

Modifications
To make any changes to the approved research procedures in your study, please submit a "Request for Modification" form. You must receive ethics approval before proceeding with your modified protocol.

Renewals
Your ethics approval must be current for the period during which you are recruiting participants or collecting data. To renew your protocol, please submit a "Request for Renewal" form before the expiry date on your certificate. You will be sent an emailed reminder prompting you to renew your protocol about six weeks before your expiry date.

Project Closures
When you have completed all data collection activities and will have no further contact with participants, please notify the Human Research Ethics Board by submitting a "Notice of Project Completion" form.

Certification

This certifies that the UVic Human Research Ethics Board has examined this research protocol and concluded that, in all respects, the proposed research meets the appropriate standards of ethics as outlined by the University of Victoria Research Regulations Involving Human Participants.

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O. Vancouver Island Health Authority Research Ethics Board Letter

Figure B1. VIHA Research Ethics Board Letter

Lynn Cummings, Nursing Research Facilitator,
Chair of Health Research Ethics Board
Vancouver Island Health Authority
1952 Bay Street, Victoria, British Columbia, V8R 1J8

June 25, 2012

Benjamin Brzezynski
Co-op Student
Patient Care Quality Office
Vancouver Island Health Authority
1952 Bay Street, Victoria, BC V8R 1J8

Dear Ben:

I am writing to confirm that at our meeting on June 7th, we discussed your co-op project commissioned by Laura Nielsen, Director, Quality and Patient Safety and concluded that the project was a quality improvement project serving both Vancouver Island Health Authority's (VIHA) objective to enhance organizational stakeholder participation in the current complaints management process while meeting the academic requirement for your Master's program in Dispute Resolution. It was agreed that your project met the Tri Council Policy Statement (2) definition of activities not requiring a Research Ethics Board (REB) review (Article 2.5, page 20) and therefore VIHA will not be reviewing your project. However, I understand from the University of Victoria (UVIC), that because your project is also for the purposes of satisfying an academic requirement, UVIC will be conducting an ethics review.

I would be pleased to offer any assistance that I can for your ethics review should you need it and all the best in your VIHA project and success in your academic endeavours.

Sincerely,

Lynn Cummings, Nursing Research Facilitator
Chair of VIHA Health Research Ethics Board

Research and Academic Development
Memorial Pavilion, KW133, 1st Floor, 1952 Bay Street, Victoria, BC V8R 1J8
Tel: 250-370-8356 Fax: 250-370-8106

P. Qualitative Baseline Data: Interview Content Analysis

Table C1

Post-Content Analysis Interview Data

Raw Data Themes	**Higher Order Themes**
- *Creating PSLS files is slow.* - *The front-end documentation tools are cumbersome.* - *Reviewing intake and transforming information into the review form can be overly complicated.* - *Case managers duplicating work that is often completed by intake.* - *Communicating with staff on 24/7 schedules is difficult.* - *Obtaining medical charts is time consuming.* - *Small edits back and forth, handover everywhere, multiple approvals, email reply-all is wasteful.* - *Waiting for and editing review findings and approvals at case management stage is not efficient.* - *Obtaining final letter signatures can take forever.* - *Waste occurs when right individuals not targeted immediately.* - *"I can spend the entire review period chasing consent".* - *Determining when/how to reject unfounded/inaccurate complaints and questions can waste a lot of time.*	Waste is prevalent in the complaints management framework.
- *Taking time on the front end will save time later.* - *The PCQO needs to triage cases and assign caseload more carefully among team members.* - *More PCQO authority and access to records and charts.* - *Copy of the chart attached to review form. Need simpler intake. questions and a simpler review form.* - *Sending information and/or review form to program managers directly would be faster.* - *Better training would help staff and care reviewers understand their role and the review process.* - *Having appropriate and workable timelines.*	Complaints management can be made easier.
- *Bringing everyone together early is best for communication.* - *Everyone working on the same document, like a GoogleDocs or a SharePoint.* - *PCQO officers attached to a particular program or with specialized responsibilities.* - *Making telephone contact earlier in the process.*	Information sharing and collaboration can be optimized.

- *Less Medical Director responsibility/involvement.*	
- *Identify potential problem files early on.* - *Develop complexity criteria to triage complaints.* - *Time frame data and volume metrics would be helpful.* - *Knowing overall complaint themes and categories would be very useful for follow-up and analysis.* - *Need results-based data. Did we implement changes did they help?*	Measurement and data analysis can help.
- *Clarification of our process. No distracters or wordsmithing in letters. Regular progress updates.* - *Phone calls seem to help, direct contact with the physician or care provider is good.* - *We should provide timelines, transparency, honesty and justice. The undiluted voice of the caregiver is important.* - *Follow up satisfaction survey attached to PCQO process.*	Value needs to be created for the complainant.
- *They need to feel safe to participate honestly and trust PCQO to represent their best interests.* - *Immediate knowledge that complaint has occurred. Content of the complaint, no prejudgement; coaching/capacity building. "here is what happens now"* - *PCQO staff needs awareness, readiness. Particularly regarding suicide and harm potential.* - *They need rapid access to records so they do not need to stew and panic after hearing of the complaint.*	Value needs to be created for the complaint recipient.
- *We need to areas for future improvements, and then have specific projects and timelines.* - *I want to understand how the entire process works.* - *Being able to meet people in person is better.* - *We need to think of each other as customers.* - *Leadership beyond the Team Leader and more communication within the portfolio would help.* - *"I want them to know that we are trying to help; trying to make things easy."* - *"We get quite defensive about what people should do. When we look at values of care, they are meant mostly for self-examination, not to point fingers at other".* - *"There is a genuineness that people want to really get to the bottom of this stuff."* - *Improvement might not be able to be quantified, but overall satisfaction and understanding can be improved. The human nature of healthcare makes this tough.*	Stakeholders need to work together for improvement.

Q. Qualitative Interview Questions

11. What area of the complaints management framework do you find most time consuming?
12. What area of the complaints management framework has the most waste?
13. Which stages of the complaints management framework are not necessary?
14. What could be done to make management of care quality concerns easier for you?
15. What can be done to reduce motion and time waste associated with information sharing?
16. Do you have any suggestions about the current state value stream map that you would like to share in private?
17. Do you have any suggestions about the future state value stream map that you would like to share in private?
18. What type of data measurement, if any, would be most useful for you?
19. What needs to be done to ensure that the complainant has the best experience possible?
20. What needs to be done to ensure that recipients of care quality concerns have the best experience possible?

R.

S. DOWNTIME Chart

Figure E1. DOWNTIME Chart

Waste Type	Examples
Defects Doing something incorrectly; inspecting for or finding errors. Re-doing or re-checking work that has already been done.	
Over-production Doing more than what is needed by the client, or doing it sooner than is needed.	
Waiting Idle time created when people, information, equipment or materials are not available when needed.	
Non-utilized talent Staff not having the opportunity to create change. Staff not being used to the best of their abilities.	
Transportation Products or information moved further or more times than the minimum necessary to complete the process.	
Inventory Excessive, or not enough, product, supplies, or information needed to complete a stage or action.	
Motion Unnecessary movement of employees in the system. Any movement of bodies that does not increase value to the client.	
Extra-processing Activities that do not add value or are redundant from the client's perspective.	

T. Identified Waste

Table F1

Waste – Acknowledgement Stage

Defects	- data entry into multiple tracking systems.
Over-production	- using two different computer systems to document files.
Waiting	- not defining a clear deadline for third party consent.
Transportation	- handing a paper file to intake coordinators.
Motion	- program assistant does not sit near intake coordinators.
Extra-processing	- tracking files in an additional excel spreadsheet.

Table F2

Waste – Intake Stage

Defects	- duplication of entering patient information into multiple files. - not having an understanding of complexity factors. - double-checking basic file information for completion/errors.
Over-production	- entering info into spreadsheets, PSLS, and paper files. - unnecessarily requesting program-level contact with complainant. - unnecessarily requesting program-level contact with PCQO.
Waiting	- not defining a clear deadline for third party consent.
Extra-processing	- multiple systems and forms (PSLS, paper form, spreadsheet). - client is asked to tell story multiple times. - tasks sent to case manager via PSLS and Outlook

Table F3

Waste – Case Management Stage

Defects	- double-checking basic file information for completion/errors. - not knowing the appropriate program-level contact. - receiving inadequate/incomplete information from program .
Over-production	- creating complication questions from intake notes. - multiple contacts with the patient. - tracking information in multiple systems. - program level does not have a central point of contact.
Waiting	- waiting for records and information from the intake stage. - not defining a clear deadline for third party consent. - waiting for draft letter approvals, edits.

	- waiting for final letter approvals.
Non-utilized talent	- inadequate education for new PCQO staff. - inadequate education of PCQO process for program-level staff
Transportation	- constant emails. - no central point of contact.
Inventory	- having to wait for electronic signatures. - multiple copies of draft letters.
Motion	- triple-checking patient information. - multiple attempts to contact individuals via phone and email. - PCQO team members not sharing the same office space.
Extra-processing	- confirming program-level contact information. - multiple forwards and hand-offs of information. - constant reply-all and email copying. - multiple program databases.

Table F4

Waste – Program-level Review Stage

Defects	- emailing the same review form to multiple programs. - having to review the chart again to gather more information. - Review form questions that are too complex. - deciphering multiple questions on review form.
Over-production	- constantly reviewing PCQO process and guidelines. - multiple copies of letters for approval. - multiple review forms for multiple programs.
Waiting	- waiting to connect with a clinician. - waiting to access the paper chart. - not defining a clear deadline for third party consent.
Non-utilized talent	- not immediately contacting the physician/care provider. - sending a physician/director to gather patient charts.
Transportation	- sending records back and forth to Health Records. - no central point of contact.
Inventory	- working with multiple programs simultaneously.
Motion	- gathering patient charts from multiple facilities. - movement of patient charts between facilities. - no central location for letter editing and approval.
Extra-processing	- understanding multiple review forms. - multiple emails and contact with staff, complainant - multiple edits, approvals, draft copies with PCQO.

U. Rapid Process Improvement Workshop Pictures

Figure G1. Current State and Future State Value Stream Maps

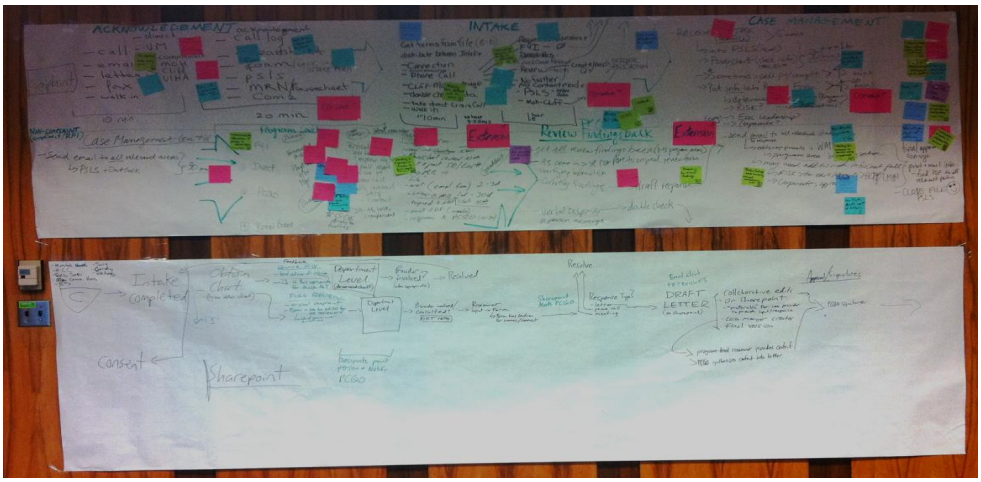
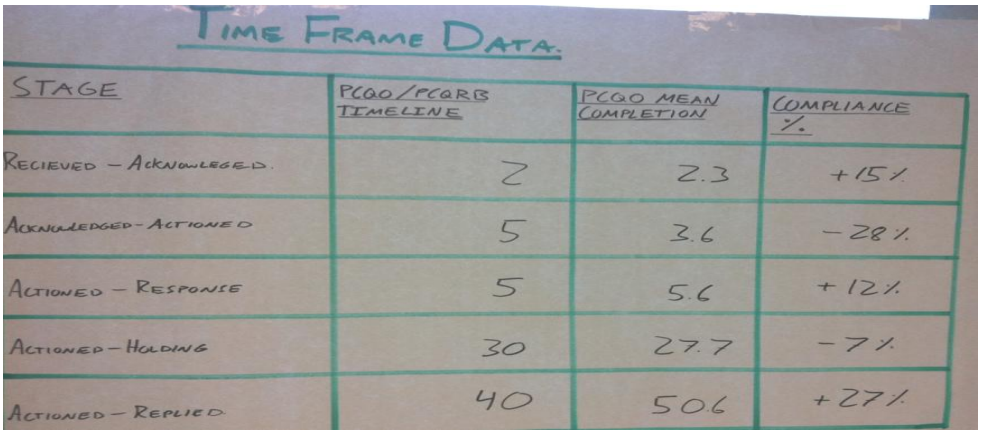


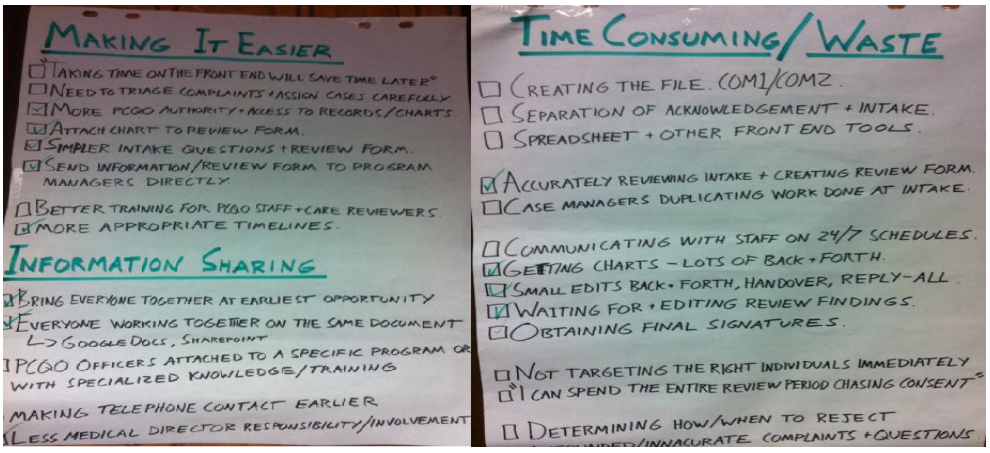
Figure G2. Quantitative Baseline Data



TIME FRAME DATA.

STAGE	PCGO/PCQRB TIMELINE	PCGO MEAN COMPLETION	COMPLIANCE %
RECIEVED – ACKNOWLEGED.	2	2.3	+15%
ACKNOWLEDGED – ACTIONED	5	3.6	−28%
ACTIONED – RESPONSE	5	5.6	+12%
ACTIONED – HOLDING	30	27.7	−7%
ACTIONED – REPLIED	40	50.6	+27%

Figure G3. Summarized Qualitative Baseline Data



MAKING IT EASIER

- ☐ TAKING TIME ON THE FRONT END WILL SAVE TIME LATER
- ☐ NEED TO TRIAGE COMPLAINTS + ASSIGN CASES CAREFULLY
- ☑ MORE PCGO AUTHORITY + ACCESS TO RECORDS/CHARTS
- ☑ ATTACH CHART TO REVIEW FORM.
- ☑ SIMPLER INTAKE QUESTIONS + REVIEW FORM.
- ☑ SEND INFORMATION/REVIEW FORM TO PROGRAM MANAGERS DIRECTLY
- ☐ BETTER TRAINING FOR PCGO STAFF + CARE REVIEWERS.
- ☑ MORE APPROPRIATE TIMELINES.

INFORMATION SHARING

- ☑ BRING EVERYONE TOGETHER AT EARLIEST OPPORTUNITY
- ☑ EVERYONE WORKING TOGETHER ON THE SAME DOCUMENT
  - → GOOGLE DOCS, SHAREPOINT
- ☐ PCGO OFFICERS ATTACHED TO A SPECIFIC PROGRAM OR WITH SPECIALIZED KNOWLEDGE/TRAINING
- ☐ MAKING TELEPHONE CONTACT EARLIER
- ☐ LESS MEDICAL DIRECTOR RESPONSIBILITY/INVOLVEMENT

TIME CONSUMING/WASTE

- ☐ CREATING THE FILE. COM1/COM2.
- ☐ SEPARATION OF ACKNOWLEDGEMENT + INTAKE.
- ☐ SPREADSHEET + OTHER FRONT END TOOLS.
- ☑ ACCURATELY REVIEWING INTAKE + CREATING REVIEW FORM.
- ☐ CASE MANAGERS DUPLICATING WORK DONE AT INTAKE.
- ☐ COMMUNICATING WITH STAFF ON 24/7 SCHEDULES.
- ☑ GETTING CHARTS – LOTS OF BACK + FORTH.
- ☑ SMALL EDITS BACK + FORTH, HANDOVER, REPLY-ALL
- ☑ WAITING FOR + EDITING REVIEW FINDINGS.
- ☐ OBTAINING FINAL SIGNATURES.
- ☐ NOT TARGETING THE RIGHT INDIVIDUALS IMMEDIATELY
- ☐ I CAN SPEND THE ENTIRE REVIEW PERIOD CHASING CONSENT
- ☐ DETERMINING HOW/WHEN TO REJECT INNACURATE COMPLAINTS + QUESTIONS