Chapter 34
Health Quality Council—Coordinating the Use of Lean Across the Health Sector

1.0 Main Points

The health sector is using Lean as a common approach for continuous improvement to improve health care. The investment in Lean by the health sector has been large. Coordinating the use of Lean as a common continuous improvement methodology across the entire health sector is complex. Effective processes to coordinate the use of Lean are important to mitigate risks such as resistance and skepticism. Lack of effective processes could result in health agencies not achieving the intended results of the use of Lean, health care not improving, and inefficient use of resources.

The Ministry of Health (Ministry) hired a consultant in 2012 to assist in implementing the use of Lean throughout the health sector. In 2013, the Minister of Health assigned the Health Quality Council (HQC) responsibility for coordinating the use of Lean across the health sector through the Provincial Lean Office. Although the Ministry made HQC responsible for the Provincial Lean Office, it did not give HQC full authority to carry out all of its responsibilities. The consultant retained certain responsibilities. The Ministry also retained authority to manage the consultant and the consultant's contract.

This chapter reports that because HQC did not have full authority to carry out its responsibilities, it did not have effective processes to coordinate the use of Lean as a continuous improvement methodology across the health sector. The Ministry has recently decided not to renew its contract with the consultant. This decision will help align the authority of HQC with its responsibility for the Provincial Lean Office.

We made five recommendations to help HQC coordinate the use of Lean across the health sector. HQC needs to:

- Implement a risk management framework for coordinating use of Lean across the health sector
- Promote alignment of Lean activities across health sector agencies by sharing information that demonstrates how activities contribute to strategic priorities
- Collect information from health sector agencies on ongoing results achieved through Lean events in the agencies
- Give written reports to the Ministry and health sector agencies on the results Lean events have achieved, and the sustainability of those results
- Report to the public on outcomes achieved through the use of Lean across the health sector

We did not assess the effectiveness of Lean methodology, nor outcomes achieved in comparison to money spent. Rather, we examined the processes HQC used to coordinate the use of Lean. These processes are important to mitigate the risks of implementing a continuous improvement methodology such as Lean.

2.0 INTRODUCTION

Lean is a continuous improvement methodology that involves analyzing processes to identify areas for improvement, carrying out activities intended to achieve those improvements, and monitoring the impact of changes. Many sectors have used Lean to improve processes.

The Government recognizes that it can be more efficient and effective. The Government is using Lean as a systematic way to improve systems and processes, streamline its work, and improve service delivery to the public.[1] It is also using Lean as one way to create a culture within the Government that will continuously seek to improve service delivery.[2]

Since 2009, the Ministry has required all agencies within the health sector to use Lean instead of allowing each agency to select its own quality improvement approach and train its staff on that approach. The Ministry expects that the use of this common approach to identify and make changes will facilitate more efficient and effective health sector-wide planning and health care delivery, and create a culture that will continuously seek to improve service delivery. The Ministry expects the use of Lean will help the sector to "think and act as one system."[3]

To achieve these expectations requires leadership and coordination. Since 2013, HQC has been the key coordinating agency for Lean in the health sector.

This chapter sets out the results of our audit of the effectiveness of the HQC's processes to coordinate the use of Lean as a continuous improvement methodology across the health sector.

2.1 Evolution of the Use of Lean in Saskatchewan's Health Sector

Since 2006, when one regional health authority decided to use Lean, the Government has gradually expanded the use of Lean across the health sector. Since 2013, it has made HQC responsible for coordinating the use of Lean across the health sector. **Figure 1** sets out key milestones in the expansion of the use of Lean across the health sector.

In 2006, the Five Hills Regional Health Authority initially adopted the use of Lean. In 2008, the Ministry launched Lean internally (i.e., within the Ministry); then in 2009, it expanded the use of Lean to all regional health authorities (RHAs) and the Saskatchewan Cancer Agency. Each of these health agencies began to carry out some improvement activities using Lean methodology (Lean activities or events).

In 2011, through a request for proposal process, the Ministry hired a consultant to provide assistance in developing a strategic plan for the health sector using Lean methodology.

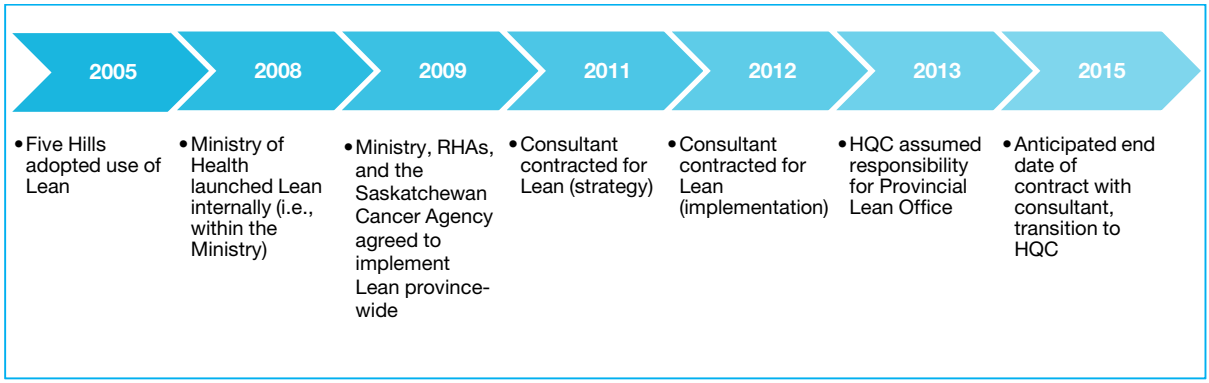
[1] http://thinklean.gov.sk.ca/toplinks/faqs/index.html (10 October 2014).
[2] http://blog.hqc.sk.ca/2014/08/28/lean-reform-saskatchewan-healthcare-adopts-lean-management-for-big-benefits/ (14 October 2014).
[3] http://thinklean.gov.sk.ca/toplinks/faqs/index.html (10 October 2014).

As the number of Lean activities increased, the Ministry and senior leadership in the health sector (i.e., RHAs and other health agency CEOs and board chairs) determined that the sector needed a consistent approach for using Lean to focus efforts and use resources effectively. This need resulted in the Ministry carrying out a further request for proposal process and rehiring the consultant in May 2012 (for a one-year term, with the option to extend the agreement for up to three additional years) to assist in implementation of Lean methodology.

This consultant helped establish a structure to support Lean quality improvement work within RHAs and other health agencies (including 3sHealth and eHealth). This structure included the creation of Lean offices.[4] The role of Lean offices was to promote and manage the Lean activity within the assigned health agency and sector-wide. Each Lean office consists of staff trained (or in the process of being trained) in Lean methodology. Lean office staff work with healthcare employees and patients in identifying, guiding, scoping, and monitoring Lean activities.

Initially, five RHAs[5] each set up a Lean office and the Ministry set up a Provincial Lean Office.[6] Eventually, the remaining health agencies established Lean offices.

Figure 1—Timeline Showing Use of Lean in the Saskatchewan Health Sector



Source: Created from Ministry of Health and HQC records.

At the request of the Ministry of Health, on April 1, 2013 HQC assumed responsibility for coordinating the use of Lean across the health sector through assuming responsibility for the Provincial Lean Office from the Ministry.[7] HQC did not receive additional funding for this. At the same time, the Ministry retained responsibility for managing the contract with the consultant. The manner in which Lean is being implemented in the health sector is primarily driven by the Ministry's requirements as set out in its contract with the consultant. For example, its contract included the consultant providing extensive training to identified Lean leaders (e.g., over 800 healthcare employees), training all health sector employees at one-day introductory improvement courses, and completing Lean events at health agencies. The majority of those selected to complete the extensive Lean leader training were managers, directors, and senior leaders.

[4] The Lean offices are called Kaizen Promotion Offices.
[5] Saskatoon RHA, Regina Qu'Appelle RHA, Five Hills RHA, Prince Albert Parkland RHA and Prairie North RHA.
[6] The Provincial Lean Office is called the Provincial Kaizen Promotion Office.
[7] HQC was established in 2002 under *The Health Quality Council Act*. Its responsibilities include promoting improvement in the quality of health care through training and education. Its *Annual Report 2013-14* (p. 2) states HQC's mission is to "accelerate quality improvement in the quality of health care throughout Saskatchewan." Since its inception, HQC has been involved in quality improvement in the health sector.

Lean in the health sector involves the following key features:

- Strategic planning, including activities to identify and communicate sector-wide initiatives and build strategic plans with input from various levels within agencies
- Mapping out activities to identify how to streamline and make improvements
- Selecting specific work processes or infrastructure and carrying out intensive projects to achieve improvements
- Analysis and redesign of workplaces to make them safer, more organized, and more efficient
- Setting targets and monitoring the impact of changes (for example through visual systems that outline changes)

In August 2014, the Ministry announced that it would not be further renewing the contract with the consultant and that the contract would end on June 30, 2015 (with an option to extend the contract to September 30, 2015). As a result, HQC's role in supporting and coordinating Lean activities at RHAs and other health agencies will increase at that time.

2.2 Significance and Risk

Improving the health system is an important task. Lean has the potential to change the delivery of health services and operations, and to impact the province and its citizens in many ways and for a sustained period. Lean is particularly significant for Saskatchewan because of the scale of its use across the health sector (and across parts of the rest of government). The Ministry states that Saskatchewan is the first jurisdiction in the world to apply Lean on such a large scale across a variety of healthcare settings.[8]

The health sector in Saskatchewan involves over 20 agencies with varying roles. The health sector provides a wide range of programs and services across a large geographic area through thousands of employees to a diverse group of citizens. This increases the complexity of coordinating the use of Lean across the sector.

The investment in Lean to date has been large in absolute terms. From 2011 to July 2014, the Ministry paid the consultant $23.3 million to assist in its deployment of Lean. Besides these costs, the health sector has spent time and dollars on setting up oversight structures (e.g., Lean offices), training, and carrying out Lean initiatives and events. From March 1, 2012 to August 31, 2014, 880 Lean events took place across the health sector.[9] Each of these events required the commitment of a team of employees for a certain amount of time depending on their role in the project. The costs associated with training and these events are not readily available, nor easily calculated. An evaluation of the use of Lean led by the University of Saskatchewan estimated that the average cost of one type of Lean event (making up just under one third of the number of total events) was approximately $34,000 per event.[10] The investment in Lean has been

[8] www.hqc.sk.ca/portals/0/documents/lean-faq.pdf (6 October 2014).
[9] Source: HQC records.
[10] The cost does not include the cost of the consultant.

significant for the Ministry, RHAs and other health agencies, and the Government overall.

Requiring change and introducing new ways of doing things can be difficult. Skepticism and resistance are often the response to change. For example, in an April 2014 employee engagement survey conducted of RHA employees, only 46% of respondents said they agreed or strongly agreed with the statement "I support the continuous improvement efforts (i.e., Lean) in our department." Also, only 29% of respondents said they agreed or strongly agreed with the statement "I believe we are transforming the healthcare system to significantly improve the quality of care in the province."[11] For the introduction of Lean, managing reactions and responses has been a significant risk.

Effective processes to coordinate the use of Lean across the health sector are important to mitigate risks. Poor coordination could result in a lack of clarity on intended results, uneven implementation, not realizing efficiencies, services not improving, inefficient use of resources, loss of confidence in Lean as a continuous improvement methodology, and not adopting Lean methodology as the norm for work practices and culture.

3.0 Audit Objective, Scope, Criteria, and Conclusion

The objective of this audit was to assess the effectiveness of the Health Quality Council's processes to coordinate the use of Lean as a continuous improvement methodology across the health sector. We assessed the Health Quality Council's processes for the 12-month period of September 1, 2013 to August 31, 2014.

We did not assess the effectiveness of Lean methodology, nor outcomes achieved in comparison to money spent.

We examined HQC's policies and procedures that related to coordinating the use of Lean as a continuous improvement methodology. We examined planning documents, contracts, job descriptions, databases, reports, and other relevant documentation at HQC. We interviewed management and staff at HQC as well as at other health agencies.

To conduct this audit, we followed the standards for assurance engagements published in the *CPA Canada Handbook – Assurance*. To evaluate HQC's processes, we used criteria based on our related work, reviews of literature including reports of other auditors, and consultations with management. **Section 5** includes key sources for these criteria. HQC management agreed with the criteria (see **Figure 2**).

Figure 2—Audit Criteria

Effective processes for the Health Quality Council to coordinate the use of Lean across the health sector includes processes to:

1. **Provide leadership on deployment of Lean**
   - 1.1 Communicate clear purpose for use of Lean at the strategic level, in alignment with direction from Ministry of Health
   - 1.2 Work within health sector governance structures to coordinate use of Lean
   - 1.3 Set timelines for activities and expected results
   - 1.4 Develop risk management framework for use of Lean
   - 1.5 Set clear reporting requirements (nature, extent, timing of information)

[11] https://spx-wfe-prod.saskatoonhealthregion.ca/about/BetterEveryDay/Documents/saskatoon_health_region_employee.pdf (8 October 2014).

2. **Develop a strategy for use of Lean, in alignment with purpose**
   - 2.1 Identify intended results (consistent with overall purpose)
   - 2.2 Develop action plan (e.g., to coordinate Lean, support regional health authorities and other health agencies, and mitigate risks)
   - 2.3 Include key stakeholders in planning
   - 2.4 Communicate strategy to all stakeholders (e.g., Ministry, agencies, staff, public and other identified stakeholders)
3. **Align Lean activities across the health sector**
   - 3.1 Supervise to promote alignment of Lean activities (e.g., provide tools and direction on activities, training, etc.)
   - 3.2 Support Ministry and agencies to mitigate risks
   - 3.3 Provide timely feedback
   - 3.4 Actively manage setbacks
4. **Monitor and report results achieved**
   - 4.1 Control the quality of data and information used for reporting
   - 4.2 Monitor progress in achieving intended results and overall purpose
   - 4.3 Report on progress (e.g., internally, to Ministry, within sector, publicly)

As previously noted, in 2013, the Ministry assigned the Health Quality Council responsibility for the Provincial Lean Office. The functions of the Provincial Lean Office include building capacity in continuous improvement, establishing a provincial infrastructure, coordinating provincial continuous improvement activity, setting direction, and reporting on performance.

We found that although the Ministry made the Health Quality Council responsible for the Provincial Lean Office, the Ministry did not give the Health Quality Council full authority to carry out all of its responsibilities. Rather, the Ministry has given the consultant certain responsibilities relating to coordinating the use of Lean. The Ministry also retained its authority to manage the consultant and the consultant's contract.

Because the Health Quality Council did not have full authority to carry out its responsibilities, we concluded that the Health Quality Council did not have effective processes for the 12-month period of September 1, 2013 to August 31, 2014 to coordinate the use of Lean as a continuous improvement methodology across the health sector.

As previously noted, the Ministry has decided not to renew its contract with the consultant. This decision will help align the authority of the Health Quality Council with its responsibility for the Provincial Lean Office.

We further found that the Health Quality Council did not have a risk management framework for coordinating Lean across the health sector. It needed to promote alignment of Lean activities at health sector agencies by sharing information that demonstrates how activities contribute to strategic priority areas.

Health Quality Council needed to improve how and what information it collected from health sector agencies to enable it to monitor and assess the benefits achieved through using Lean. Furthermore, it needed to improve its reports to the Ministry of Health and health sector agencies on Lean activity results, and to the public on the outcomes achieved through the use of Lean.

4.0 Key Findings and Recommendations

In this section, we describe our criteria (in italics), key findings, and recommendations by the audit criteria set out in **Figure 2.**

4.1 Provide Leadership on Deployment of Lean

4.1.1 Clear Purpose for Use of Lean Communicated

We expected HQC to communicate clearly the purpose for the use of Lean to make health agencies, employees, and the public aware of the reasons for using Lean throughout the health sector.

The Ministry has set out the purposes for the use of Lean. The Ministry's annual Plan for the health sector, developed in collaboration with senior leadership from RHAs and other health sector agencies (we will refer to RHAs and other health sector agencies collectively as health agencies), shows continuous improvement (Lean) as part of the foundation for achieving better health through better teams, better care, and better value.[12] The Ministry's purpose for the use of Lean in the health sector is in response to recognition that the health system does not work as well as it could or should.[13]

As outlined in its Plan, the Ministry expects the Ministry itself and health agencies to use Lean tools and methodologies to work both towards achieving breakthroughs related to priority outcomes as well as making incremental improvements related to other outcomes. For example, for 2014-15, the main priority outcome for the health sector was to eliminate emergency department wait times by March 31, 2017. The Plan includes other outcome areas where the health sector expects to make incremental improvements such as mental health and addictions, seniors care, and referral to specialists and diagnostics.[14]

HQC describes Lean as a set of operating philosophies and methods that help create maximum value by reducing waste, including the waste of time waiting for service. It expects health sector agencies to use Lean to eliminate waste or lack of efficiency in processes (e.g., waiting or duplication), eliminate defects (i.e., errors or potential for errors), and remove activities that do not add value.[15]

HQC states that Lean makes health care better in several ways:

- It increases safety by eliminating defects and errors
- Patients are more satisfied with their care
- The staff doing the work are the ones who look for waste and find better ways to deliver care
- It reduces cost, by getting rid of waste
- Patients have better health outcomes[16]

[12] Ministry of Health and Health Care System, *Plan for 2014-15* p. 3.
[13] www.hqc.sk.ca/portals/0/documents/lean-faq.pdf (6 October 2014).
[14] Ministry of Health and Health Care System, *Plan for 2014-15.*
[15] www.hqc.sk.ca/portals/0/documents/lean-faq.pdf (6 October 2014).
[16] www.hqc.sk.ca/improve-health-care-quality/lean/ (1 October 2014).

As such, HQC's intent for the use of Lean (including Lean events and activities and their related training) is not only to make improvements in the specific areas worked on, but also to create a culture that will continuously seek to improve service delivery.

We found that HQC communicated messages consistent with the purpose of Lean through its website, blog, and other communications. For example, key messages in communications included the message that "we are committed, as a [healthcare] system, to using Lean methodology to ensure the care we deliver is compassionate and patient and family centred, with no harm to patients and no waiting."[17] As well, HQC's website describes Saskatchewan's use of Lean in health care as "a common approach to providing the best possible care, most efficiently."[18]

4.1.2 Coordinating within Health-Sector Governance Structures

We expected that HQC would work within health sector governance structures to coordinate use of Lean throughout the health sector.

In 2013, HQC and the Ministry, in collaboration with the consultant, determined that the Provincial Lean Office would have five key functions: build capacity in continuous improvement, establish a provincial infrastructure, coordinate provincial continuous improvement activity, set direction, and report on performance.

We found that although HQC has the responsibility for the Provincial Lean office, it did not have full authority to carry out its responsibilities. We found the Ministry has given the authority for significant aspects of the deployment and coordination of Lean to the consultant through its agreement (see **Figure 3**). The Ministry's August 2014 decision not to renew its contract with the consultant will help align the authority of HQC with its responsibility for the Provincial Lean Office.

Figure 3—Role of Consultant for Lean Across the Health Sector

Since 2012, the role of the consultant in the use of Lean in the health sector has been significant, including the consultant's role to lead the deployment of Lean across the health sector. The consultant:

- Assisted in establishing a structure to support Lean activities (the structure for the Lean offices and the Provincial Lean Office).
- Designed, and delivered the training curriculum in Lean methodology and tools.
- Scheduled and facilitated Lean events at individual health agencies. The intent of Lean events is to focus on making improvements that relate to Saskatchewan's healthcare priorities as determined by the Ministry in collaboration with health agencies.

Source: Ministry's agreements with the consultant.

HQC works with health agencies predominantly through interactions between the Lean offices located at each health agency and the Provincial Lean Office located at HQC. HQC works with health agencies through monitoring and reporting on progress on Lean activities and sharing information on Lean activities (e.g., projects in agencies to analyze and improve specific processes).

For example, HQC recognized that one problem facing health agencies was working in isolation, rather than learning from one another. This can result in redundancies and inefficiencies that can contribute to poor service and higher costs. HQC provided

[17] www.hqc.sk.ca/portals/0/documents/lean-faq.pdf (6 October 2014).
[18] www.hqc.sk.ca/improve-health-care-quality/ (1 October 2014).

various ways for health agencies to learn from one another. These included bi-weekly conference calls, periodic face-to-face meetings, and providing websites where health agencies could access information and resources about Lean. We heard from health agencies that they considered these HQC-arranged contacts useful.

HQC took the lead on a key health sector priority. In April 2013, HQC received funding from the Ministry of Health to establish a team to lead the current key strategic initiative for the health sector: the emergency department waits and patient-flow initiative. This team was responsible for coordinating, with health agencies, Lean activities related to the goal of eliminating emergency department wait times.[19] HQC would coordinate teams of healthcare employees (along with patients) from across the province with the goal of understanding and improving processes that contribute to patient wait times in emergency departments. During our audit period, the work of this initiative was in the planning stage.

HQC works closely with a guiding coalition that consists of the Deputy Minister of Health, the CEO of HQC, and the CEOs of two RHAs. This guiding coalition provides oversight and advice on implementing Lean. This included reviewing and finalizing with the consultant the schedule for training and events across the health sector.

4.1.3 Timelines Set for Activities and Expected Results

We expected HQC would set timelines for the completion of key activities (such as training of staff, identifying the need for and facilitating Lean events or activities) and that it would set out what results it expected from these activities (e.g., improved understanding of the purpose for the use of Lean, improvements in identifying ways to improve service delivery).

Prior to HQC becoming responsible for the Provincial Lean Office, the Ministry, through its agreement with the consultant, and the individual health agencies set timelines for completion of key activities and results expected. The Ministry's intent for Lean events was for health agencies to make improvements that relate to Saskatchewan's healthcare priorities. Each health agency chose its areas of focus for specific Lean activities and was responsible for identifying results of those activities.

HQC actively kept informed of the timing and results expected through its involvement with the guiding coalition, and its work with the individual Lean offices located at the health agencies. Effective July 2015, with the discontinuation of the consultant's contract, HQC expects to assume authority for facilitating training and Lean activities and events and assisting health agencies in planning for Lean events. At August 2014, as discussed in **Section 4.2.2**, it was planning for this transition.

4.1.4 Risk Management Framework for Use of Lean Needed

We expected that HQC would develop a rigorous approach for identifying and mitigating risks related to coordinating the use of Lean. Such an approach would be particularly important as HQC prepared to assume greater responsibilities with the discontinued use of the consultant.

[19] Per agreement with the Ministry of Health.

As discussed in **Section 4.1.2**, the Ministry, through the work of the consultant, led the introduction and use of Lean across the health sector. The Ministry assigned responsibility for the Provincial Lean Office to HQC in April 2013. However, by August 2014, HQC had not developed or used a risk management framework to manage risks related to coordinating the use of Lean. As noted in **Section 4.3.2**, HQC took numerous steps to mitigate risks on an ad hoc basis.

Use of a risk management framework may have better equipped HQC and health agencies to address issues that occurred in the deployment of Lean, such as workplace resistance to Lean introduction and a lack of flexibility in adapting Lean processes accordingly.

Absent a more rigorous approach to managing risk, HQC will be less prepared to address issues as they arise.

1. **We recommend that the Health Quality Council implement a risk management framework for coordinating the use of Lean across the health sector.**

4.1.5 Clear Reporting Requirements Set

We expected that HQC would set reporting requirements for health agencies for Lean activities and events and that these requirements would clearly set out the nature, extent, and timing of reports required.

The Ministry, through its consultant, set the reporting requirements for specific Lean activities and events (i.e., content and measurements of monthly reporting and audit reporting) prior to HQC assuming responsibility for the Provincial Lean Office. HQC has continued to use these reporting requirements. As required, health agencies report in two main areas to HQC. They are:

- Monthly results of Lean events within their agency or region. The monthly reports include numerous measures including baseline measures, improvement targets, and results. They also contain anecdotal quotes from participants in the Lean events.
- Updates or "audits" of past Lean events. The purpose of the audits is to assess whether the health agency is maintaining changes achieved by the Lean events. Under Lean, health agencies must complete audits 30, 60, 90, and 180 days after the initial Lean event.

HQC has not developed any additional reporting requirements (e.g., through use of measures on whether the use of Lean is creating a culture that continuously seeks to improve service delivery). In **Section 4.4.2**, we highlight the need for additional information about whether Lean is achieving its intended results.

HQC's role, during our audit period, related primarily to communicating reporting requirements (through use of a common web portal), and collecting and collating monthly reports from health agencies. We found that HQC developed an Internet information-sharing platform for collection, analysis, and presentation of information about Lean events and activities. We heard from health agencies that they found this platform useful.

4.2 Develop a Strategy for Use of Lean, in Alignment with Purpose

4.2.1 Intended Results (Consistent with Overall Purpose) Identified

We expected HQC to identify results that the health sector intended to achieve through use of Lean. The results would be consistent with the overall purpose for Lean articulated by the Ministry.

Prior to HQC becoming responsible for the Provincial Lean Office, the Ministry had clearly identified the results it expected the health sector to achieve through use of Lean. As described in **Section 4.1.1**, the Ministry set these priorities through collaborative planning with other sector partners including HQC. The Ministry's plans included one main priority with a large planned change (i.e., eliminate emergency department wait times) and several other outcome areas with incremental changes.

We found HQC's role was more limited to helping health agencies use Lean as they worked towards health sector priorities and intended outcomes. HQC supported the main priority through its work on the emergency department waits and patient-flow initiative. It supported the work of the other outcome areas through the various supports it provided to health agencies (e.g., through monitoring and reporting on progress on Lean activities and sharing information on Lean activities).

4.2.2 Develop Action Plans

We expected HQC would develop action plans to coordinate use of Lean and that these plans would support health agencies in using Lean, and mitigate risks resulting from its use.

Prior to HQC becoming responsible for the Provincial Lean Office, the Ministry decided, through its agreement with the consultant, on the main action plans to deploy Lean. As noted in **Section 2.1**, action plans included training 800 staff and requiring them to participate in Lean events so that they can achieve certification as "Lean Leaders".

Starting in early 2013, HQC developed a Transition Plan, in part, to support the transition as the consultant's role winds down. The Plan clearly outlines the role and five main responsibilities HQC will fulfill to coordinate the use of Lean and support health agencies:

- Set direction
- Establish provincial infrastructure
- Report on performance
- Coordinate improvement activity
- Build capacity in improvement activity

We note that these main responsibilities are consistent with our criteria as set out in **Figure 2**.

We found that the Transition Plan contained, for each responsibility, action plans, critical work dates, objectives and deliverables, requirements for success, and names of HQC staff involved in delivering the work.

We found that HQC was in the process of implementing this Plan. For example, with respect to establishing provincial infrastructure, HQC has provided and managed an information-sharing platform for Lean offices. With respect to building capacity in improvement activity, HQC has managed and tracked progress of completion of Lean training at health agencies.

With respect to its emergency department waits and patient-flow initiative, we found that HQC has developed action plans for implementing a coordinated approach to improving emergency department waits. The extent of improvement work will be dependent on the level of funding the Ministry provides health agencies. At August 2014, the Ministry had not finalized its funding to health agencies for this initiative.

4.2.3 Key Stakeholders Included in Planning

We expected that HQC would include key stakeholders (e.g., health agencies) in planning. Including key stakeholders in planning would help HQC determine the activities it needed to perform to effectively coordinate the use of Lean across the health sector.

As described in **Section 4.2.2**, HQC's Transition Plan outlines HQC's main responsibilities and sets out related actions for coordinating the use of Lean. As part of its planning, HQC asked health agencies what specific support they would like to receive from HQC.

The HQC team leading the emergency department waits and patient-flow initiative consulted with stakeholders through task teams and an advisory group in planning improvement work for reducing emergency wait times.

4.2.4 Strategy Communicated to Stakeholders

We expected HQC to communicate the strategy for use of Lean to stakeholders. These stakeholders include the Ministry, health agencies, staff, public, and other identified stakeholders.

As previously noted, the main components of the strategy for use of Lean related to providing extensive training to identified Lean leaders, training all health sector employees at a one-day introductory improvement course, and completing Lean events at health agencies. Health agencies received information about this strategy through planning for participation in training and events. HQC communicated this outside the health sector through information about training and activities, for example on HQC's website.[20]

With the August 2014 decision not to renew the consultant's agreement, HQC has accelerated the development of its Lean leadership ability so that it can provide an adequate level of support to health agencies (e.g., training, facilitating, and coaching). HQC communicated key decisions related to its transition to health sector employees involved in Lean at its annual face-to-face meeting in September 2014.

[20] http://blog.hqc.sk.ca/about-lean/ (14 October 2014).

HQC communicated its plans about the emergency department waits and patient-flow initiative through meetings with the Ministry, health agencies and patient groups.

4.3 Align Lean Activities Across the Health Sector

4.3.1 More Information Required to Improve Alignment

We expected HQC would promote alignment of Lean activities across the health sector through supervision of activities at health agencies. This would include, for example, providing tools and directions on Lean activities and providing training.

To promote alignment of Lean activities, HQC reinforced the purpose of the use of Lean and provided health agencies with vehicles and forums for sharing information about Lean. Also, HQC administered a website to share information on training, standards, and Lean activities. As well, HQC provided online tools that tracked the status of health agency training in Lean methodology, Lean events, and audits (status updates) of Lean events.

HQC hosted a bi-weekly forum for health sector employees involved in Lean to discuss the use of Lean in their health agencies. HQC also used this forum to discuss other Lean-related areas such as training, challenges encountered, and reporting requirements.

The Ministry expects the use of Lean will help the health sector to "think and act as one system." HQC collected and shared information from health agencies so that health agencies could align their own activities. However, we found that HQC did not share information that demonstrated which Lean activities were contributing to strategic priority areas. Without this information, health agencies are less equipped to plan their own activities to align with strategic priority areas. As a result, there is a risk that the health sector will not "think and act as one system."

2. We recommend that Health Quality Council promote alignment of Lean activities across health sector agencies by sharing information that demonstrates how activities contribute to strategic priority areas.

We found that in regards to the emergency department waits and patient flow initiative, HQC had taken steps to promote alignment of the work of health agencies with respect to emergency department wait times. For example, it prepared a summary of improvement work related to emergency wait times that health agencies had undertaken. This summary included planned and implemented Lean events, observations on whether the Lean events were or could be replicated, and challenges.

4.3.2 Better Support for Ministry and Health Agencies to Mitigate Risks Needed

We expected that, as part of aligning Lean activities across the health sector, HQC would provide support to the Ministry and health agencies to mitigate risks related to use of Lean.

Even though HQC did not have a risk management framework, it helped support health agencies to mitigate informally-identified risks on a reactive basis.

For example, to address issues of negative media attention and resistance from healthcare workers, HQC, the Ministry, and representatives from health agencies developed a communication plan. The plan considered the roles and responsibilities of HQC, the Ministry, and health agencies. It included tools, tactics, and key messages.

Also, one output of the 2014-15 communications plan was the creation of a rapid response team to provide a rapid, coordinated response to media stories on Lean. This team was comprised of members from HQC, the Ministry, and several RHAs.

As well, through its web portal, HQC shared key messages and frequently-asked questions to help agencies address public or employee concerns regarding Lean and to promote understanding of the purpose of the use of Lean in the health sector.

In August 2014, senior management from across the health sector, including from HQC, identified a number of risks that had the potential to significantly impact the health sector as it continued to use Lean. Risks included a lack of depth in Lean leadership capability, a lack of coaching ability for Lean, and the absence of an informed and engaged healthcare workforce and public regarding Lean methodology and results. This group identified the need to work jointly to mitigate these risks.

While HQC took steps to support the Ministry and agencies in mitigating specific risks, a more rigorous risk management framework would assist them to more effectively manage risks (see recommendation in **Section 4.1.4**).

4.3.3 Provide Timely Feedback

We expected that HQC would provide feedback to health agencies to assist them to align their activities with the overall purpose of Lean and the priorities set by the Ministry in collaboration with health sector agencies.

We found that HQC's feedback to health agencies focused on improving standardized reporting on the results of Lean events. Primarily, HQC used emails to the agencies to give timely feedback. Sometimes HQC gave additional feedback or general information through its bi-weekly forum for health agencies. This was appropriate given the more extensive role of the consultant in facilitating health agency Lean events and activities and in providing feedback to health agencies.

4.3.4 Actively Manage Setbacks

We expected that HQC would take steps to actively manage setbacks as they occurred.

HQC recognizes that the implementation of Lean across the health sector has encountered setbacks. These have included, for example, lack of progress in specific Lean activities in some health agencies, high-profile and public opposition to Lean, a perceived lack of ability to adjust plans to address deficiencies, and the absence of tools to help organize information collected from health agencies.

HQC helped health agencies respond to questions from the media and employee concerns about Lean. It also assisted in adjusting Lean-implementation plans to address

deficiencies (for example, by assisting in modifying Lean training to meet identified needs). It also created tools to help gather and organize information from health agencies to help the agencies take advantage of others' experiences with Lean.

As noted earlier, implementation of a risk management framework would have assisted HQC to proactively mitigate risks and better manage setbacks (see **Recommendation 1**).

4.4 Monitor and Report Results Achieved

4.4.1 Control the Quality of Data and Information Used for Reporting

We expected that HQC would provide support to health agencies through instructions, templates, standards, and other resources to control the quality of data and information used for reporting of Lean events.

HQC has continued to promote data and information standards developed by the consultant. HQC shared those data and reporting standards with health agencies through its web portal. Also, HQC provided updates on standards to health-agency Lean offices through the bi-weekly forum that it hosted.

Aside from sharing information, we found that HQC's role was limited to providing feedback to health-agency Lean offices on their reporting as described in **Section 4.3.3**. HQC provided this feedback on reporting from health agencies through emails to health-agency Lean offices.

4.4.2 Improved Monitoring of Progress Required

We expected that HQC would routinely monitor progress in achieving intended results and the overall purpose of Lean. It would do this, for example by actively monitoring activities and results achieved through Lean events at health agencies, and monitoring outcomes achieved at health agencies and across the health sector.

We found the HQC received data from health agencies on Lean events through its web portal and then updated information in a database and reports.

Also, we found HQC did not take steps to monitor whether agencies completed all of the required audits and reported the results of those audits to HQC (see **Section 4.1.5** regarding setting of reporting requirements). We found that the information in its database was not complete. For example, we found that:

- 48% of specific process improvements of health agencies did not have updated information after 30 days
- 47% did not have updated information after 60 days
- 57% did not have updated information after 90 days
- 73% did not have updated information after 180 days as required[21]

[21] These time frames are specified in a work standard created by the consultant hired by the Ministry.

HQC stated that this was either because health agencies were not tracking their Lean events or because the health agencies did not submit the information to HQC as required.

It is important that HQC know whether agencies complete their "audits" when expected and submit results to HQC. Without knowing the status of improvement activity, it is impossible for HQC to know whether the use of Lean was actually creating sustainable change.

3. We recommend that Health Quality Council collect information from health sector agencies on ongoing results achieved through Lean events in the agencies.

We also found that HQC's reporting did not link the output of Lean events to health sector strategic priorities. Without this link, it is impossible to know whether and how Lean activities contribute to the sector's priorities or whether the use of Lean was successful in creating a culture of continuous improvement.

HQC stated it is working on improving the reporting of Lean activities to link to larger sector priorities. For example, in 2012, HQC commissioned an independent research team from the University of Saskatchewan to undertake a multi-year evaluation of Lean in the health sector. During our audit period, the team completed the first phase of this evaluation that selected outcome indicators and established baseline data for the remaining phases of the evaluation. The next phase of the evaluation is to focus on the results achieved through use of Lean methodology.

Because the emergency department waits and patient-flow initiative was at the planning stage, HQC was not in a position to monitor progress in achieving intended results and overall purpose for this initiative.

4.4.3 Improved Reporting on Progress Needed

We expected HQC would routinely report on progress achieved through use of Lean (e.g., in terms of creating a culture of continuous improvement and in improving the delivery of health services). We expected it would make these reports to its senior management, to the Ministry of Health, to health agencies within the sector, and to the public.

HQC primarily used monthly reports to report on health agencies' use of Lean. HQC provided these reports to the Minister of Health and to senior management and boards of health agencies. To prepare these reports, HQC compiled information submitted to it from health agencies. As indicated in **Section 4.4.2**, HQC does not make sure that it collects complete information from health agencies about the results of their audits of past Lean events.

We found that the information in these monthly reports focused on various Lean activities. They outlined the nature and number of recently completed Lean events, the planned changes and projected gains from these events, and the status of training health-sector employees in Lean methodology.

These reports did not consistently indicate whether health agencies had maintained the results anticipated from the planned changes of past Lean events, or achieved the gains they have projected from Lean events. This information would help HQC determine whether using Lean is making health care better.

During our audit period, HQC did not undertake any other activities to obtain information on whether the use of Lean was achieving its other intended purpose (i.e., creating a culture that will continuously seek to improve service delivery).

Without information on whether changes from Lean events resulted in sustained improvements or other information about culture within the health sector, it is not possible to have a complete picture of whether the use of Lean is making a positive difference in the delivery of health services or creating a culture of continuous improvement.

4. We recommend that Health Quality Council give written reports to the Ministry of Health and health sector agencies on the results Lean events have achieved, and the sustainability of those results.

Also, HQC does not report to the public on whether the health sector's use of Lean is achieving its intended results. While HQC publishes numerous documents, these documents only contain information on Lean and Lean-related activities and events in the health sector (e.g., an HQC Lean blog). They do not provide a complete picture on what the health sector has accomplished through using Lean.

Unless HQC actively monitors and reports on actual results (that is, outcomes) achieved using Lean, there is increased risk that adjustments in the deployment of Lean will not be made. Also, there is increased risk that lack of progress will not be identified in a timely way, there will be inefficient use of resources, and support for Lean will not be sustained.

5. We recommend that Health Quality Council report to the public on outcomes achieved through the use of Lean across the health sector.

As noted above, HQC has commissioned, through a competitive process, a multi-year evaluation of Lean. HQC commissioned the evaluation to consider results achieved through use of Lean, including outcomes achieved.

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