

Taming of the Queue VI – Improving Patient Flow

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The Taming **OF THE** Queue

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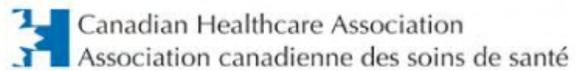


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This report is a summary of a conference program that reflects select perspectives on issues related to wait times. Neither the report nor the presentation summaries are necessarily intended to represent the perspectives of the planning committee organizations or the range of perspectives and initiatives in the field.

Executive Summary

Identify the problem before you identify the solution.

That was the sage advice from one presenter at the *Taming of the Queue VI – Improving Patient Flow*, the sixth instalment of the wait times conferences held annually in Ottawa. The above statement encapsulates the conference as a whole, which aimed to address the issues around wait times in primary care, referrals to secondary care, how to manage patient flow and what methods exist to mitigate demand for health services through prevention and appropriateness of care (thereby reducing the pressure on the health system).

The *Taming of the Queue* series of conferences began in 2004 as a means to address the burning issue of long wait times for treatment in the Canadian health care system. As an annual event, it has since covered the measuring, monitoring and management of wait times; new frontiers in wait time management; and excellence in wait time management. In the 2009 incarnation of the *Taming of the Queue*, there was a focus on innovation and best practices across the continuum of care to reduce and manage wait times. *Taming of the Queue VI* aimed to:

- explore the underlying factors that drive waiting times for health services;
- share research and experiences with wait time measurement/management among a broad cross-section of stakeholders; and
- identify policy implications of improved wait time measurement from the perspective of payers, providers and patients.

Overview

Beginning with a look at the patient perspective on wait times, the *Taming of the Queue VI* set the stage for the two days of presentations and discussions around a patient-focused health system. The presentations showcased examples of success in addressing wait times around the patient's entry point to the health system.

The presentations on access to primary care covered three areas: data, advanced access and the role of nursing. First, the data on primary care wait times were presented, and it was shown how those data can be used to influence the debate on specific wait times. Second, the topic of how to use the advanced access approach in family practice was presented, identifying the challenges that face family practice in adopting advanced access procedures. Third, the presentation on the role of nursing in family practice highlighted integration support as the key to creating successful collaborative primary care teams.

Following the primary care access approaches, there were three presentations on the referral-consultation process: 1) an example of single queue mechanisms and pooled consultant resources to reduce wait times in urology consults; 2) two examples of information technology (IT) tools for ensuring appropriate referrals and data transfer in the referral process; and 3) illustrations of how to develop prioritization scoring systems to organize the queue for services based on medical need.

Shifting the focus away from examples, the afternoon session concentrated on the different tools and strategies that help manage patient flow through the health system. These could be IT management tools that can mine health care provider data to better match supply and demand. Presenters then showed examples of using such IT tools at the regional and individual health provider level. Strategies for patient flow were covered by using operations research strategies to improve the flow of patients through the health system. The success of using different strategies to reduce wait times was illustrated using the United Kingdom experience of drastically cutting waits in both emergency rooms and elective surgery.

After opening the second day with a presentation on the concept of “queue jumping” in health care, the focus switched to ways to mitigate demand for the health system. One aspect of mitigating demand was through prevention and public health. This comprises primary prevention, by successful and well-thought-out public health programs and approaches, and secondary prevention (e.g. using telehealth systems).

The second aspect of mitigating demand covered the appropriateness of care. Improving access goes hand in hand with improving and maintaining quality care. When inappropriate care is provided to patients, the increase in demand has the potential to worsen wait times. This was illustrated using the uptake of radiology guidelines as an example, showing that, with better information on when to use radiology tests, physicians can reduce inappropriate care.

To complement the presentations from academics, health professionals, health system managers and policy-makers, the federal and Quebec ministers of Health provided addresses to the conference showcasing the importance of the wait time issue to policy-makers and the approaches being taken at national and provincial levels to address wait times.

Analysis

Overall, *Taming of the Queue VI* covered a wide range of issues relating to wait times. These ranged from questions of the demand for services (how to mitigate it), to the supply of health services (and whether increasing supply is the answer to increasing demand), to the process of delivering services. Figure 1 below outlines a very simple framework for understanding the route from demand for health services to the outcomes for Canadian health. The framework was not presented at the conference, but was developed by Canadian Policy Research Networks (CPRN) for this report. It is around this framework that we have analyzed the key messages of *Taming of the Queue VI*.

Figure 1. The Approach to Understanding Wait Times



Within the structure set out above, there were key messages delivered under demand, supply and process issues that need to be addressed to help combat wait times. There were also crosscutting issues that affected more than one area alone of demand, supply or process.

Demand

For *Taming of the Queue VI*, demand related to the needs and perceptions of patients and where it is possible to reduce demand or match demand and supply effectively.

- Patients have a unique experience of wait times in that their wait time includes additional time to worry about the condition and worry about whether or not the condition will come back.
- Addressing prevention and inappropriate care can help to reduce demand for health care.
- There is a need to match supply and demand using IT models and single queue approaches.

Supply

Supply is most commonly thought of as people and space, but this conference also identified other approaches to improving supply: collaboration, addressing root causes and technology uptake.

- There are benefits to diversifying the pool of human resources to provide health care (e.g. multidisciplinary collaborative primary care).
- Increasing capacity is not always the answer; understanding the processes that lead to wait times is vital.
- It is possible to improve wait times through better use of technology.

Process

This covers the activities and actions of the health system that culminate in the health outcomes of patients.

- Setting priorities for addressing wait lists (e.g. medical need, current wait time) and process re-engineering in the health care system can help to reduce the current wait lists.
- Providing guidelines for process management (covering system creation, implementation and management) could spread good practice across the health system.

Multiple Level

The key challenge that covers all of the supply, demand and process identified at *Taming of the Queue VI* was how to use root-cause analysis (through data mining techniques) to identify where changes need to be made to improve wait times.

Crosscutting

Additional messages arose from the conference that may not directly relate to supply, demand or process in the health system. First, there is a tension that exists between creating a patient-focused health system and one that maximizes the efficiency of the system. Second, multiple levers for reducing wait times must be used together through a quality-mapping process to reduce wait times and sustain them. Third, although reduction in wait times is the overarching theme of the *Taming of the Queue* series, doing so without recourse to quality care (which includes appropriate, safe, competent, effective and efficient care with continuity for patients) will lead to perverse impacts on the health system as a whole.

Summary

By incorporating multiple viewpoints (e.g. patients, a range of health professionals) on wait times and investigating the demand, supply and process of health care delivery, *Taming of the Queue VI* has broadened the scope of the wait times conferences. This broader approach has the potential to reduce waits through a more efficient and effective health system. The success of the approach will be dependent on how stakeholders endorse the findings, approaches and lessons from *Taming of the Queue VI* with an eye to action.

Taming of the Queue VI – Improving Patient Flow

1. Introduction

Previous *Taming of the Queue* conferences have addressed the measuring, monitoring and management of wait times; new frontiers in wait time management; and excellence in wait time management. The March 2009 *Taming of the Queue VI* addressed ways to improve patient flow in the system, with particular focus on the patient, access to primary care, management tools for patient flow and mitigating the demand for health care.

Bringing together representatives of patient groups, health care professionals, health system managers, academics, policy-makers and key decision-makers, *Taming of the Queue VI* began with the patient's perspective on wait times. Then the conference covered ways to improve access to primary care and how to improve wait times in the referral-consultation process. To close the first morning, the federal Health Minister, the Honourable Leona Aglukkaq, talked about the federal government's priorities and commitments in the area of health care and wait times. She discussed ways that governments can help keep Canadians healthier, thus reducing the demand for health care and associated waits. The afternoon session delved into patient flow management tools and strategies, comparing principles, information technology (IT) and other organizational tools, as well as international perspectives from the United States and the United Kingdom.

The second day of *Taming of the Queue VI* shifted the focus from strategies for improving access and patient flow, to how to mitigate the demand and improve the appropriateness of health care. To kick off the day, CBC Radio One's Dr. Brian Goldman talked about findings from his radio show "White Coat, Black Art." The ways to mitigate demand for health care were covered in two areas: primary and secondary prevention. The presentations on providing appropriate care included an overview of the issue and relating appropriateness to guidelines. To wrap up the conference, Quebec's Health Minister, Dr. Yves Bolduc, spoke about the efforts in his province to reduce wait times. His examples of successful approaches at the provincial level and the multiple tools used to reduce wait times provided a fitting end to *Taming of the Queue VI*: a reminder of the success achievable through action on improving patient flow and reducing demand.

What follows are summaries of the presentations and addresses made to the *Taming of the Queue VI* conference. We have also summarized key points that emerged in the general discussion of the presentations. The presentation slides are available on the website of Canadian Policy Research Networks (www.cprn.org) along with those from past conferences and past conference reports.

Finally, CPRN has identified a framework for thinking about wait times issues that allows categorization of the key themes of *Taming of the Queue VI*. Section 3 provides this framework, places the themes into categories and discusses crosscutting issues arising from the conference as a whole.

2. Presentations, Questions and Ministerial Addresses

This year's *Taming of the Queue VI – Improving Patient Flow* conference took place in Ottawa on March 26 and 27, 2009. It focused on the flow of patients through the health system. The conference began with a view on wait times from the patient's perspective, setting the scene for expert presentations by speakers from national, provincial and regional health-related organizations, as well as individuals with unique perspectives on the health system. The presentations covered a number of themes:

- the patient's perspective on waiting;
- improving access to primary care;
- improving wait times in the referral-consultation process;
- patient flow management tools and strategies;
- anecdotal evidence on queue jumping in the Canadian system; and
- mitigating demand through prevention and appropriateness of care.

There was also a view into the government approach to wait time reduction, with speeches from the federal Minister of Health, the Honourable Leona Aglukkaq, and Quebec's provincial Minister of Health, Dr. Yves Bolduc.

2.1 Day One: Thursday, March 26

This year's *Taming of the Queue* conference was co-chaired by Dr. Brian Goldman, host of CBC Radio One's "White Coat, Black Art" medical talk show, and Ms. Pamela Fralick, Chief Executive Officer (CEO) and President of the Canadian Healthcare Association. They opened up the conference by referring to the ongoing nature of *Taming of the Queue* and explained how the sixth in the series was taking a different approach compared with previous conferences – focusing on wait times outside of secondary care, how to use technology and how to reduce demand for health care. The first presentation, providing the patient's experience of wait times, showcased the change in focus from previous years.¹

2.1.1 *The Patient's Perspective on Waiting*

The Other Side of the Table: The Patient's Perspective on Waiting

Peter Goodhand, Canadian Cancer Society

Mr. Peter Goodhand is the CEO of the Canadian Cancer Society, Ontario Division, a community-based organization of volunteers whose mission is the eradication of cancer and the enhancement of the quality of life of people living with cancer. He also has a personal connection to cancer, as he was a primary caregiver and patient advocate throughout his wife's 12-year cancer journey after his family moved to Canada in 1988. It was from both of these perspectives that Mr. Goodhand elucidated the cancer patient's viewpoint on wait times, using personal experiences to complement multiple studies of patient perspectives.

¹ Please note that, during Day One, questions were asked at the end of panels rather than after individual presentations. Therefore, questions are covered in this report at the end of each panel theme rather than after each presentation.

He began by stressing the need for all at the conference to step out of their professional capacity and into the patient's perspective. He showed the common wait times associated with going through cancer care and then overlaid the wait times as experienced by the patient, building a road map of the patient's journey through cancer. In this road map, Mr. Goodhand showed that, prior to contacting the health system, patients experience a period (wait time) of suspicion that something is wrong with them. This suspicion can last from weeks to years.

As patients go through the health care system, they experience frustration, anger and fear at wait times during their treatment. This can lead to altered perceptions of time (the length of time to get tests back while waiting for a diagnosis can seem incredibly long for some and too short for others); comparing their wait times with others' personal experiences (showing that the average wait time means nothing to individuals); concerns over the health effect of their waiting for treatment; and difficulties in understanding how external factors such as their geographic location can impact on wait times.

The final message Mr. Goodhand left with the conference participants was that patients are individual people: they are not interested in statistics around general wait times; they are interested in communication around personal wait times. He noted a need for the system to re-personalize the relationship between doctor and patient.

Questions for Mr. Goodhand included these:

- Currently there is a difficulty for doctors in seeing each patient as an individual. What could doctors do to personalize each patient?
 - Mr. Goodhand suggested that there were a number of approaches to help doctors that included new media for spreading the message (plays, interactive media) and the role of patient organizations in training doctors.
- In Denmark cancer patients are entitled to jump any queue for treatment and are placed in control of their own treatment schedule. Would this work in Canada?
 - Mr. Goodhand responded that patient navigation is a vital aspect of improving the patient's experience of waiting in the health system.

2.1.2 Improving Access to Primary Care

The first panel of presenters of *Taming of the Queue VI* took their cue from the opening presentation, addressing the point of entry for patients into the health system: primary care.

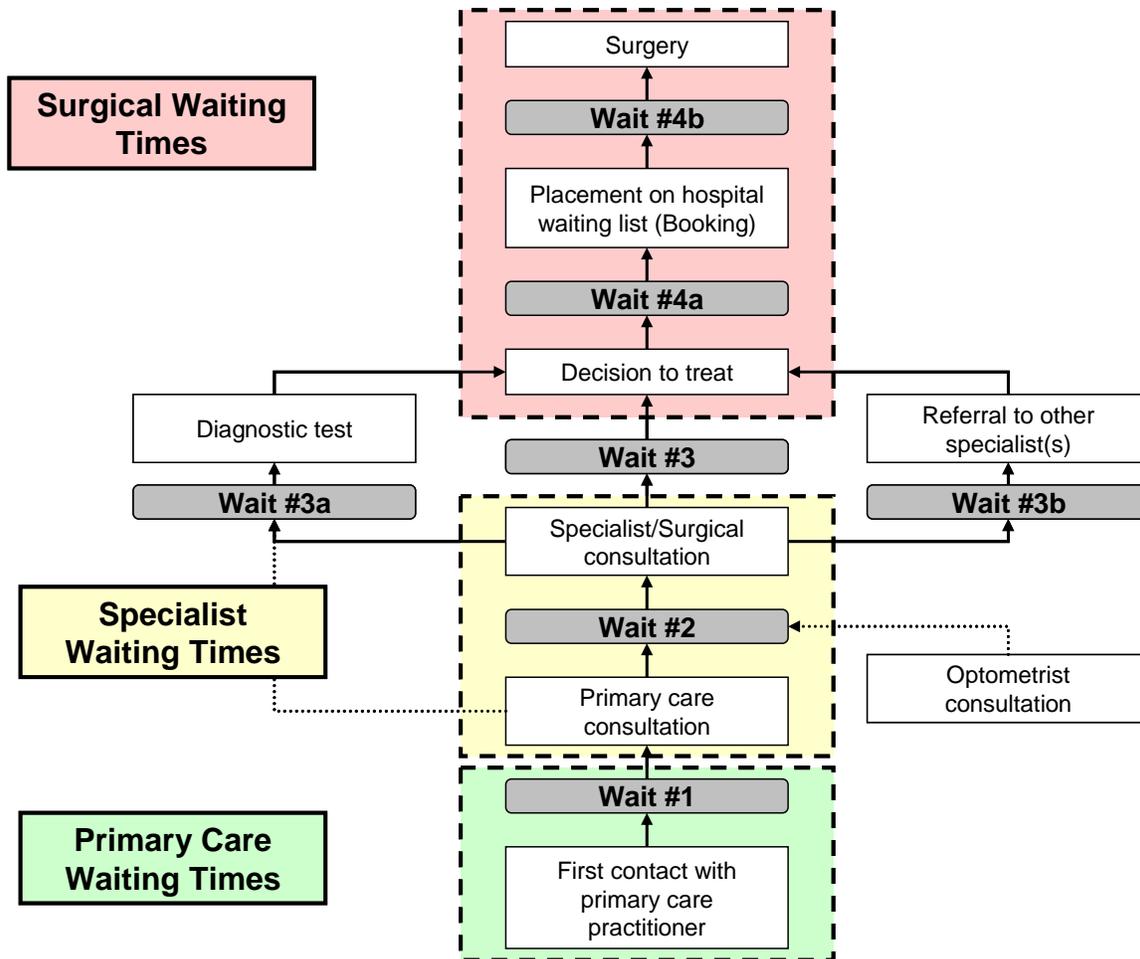
Waiting Times for Primary and Specialist Care – Results from National Surveys

Claudia Sanmartin, Statistics Canada

Dr. Sanmartin works as a senior researcher in the Health Information and Research Division at Statistics Canada with a specific focus on waiting times (including contributions to the development of the first national survey on waiting times). She has also been a research collaborator with the Western Canada Waiting List project (WCWL) since its inception.

Dr. Sanmartin provided a unique overview of wait times across the country, reflecting on how population level data can help to define the wait time problem. She placed her presentation in the light of a framework developed by the WCWL that showcased where different waits occur in the patient's path through the health system (Figure 2). The framework shows the patient's journey through the health system and identifies where waits occur. Using the framework, Dr. Sanmartin focused on two waits in particular: primary care waits (Wait #1) and specialist consultation waits (Wait #2).

Figure 2. Western Canada Waiting List Project (WCWL) Wait Times Framework



Source: Sanmartin et al. (2003).²

² Sanmartin C., and the Steering Committee of the Western Canada Waiting List Project. 2003. "Toward Standard Definitions for Waiting Times." Healthcare Management Forum – Gestion des soins de santé, Summer: 49-53.

For primary care waits, Dr. Sanmartin described the Canadian Survey Experiences with Primary Health Care, a survey following people involved in the Canadian Community Health Survey that allowed Statistics Canada to link data between the two surveys. She showed findings that indicated that the majority of Canadians (74%) were not able to access their family physician for a same-day appointment, and that even those with a family doctor were using walk-in clinics as a way to access same-day appointments. This compared unfavourably with other countries, where the likes of the Netherlands and New Zealand had less than 50% of their population being unable to access same-day appointments.

Looking at specialist care waiting times, Dr. Sanmartin showed that waiting times remain the number one barrier to accessing specialist care (to include consultations, non-emergency surgery and diagnostic tests). She showed specialist care wait times to be relatively consistent across the provinces, at around 4.3 weeks, and showed that wait times have remained stable over the last few years (2003-2007 data). In an international comparison, Canada had the highest percentage of a patient population waiting two months or more for specialist care (42% of patients). She identified three factors associated with specialist wait times: the gender of the patient, with women waiting longer; whether the patient had a regular medical doctor (MD), with those having a regular MD waiting longer; and where the patient's referral came from, with patients referred by their family physician waiting longer.

Dr. Sanmartin concluded by reiterating the need for population level data on primary care wait times, stressing that, with good data, these surveys can focus the wait time spotlight on areas most in need of change.

Primary Care Models in Action – Advanced Access

Ernst Schuster, Family Physician, Alberta

Dr. Schuster holds the position of Medical Director, Primary Care, for Capital Health (now part of Alberta Health Services), where he provides medical leadership to Capital Health in primary care. In his presentation he outlined the principles of advanced access to primary care, an approach to quality in family practice and how to use a patient panel in monitoring family practice.

Advanced access to primary care is built on the principles of:

- matching supply and demand;
- using process management tools from other industries, providing continuity of care (measured using the time to third next available appointment for an office visit);
- removing the backlog by doing “today’s work today”; and
- optimizing the workspace.

Using these principles can help to provide same-day access (decreasing pressure on emergency rooms), make patients more satisfied with their care, reduce the need for diagnostics and reduce costs in the health system. Dr. Schuster noted that the concept of wait times existing because demand outstrips supply was wrong for Canada, since wait times had not changed much in recent years, suggesting a balance of supply and demand but a significant backlog of patients on lists.

When considering approaches to quality in family practice and the uptake of advanced access approaches, Dr. Schuster noted the role of the family physician as “quarterback” for access to the health care system and the importance of a well-functioning family practice team in providing quality health care. He claimed that understanding the patient load is also important in creating an advanced access approach to primary care, as well as placing the patient at the centre of the practice and not relying on patients to report on changes to their health (a proactive approach to patients who haven’t been seen in some time). Dr. Schuster discussed the changes that had occurred at his own family practice through using advanced access tools. He identified that the exam rooms were now all uniformly set up, family practice team members could flow-map clinic tasks, a chronic disease management nurse had been added, and weekly team meetings and daily “huddles” had been initiated. He also noted that the changes had led to reduced return visit rates for patients.

In addressing patient panel monitoring for family practice, Dr. Schuster broke down his own practice into gender, age and chronic condition statistics to highlight his patient panel. He showed how his practice had successfully increased the continuity of care and reduced average wait times but said that there were always going to be fluctuations in wait times for appointments over a year (due to staff holidays, public health scares, etc.). He summarized his presentation by identifying the challenges that face those in family practice in adopting advanced access procedures: the need to engage staff and patients, the need for collaborative approaches to family practice and the need for appropriate clinic infrastructure. He finished by paraphrasing the Canadian College of Family Physicians: “Every Canadian should have a family doctor *who has the capacity to provide consistent, excellent care.*”

Nursing in Your Family Practice – A Program for Physicians

Patsy Smith, Consultant on behalf of Primary Health Care, Capital Health, Nova Scotia

Ms. Smith is a leadership and health care consultant with a special interest in primary health care systems. Currently, she is the project lead for the “Nursing in your family practice” initiative with Primary Health Care at Capital Health. She maintains a clinical practice as a family practice nurse in a primary health care centre in rural Nova Scotia. In her presentation, Ms. Smith described the Capital Health program, a program of supports for family physicians and family practice nurses in Nova Scotia.

The key aspects of the model are that:

- there is an integrated team of physicians and nurses;
- any patient visit provides an opportunity for multiple health interventions (e.g. checking blood pressure on an appointment made to get a back problem diagnosed);
- patients are full participants in care; and
- internal processes support the application of clinical practice guidelines.

By incorporating this model, it is possible to increase the number of patient visits by two to three per hour, with the additional revenue covering the cost of employing nurses in the practice. By using the nurse to his or her full scope of practice, time is saved by the physician on non-complex conditions.

To participate in the program, teams receive a resource manual, a nursing education program, support for integration into the program, collaborative team days and an ongoing lecture series. Integration support takes the form of mentorship support (space usage, office efficiency, team member roles, etc.) and communications support (through telephone and e-mail). Collaborative team development currently covers three chronic disease categories (diabetes, chronic obstructive pulmonary disease and cardiovascular conditions) and works through networking practices, improving communications, encouraging best practice uptake (through guidelines) and using electronic records for patients.

This program has been through a phase I evaluation and is awaiting phase II evaluation. In phase I, Capital Health used a provider survey, a service description survey, a project tracking form, a team survey and a selection of Canadian Institute for Health Information indicators to assess progress in the program. The findings suggested that the program had led to significantly enhanced access to care (more new patients accepted and wait times decreased); an expanded scope of practice for nurses (allowing around two additional patient appointments per hour); increased provider satisfaction; and enhanced screening and prevention around chronic diseases (this also includes chronic disease management by nurses). To sum up, Ms. Smith identified integration support as the key to creating successful collaborative primary care teams.

Questions for this panel included these:

- Does reducing visit lengths reduce practitioner income?
 - Shorter visits allow more patients to be seen – there is plenty of work to go around.
- Have the changes to primary care decreased visits to emergency rooms?
 - Neither Dr. Schuster nor Ms. Smith could categorically say yes, but both indicated that anecdotal evidence is that ER visits have decreased.
- Have the changes led to longer wait times in clinic for patients?
 - Dr. Schuster commented that patients in his clinic now routinely wait less than 15 minutes in clinic for their appointment.
- Dr. Sanmartin was asked if the Statistics Canada survey identified patients who were referred but never saw a specialist and whether it could identify those referred by nurse practitioners.
 - Although unable to identify referred patients who did not see a specialist, the survey did include patients who were referred by nurse practitioners (although it could not break down to this level of detail).

2.1.3 Improving Wait Times in the Referral-Consultation Process

After entering primary care, those patients in need of specialist help must go through the referral process in order to access a consultation. The three speakers in the second panel of *Taming of the Queue VI* addressed this second wait time in the care system.

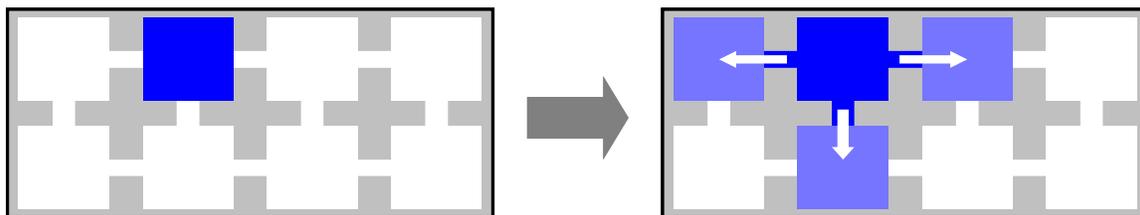
Urology Services

Kishore Visvanathan, Saskatoon Regional Health Region

Dr. Visvanathan is Division Head, Urology, for Saskatoon Health Region (SHR) and Associate Professor of Surgery at the University of Saskatchewan. He is project lead for Advanced Access (an initiative to reduce Saskatoon urology wait times) and is also Co-Chair for SHR's Client and Family-Centered Care Steering Group. In his presentation, Dr. Visvanathan described the advanced access program in urology in Saskatoon Health Region.

The urology advanced access initiative uses pooled resources of all urology consultants in the SHR to create an “ice cube tray” model for distributing referrals between consultants to make maximum use of capacity (Figure 3). When one specialist has a full quota of patients (blue), his excess (or wait list) is picked up by other specialists in the tray (light blue) to ensure that wait times stay low. As this model only exists for initial referrals, it does not compromise continuity of care. Also, if a patient requests a specific consultant, then they will not enter the ice-cube tray model, thus maintaining a patient focus in referral. This pooled referral process has reduced wait times, but only through pooling of consultant income so that there is no incentive for individuals to see additional patients.

Figure 3. The “Ice Cube Tray” Model of Referral in Urology



Dr. Visvanathan also stressed the importance of communication with family practice in order to make a smooth referral process. He noted that, after explicit communication (by letter to family practitioners), the number of pooled referrals received had tripled and that a letter explaining what information was required with a referral led to massive increases in the appropriate diagnostic test information arriving with the referral.

In summary, Dr. Visvanathan concluded that changing to this advanced access approach for consultants was hard work and difficult to plan, but that working down the backlog of referrals was valuable. It also requires a physician champion to push the agenda for advanced access, particularly for when external factors affect wait times adversely (such as with human resource issues). He stated that advanced access and pooled referrals were the first steps in moving to a patient-focused referral system.

Bridging General and Specialist Care

Brie DeMone, Manitoba Health and Healthy Living

Ms. DeMone is the Director of Manitoba Health and Healthy Living's Wait Times Task Force. She is responsible for developing and implementing several provincial access projects, including the Bridging General and Specialist Care (BGSC) project and Manitoba's Catalogue of Specialized Services (CSS). In her presentation she described these two initiatives.

The BGSC project is an IT system for referrals that uses mutually agreed upon guidelines and requirements for care as well as targets for timelines around referrals. The BGSC project used small group meetings of physicians (both family physicians and specialists) to decide upon guidelines around clinical content in 10 clinical areas. It also created an IT pathway for physicians to use these guidelines. The outcome of the BGSC project has been positive so far, with physicians being more engaged in creating and using guidelines, as well as expressing the belief that BGSC will improve the referral process.

The CSS is a Web-based inventory of physicians and services (e.g. specifying whether an orthopedic specialist only does ankles and not shoulders) that is physician-maintained and aims to provide family physicians with up-to-date knowledge of the most appropriate people to refer patients to. It currently has 2,500 users. The response rate to the paper version of the CSS is very high (70%), with the Web-based version growing as it becomes more common practice for physicians and nurses. The major difficulty identified by Ms. DeMone with both the CSS and the BGSC project was the sustainability of the projects, since both require buy-in from physicians to be updated and circulated.

WCWL Priority Referral Scores

Tom Noseworthy and Carolyn De Coster

Department of Community Health Sciences, University of Calgary

Dr. Noseworthy is the Director of the Centre for Health and Policy Studies as well as Professor (Health Policy and Management) and Head of the Department of Community Health Sciences at the University of Calgary. In 2007, he was named by the Governor General as a Member of the Order of Canada for his contributions to medicine and health care policy. Dr. De Coster is a Senior Researcher with Alberta Health Services (Calgary Health Region) and holds faculty appointments in the Department of Community Health Sciences at the universities of Calgary and Manitoba.

In a joint presentation, Drs. Noseworthy and De Coster outlined approaches to developing a prioritization system for referrals from primary care. The prioritization work is part of the Western Canada Waiting List project (WCWL). They outlined the rationale for a priority setting approach by noting the current pressure on medical specialists through numbers of referrals and the need to standardize the information required when making a referral. The aim is to develop a system that is based on urgency for referral, and one that uses the knowledge of specialists and family physicians in deciding upon prioritization. Dr. Noseworthy outlined the need for any tool to be easy to use in family practice while providing the full information needed by specialists once the patient is referred.

In its current state the priority referral system is being developed for specialties with a single-entry model for referrals, rapid-response clinics and long wait times. The WCWL Priority Referral Scores were developed, informed by findings of literature reviews of priority-setting systems for referrals, by an expert panel (made up of specialists and family physicians). The panel was given various actual case scenarios and asked to rank them based on clinical need. For emergency situations, family physicians were asked not to fill out the criteria. Rankings were compared, and criteria for ranking were developed and discussed, weighted and turned into a tool, with summative scores from 0 (no urgency) to 100 (highest urgency). By comparing the distilled criteria with the physician rankings, it was possible to determine the accuracy of the criteria. The three main domains distilled were the current state of the patient, the risk of progression and the likely patient benefit through seeing a specialist. Weighting of criteria was done using pair-wise comparisons of criteria and levels within criteria. When the rankings obtained by using the weighted tool were compared with clinical rankings of specialists and family physicians, they were remarkably similar, suggesting that the tool can prioritize in line with clinician judgements.

Questions for this panel included the following:

- Are priority-setting systems the best way to reduce wait times?
 - Priority systems are one approach and have been shown to reduce and sustain short wait lists in other countries. However, they are only one of a number of waiting time management strategies that can help to reduce waits.
- With priority-setting, are there patient-focused issues to take into account such as the impact on the patient's life through surgery (time out of work, etc.)?
 - The current priority-setting tools take this into account (e.g. impact on the patient of current state).
- How can standardized electronic systems such as priority-setting and the BGSC provide a standard template for family physicians if they are addressing different diseases individually?
 - Although some questions may differ for different diseases, there are standard domains that the tool comprises and that frame the criteria. However, tools are not diagnosis-dependent.
- Is it possible to create a pooled referral system where the specialists don't have a pooled income?
 - This is difficult but possible; as long as there is enough work for everyone to be involved, then a pooled referral system can be appropriate.
- How can family practices be encouraged to be involved in these sorts of approaches to referrals?
 - The BGSC/CSS approach has been to mirror the pharmaceutical companies' approach to working with physicians by going out and consulting with family physicians and providing credits when they get involved in the system.

2.1.4 Federal Minister of Health Address

On October 30, 2008, the Honourable Leona Aglukkaq became the first Inuk to be sworn into the federal Cabinet, taking on the role of Minister of Health from Tony Clement. Prior to entering federal politics, Ms. Aglukkaq served in the Nunavut Legislative Assembly as Finance Minister and House Leader, before becoming the Minister of Health and Social Services and the Minister for the Status of Women. This background in Nunavut politics informed the address given to *Taming of the Queue VI*, as Ms. Aglukkaq outlined the federal priorities and commitments related to health and health care.

Ms. Aglukkaq began by reflecting on the *Taming of the Queue* series and the root causes of wait times. She emphasized governments' efforts to work together with stakeholders to improve timely access to quality health care in Canada. She spoke about the subsequent commitment of governments to reduce wait times and establish wait time guarantees and investments in health care from the 2009 federal budget plan (such as through Canada Health Infoway and for health infrastructure in First Nations and Inuit communities).

Identifying the need for collaboration on health issues, Ms. Aglukkaq complimented the assembled delegates on their approach to reducing wait times by providing solutions that can be used by all stakeholders in health. Citing examples from chronic disease, aging and health risk factors (such as obesity and smoking), she emphasized the role that citizens, the health sector and governments can play in disease prevention and health promotion, noting that more efforts have the added value of reducing the need for health care services and related waits.

2.1.5 Patient Flow Management Tools and Strategies

The afternoon session addressed two related subjects: the tools that exist for facilitating patient flow, including the application of those tools at different levels (national, regional and organizational), and the very principles that underlie patient flow management and how they can help to inform action in systems change.

IT Management Tools for Patient Flow

International Experiences

Michael Wagner, The Advisory Board, Washington, DC

Mr. Wagner is currently a Managing Director with The Advisory Board Leadership Academies, a division of The Advisory Board Company. In his current role, Mr. Wagner is responsible for helping leaders in the health care professions elevate the performance of their institutions and innovate ways to deliver higher quality care, working in the United States, Australia, Asia, the United Kingdom and Europe. In his presentation, he discussed how software packages can help with flow management through better data mining.

In discussing the fundamentals of health care, Mr. Wagner described the misconception that to improve care there needed to be a trade-off between time and money (i.e. that there was an inverse correlation between the two). He described the two common pitfalls in solving wait times

associated with this misconception. First, he said that increasing inputs would not necessarily improve outcomes of health care (it is not always possible to buy a way out of the problem of wait times). Second, he explained that presuming to know what the solution to a problem is before analyzing the problem (e.g. how to increase space or free up time for physicians to solve wait times) will lead to addressing something that may not be the cause of the wait times.

He went on to cite the importance of data mining in addressing strategic problems in other industries, to provide root cause analyses. Data in the health system are plentiful but disparate, meaning that, with appropriate systems in place, interested parties could mine available data to understand the causes of waits, rather than presupposing a lack of input. Mr. Wagner showcased the “Executive Dashboard” (ED) of The Advisory Board’s ED Compass software as an example of such a system. He showed how it could be used to drill into wait data for specific conditions to identify which physicians were involved in long waits and what processes they used that were taking time (such as long diagnostic tests).

As a complementary strand to data mining for root cause analysis, Mr. Wagner described how to use data mining for effective human resource management in health care. He suggested that increasing supply or capacity to match supply and demand should only be considered after analyzing why supply and demand were mismatched. He noted that supply is often based on average demand, creating mismatches over time for supply and demand, fuelling waits. By having a more flexible approach to human resources (more staff on flexible hours and a baseline fixed-hours staff), Mr. Wagner showed how it was possible to match up supply with demand. He also emphasized this by relating supply with quality of care, citing the percentage of errors due to agency or inexperienced staff.

He summarized the situation by suggesting that health care is an industry with high error rates and low productivity, an issue that needs to be addressed through solid data-driven decision-making. This was shown through the cost savings experienced by US health care providers who had used data systems to improve efficiency.

Regional Example

Michael Carter, British Columbia Interior Health Authority

Dr. Carter is a urology specialist in Kelowna, British Columbia. He has served on the Interior Health Authority Surgical Council since its inception in 2004 and is currently its Co-Chair. In his presentation, Dr. Carter discussed how to improve surgical access in the interior of British Columbia.

He opened his presentation by discussing the 18 sites that needed to be integrated to form a regional structure that would speed surgical access in interior British Columbia. The region began by creating a governance structure that included a multidisciplinary surgical council to advise the senior executive team for the region. The surgical council was then involved in identifying the challenges to surgical access: no regional surgical registry, inconsistent regional operating room (OR) booking features and no regional waiting list management processes.

Creating a British Columbia-wide surgical registry with nightly uploads and data available to provincial managers has helped with the flow of information to management, but not in the other direction. Surgeons are not provided with useful information on patients waiting for surgery or consultations through the surgical registry, something that needs to be done in line with the OR booking processes in order to move patients through the system most efficiently.

To address the issues of booking and scheduling, the region implemented a standard management process for booking ORs, as well as standards for dictionaries, processes and inventories across the region. They also developed regional OR booking guidelines and a booking form. To improve the way patients accessed the surgical system, they also implemented surgical assessment tools for family physicians to score patients based on urgency for surgical consultation. However, these procedures may miss some patients (e.g. asymptomatic patients) and may not always provide the necessary information for surgeons.

The surgical assessment tools use urgency profiling approaches for each procedure available to surgeons. These urgency profiles allow a “banding” of the individuals being referred for surgery, so that those whose procedure is of high urgency (e.g. thoracotomy for cancer) are prioritized over those whose procedure is of low urgency (e.g. operations for urinary incontinence). Patients are prioritized in total based on the urgency score of their procedure and the raw score for their medical need from the family physician. Using these total scores, patients are assigned a priority level (one through four), and target time frames for surgery are identified for the four priority levels (with all surgical cases seen within 18 months). To make these data easily visible to surgeons managing their wait lists, patients’ records are colour-coded based on priority scores and their current wait times.

Office Level Experience

Steve Pelletier, Clarence-Rockland Family Health Team

Dr. Pelletier is the managing associate in a fully computerized 11-doctor group practice that provides primary and urgent care in the rural community of Clarence-Rockland, Ontario. Dr. Pelletier has a special interest in human resources management, medical economics and overcoming the obstacles to integrating computers into established medical offices. His presentation focused on his most recent efforts to create a facility that leverages the use of a multidisciplinary team, custom-designed space and computers to effectively provide responsive and high-quality service to all residents of Clarence-Rockland.

Dr. Pelletier showed how the clinic had grown from 9,000 to nearly 16,000 patients since 2005, modernizing its facilities and improving its services. He highlighted three areas to address to meet the demand for primary care:

- reduce need (through education);
- prioritize patients (through triage and scheduling of appointments); and
- manage patients (through managing human resources, space and technology).

To reduce demand, Dr. Pelletier explained that educating patients about when a visit to the family physician was required would help to reduce unnecessary appointments (such as for a cold).

He also acknowledged the use of other health resources, such as telehealth and website resources for health, where patients could get information they needed, for example on public health scares.

Prioritizing demand in primary care is difficult and has meant that Dr. Pelletier's practice had to turn triage into a science, using the patient's definition of emergency and the skills of front line employees. By studying demand and scheduling supply accordingly, the practice has been able to respond to changes in need even with a growing patient population.

Managing the demand for services has been achieved through creating a patient-focused system with a service culture. To do this has required creating a team of health professionals (not just physicians), delegating responsibility and training employees appropriately. The physical space for the practice has also been modernized to accommodate the needs of a collaborative practice. Dr. Pelletier stressed here that building new structures is more practical than retrofitting for this purpose. The space in the practice contains 24 exam rooms, with a doctor being assigned to three rooms. It also has "pods" that support interdisciplinary care, multiple workstations and printers, a kiosk in the waiting area to provide health information for patients and a large open-plan waiting area. The technology in the practice also helps to manage demand, by creating electronic medical records, monitoring patient flow, scheduling appointments electronically and delegating tasks to technology (such as blood pressure measurements).

Dr. Pelletier summed up by explaining what lessons he thought could be applied to other practices. First, he stated that, if things are not working well, they need to change and that making the change requires initial investment. Second, in his opinion, the current fee for service approach stifles interdisciplinary approaches, and a capitation approach works better for this type of family practice model. Third, although technology outlays may be high, they pay for themselves very quickly. Finally, improving family practice clinics will reduce the burden on hospitals.

Questions for this panel included these:

- How can data mining IT systems deal with demand/supply imbalances in specialties where there are small volumes of staff?
 - Data mining is able to deal with small staff volumes, but it is a more appropriate approach where there are sufficient data to allow generalization of supply and demand (i.e. where there are sufficient staff numbers to provide statistically significant findings).
- When building a practice that uses such expensive IT, do you have to perform a feasibility study to determine the capitation levels required to support the practice?
 - When creating the family practice in Clarence-Rockland, there was a feasibility study undertaken, and this is something that should be performed before moving to a new model of payment for practices.
- Is there a ratio where steady staff and flexible staff become unsustainable in secondary care?
 - There is no reason why there should be. In fact, extreme variations in supply and demand require extreme solutions such as moving to a predominantly flexible staffing approach.

- Have there been interactions between family practice and ER doctors to facilitate the flow of patients between the ER and family practice (moving patients who are in the ER who could be seen in family practice)?
 - Yes, there have been discussions, but there needs to be appropriate IT infrastructure shared between the ER and the family practice for patient information to be transferred appropriately across to family practice.

Patient Flow Management Principles

Aside from the tools used to manage the flow of patients through the system, there are many organizational and management principles that can be discussed to improve patient flow. In this session, operations research and the United Kingdom experience were discussed.

Operations Research Perspective

Michael W. Carter, University of Toronto

Professor Carter works at the Department of Mechanical and Industrial Engineering at the University of Toronto and is Director of the Centre for Research in Healthcare Engineering. Since 1989, his research focus has been in the area of health care resource modelling with a variety of projects in hospitals, home care, rehabilitation, long-term care, medical laboratories and mental health institutions. He is also an Adjunct Scientist with the Institute for Clinical Evaluative Sciences (ICES) in Toronto. In his presentation, Professor Carter discussed how operations research can provide unique perspectives on flow management in health care.

Using several examples, Professor Carter described where operations research can aid in planning for patient flow and health care management. He began by describing the Ontario Waitlist Initiative, which targeted reduced waits in five treatment areas (cardiac, cataract, cancer, hip and knee replacement, and MRI/CT scans). He described the different data requirements for identifying how many cataract operations would need to be conducted to meet the benchmark of 90% completion within 26 weeks (patient arrival rates, wait lists, surgical volumes, etc.). Professor Carter noted the difficulty in accessing these data since large portions did not exist (wait time distributions, etc.), but with data a number of cataract surgeries could be calculated and projected forward. The major problem in these projections is that wait times data represent when a patient is seen, not how long people on the list are currently waiting, so the data are still not perfect.

Professor Carter also showed that operations research could create scenarios for wait times based on suggestions for improving patient flow by staff at the Children's Hospital of Eastern Ontario. He outlined the planning tools developed for Cancer Care Ontario, particularly around colorectal cancer screening procedures. By forecasting the number of colonoscopies completed in Ontario, where screening procedures are poor, it was possible to compare the likely outcomes of different screening regimes and their impact on the numbers of colonoscopies. He also talked about the thoracic surgery centres project he had been involved in, which looked at patient travel scenarios to determine where patients would most likely seek treatment. This meant that it would be possible to project the likely numbers of thoracic surgeries occurring at different hospitals in the future.

Finally, Professor Carter talked about human health resources modelling and how to predict the number of cardiac surgeons required in Ontario in 2020. The approach taken was to build a system dynamics model that incorporates the feedback between different supply and demand characteristics of cardiac surgery (e.g. aging population, trainee surgeons, etc.). By altering assumptions and drivers of change, the model can create various scenarios for estimating the required number of cardiac surgeons in 2020. Other human health resources projects that have benefited from operations research include modelling health professional demand in Alberta, emergency service 911 call-taker shift schedules, and using geographic information system (GIS) models to estimate the demand gap for aging at home in the future (requiring more care staff).

United Kingdom Experience

Michael Wilson, Brighton and Sussex University Hospitals

Mr. Wilson has been Deputy CEO at the Brighton and Sussex University Hospitals NHS (National Health Service) Trust since July 2007. Key achievements in his current role include a 50% reduction in rates of methicillin-resistant *Staphylococcus aureus* (MRSA), 18 weeks' referrals compliance, achievement of the accident and emergency (A&E) standard and a balanced budget for the first time in six years. In his presentation, Mr. Wilson described the NHS journey to reduced wait times, using his NHS trust as an example.

Built around a reform agenda, in 2005 the NHS brought in a target for A&E wait times – four hours to admission for 98% of patients. Now, all regions (collections of NHS trusts) except one are above 98%. Mr. Wilson showed that his NHS trust had previously been the worst performing A&E department in England, but that over five months they had moved to over 99% of A&E admissions within the four-hour target (up from below 92%). This occurred despite an increase in the number of emergency admissions over the period.

To achieve this change, the Trust had to inform staff that the future of the hospital was in doubt if the problem of admission times was not fixed and that other trusts had achieved change, so they could too. By reviewing teams and improving basic processes, the Trust was able to identify “champions” to support changes, engage staff in the change process, incorporate clinical engagement into the framework and work more closely with general practitioners and the public. The change process required an understanding of the demand for A&E services, matching supply to that demand and developing teams to improve access. Maintaining the standards has required motivated staff and good communication between executive leads and clinical staff over challenges and successes.

Aligned with improving A&E wait times, the NHS also set an 18-week target for 90% of referrals from general practice to treatment. By August 2008, nationally the NHS had achieved this target. Achieving this has required creating new data collection systems, modelling of capacity and demand, and reviewing referral booking processes. It also required a hard push to remove backlogs at the start of the process. The 18-week in-patient reforms were in a sense easier to achieve than the A&E change because there was more buy-in from clinicians (as all wanted to treat people more quickly). The A&E reform was more difficult because it was felt that reducing time in A&E would compromise clinical judgement (since there would be less time with each individual – not an issue with in-patient waits).

A common response to the reduction in wait times in the United Kingdom is that there has been gaming in the system (deliberately manipulating figures or moving patients inappropriately to meet evaluation criteria). However, with strict top-down management and reporting, there is little room for gaming. Those that are caught doing so lose their jobs. A second criticism has been that improving wait times must compromise other aspects of the system, with effects such as decreased quality, increased risk to patients and increased costs. In Mr. Wilson's trust, quality has not been compromised, patient safety has improved (as measured by hospital-acquired infection rates) and costs have actually been reduced. The next steps for NHS reform are to improve the IT capabilities around electronic patient records, build in social care to the NHS mandate and respond to changing demographics and environmental challenges.

Questions for this panel included the following:

- Why in the United Kingdom was there more buy-in from clinicians for the 18-week target than the four-hour A&E target?
 - The clinicians in A&E saw the target as reducing their time with individual patients and therefore likely to impact on clinical effectiveness – something a wait for a referral does not impact on.
- Are the introduction of an NHS constitution and patient mobility in the EU challenges to the wait time approach?
 - Neither aspect is expected to affect wait times since they are both unlikely to affect the way that patients interact with the health system in the United Kingdom, which has been the key driver of wait times (and wait time improvements).

2.2 Day Two: Friday, March 27

On Day Two of *Taming of the Queue VI*, the focus changed from processes for reducing wait times to prevention in order to reduce demand. Prevention will not mitigate the need for improved processes, but it will help to make wait times shorter. The second day opened with a presentation from Co-Chair Dr. Brian Goldman on the ways in which people jump the queue and continued with presentations on mitigating demand through preventive measures and providing appropriate care. The conference concluded with Quebec's Minister for Health describing the province's approach to reducing wait times. On Day Two, questions were asked at the end of individual presentations rather than at the end of panels; this is reflected in the summaries below.

2.2.1 Queue Jumping

With any process to reduce wait times, there should be a focus on those who are not using the system in the same way as the majority of patients. Jumping the queue and not being part of wait lists is an important ethical and practical consideration when creating processes for patient flow, since high-profile examples can damage trust in the processes in place for most patients.

White Coat, Black Art – Perspective on Queue Jumping

Brian Goldman, CBC Radio One

As the host of CBC Radio One’s “White Coat, Black Art,” Dr. Goldman has investigated different perspectives on queue jumping through his show – allowing him to collect anecdotal data on queue jumping. He also has a perspective from his role as staff emergency physician at Mount Sinai Hospital in Toronto. In his presentation, Dr. Goldman explained how the radio show allows physicians to put forward ideas to the public that they have not been able to express in the past, opening up the internal workings of the health system. One aspect of that has been the discussion of queue jumping.

Dr. Goldman presented statistics showing that over 80% of Ontario MDs and 53% of hospital CEOs have been involved in managing a patient who has jumped the queue. The types of patients most likely to do this have been politicians, public figures and those with personal ties to the treating physician. Dr. Goldman showed that, in the ER, very important persons (VIPs) and children of physicians get preferential care, using examples from physicians interviewed of how it is seen as appropriate care and not detrimental to the health of others.

Three characteristics were identified as improving access to health care: having money and power, having special knowledge, and practising professional courtesy. Dr. Goldman showed that triage nurses have different views about whether people with money and power involved in donor relations should get preferential treatment (no and yes, respectively). Regarding people with special knowledge (i.e. knowing a physician or someone involved in health care), there is an understanding in the medical community that these people jump queues. Studies have shown that the public tends to take a dim view of using gifts or other forms of monetary inducements to improve timely access to care, with 95% agreeing that access to care should be based on medical need. However, a majority of respondents would use a friend with access to obtain more timely treatment.

The final characteristic identified as improving access to care was practising professional courtesy. This meant providing care to other physicians or the families of physicians at a reduced rate or faster. Dr. Goldman suggested that this practice was a long-standing tradition in medicine, although not one that has an ethical obligation but rather one that is left to physicians’ individual judgements. Although there have been investigations of professional courtesy, they have tended to focus on reduced rates for care, not on improved access. Dr. Goldman opined that most of his colleagues would offer faster care because it is the only aspect of professional courtesy that they are able to offer under the current system. He summed up his presentation by suggesting that the “queue is currency in Canada,” so that queue jumping is equivalent to changing the cost of services. He suggested that, under the current system, the key to improving your access to care was to improve your networks with health professionals.

Questions for Dr. Goldman were these:

- Is professional courtesy only an issue for the medical profession?
 - There are examples of professional courtesy in other professions too, such as education.

- Is there an issue over professional athletes jumping the queue, particularly for diagnostic tests?
 - This is not a big issue since professional sports athletes tend to have time bought on diagnostics (such as MRI) on evenings and weekends when demand is low. Therefore, they are not jumping the regular queue, but using a different one.
- Should official rules on professional courtesy be removed (such as one that tells hospital physicians that only family members can be seen preferentially)?
 - Although this would move the responsibility for queue jumping from policy-makers to health professionals, it is unlikely to make much difference to the actual queue jumping.

2.2.2 Mitigating Demand through Prevention and Appropriateness of Care

One way to reduce wait times is to reduce the demand for services. This can be through preventing the primary interaction with the health service (public health measures), through reducing follow-up interactions (secondary prevention) or through providing appropriate care at the point of interaction to reduce additional burden on the health system (e.g. reducing inappropriate diagnostic tests).

Mitigating Demand through Prevention

Primary Prevention

David Butler-Jones, Chief Public Health Officer, Public Health Agency of Canada

Dr. Butler-Jones is Canada's first Chief Public Health Officer. He heads the Public Health Agency of Canada, which provides leadership on the government's efforts to protect and promote the health and safety of Canadians. In his presentation, Dr. Butler-Jones talked about the importance of funding public health in order to reduce the stress on the health system.

He began by outlining that public health can be described as a process to increase health and well-being and also to decrease health inequalities in society. Although distinct from publicly funded health care, it shares the goal of improving health for all in Canada. Dr. Butler-Jones noted that the 2005 Wait Time Alliance report suggested prevention as an approach to take to reduce waits. Investments in preventive approaches can contribute to prosperity, stability and the overall well-being of a population. To put prevention into practice, the Public Health Agency of Canada is in the process of re-establishing the Canadian Task Force on Preventative Health Care.

Dr. Butler-Jones also stated that, while there have been gains in reducing wait times, there are future challenges that need to be addressed to avoid setbacks. For example, many of the needs of the aging population can be addressed through population approaches to elder care and support, such as the age-friendly cities initiative. To address childhood obesity, a population health approach includes lifestyle campaigns, healthier eating choices and urban planning.

He noted that public health has the capability to identify the “causes of the causes” of health problems and address social determinants. If the different stakeholders (public health, urban planning, food and hygiene, etc.) can work together, solutions to improving well-being and reducing inequalities are possible.

Questions for Dr. Butler-Jones were the following:

- Is there a divide between public health and health care, or is it a continuum?
 - It is a continuum and one in which there needs to be investment to promote well-being. This would mean placing funding for well-being where it will have the largest return (be that in public health or the health system).
- How can a public health approach, something with such long time scales to return on investment, be “sold” politically, where immediate results are sought?
 - Effective analysis of the return on investment of different well-being approaches would aid this. Also, some public health approaches have very obvious short-term impacts (e.g. vaccination programs).
- How can the Canadian Medical Association (CMA) help to highlight the importance of public health?
 - It is the responsibility of multiple stakeholders, not just the CMA. However, having practice guidelines for public health approaches to be taken by physicians, addressing vaccinations through provincial drug plans and creating a holistic multidisciplinary approach to health care will help to showcase the capabilities of public health approaches.

Secondary Prevention – Cardiac Follow-Up

Christine Struthers, Ottawa Heart Institute

Ms. Struthers has been working as the Advanced Practice Nurse for the Cardiac Telehealth program at the University of Ottawa Heart Institute since 2005. Besides managing the Telehealth program, she is also involved in following cardiac patients using home telehealth technologies such as Telehome Monitoring and Interactive Voice Response systems. In her presentation, Ms. Struthers described the cardiac telehealth approaches in Ontario.

When considering heart failure patients, there are a number of readmissions that could be prevented with effective management of risk factors and self-care. The first method Ms. Struthers addressed was Telehome Monitoring, a point-of-care delivery system that uses phone lines to provide data from in-home devices that monitor the patient’s condition (e.g. ECG, weight, glucometer). Telehome Monitoring is an appropriate tool for certain patients and is used to monitor over one to five months. It can use one full-time equivalent (FTE) to monitor up to 40 patients, with data reviewed during office hours and an emergency number for patients if they need out-of-hours help. The reports from the Telehome Monitoring system are fed to related physicians in the case on a regular and ad hoc basis. Using the system has helped to educate patients, has reduced readmissions (from 60% down to 11%), has been easy to use for patients and can be used in the most remote locations, provided there is a telephone line.

For people coming off Telehome Monitoring, there is a secondary system called Interactive Voice Response (IVR). This uses voice recognition software to get answers to specific questions of the patient. The system dials patients at pre-arranged times and asks a series of questions based on an algorithm that is designed to ignore irrelevant information and focus on relevant answers (e.g. asking follow-up questions if a patient is out of breath continually). The data from the questions are placed into a database that can be monitored to “flag up” when patients require

additional assistance. The IVR can also ask patients if they require information on particular issues and mail that information to them. In the current pilot, there was a high satisfaction rate with patients (94% would use the service again), and it identified seven adverse medication events.

To sum up, Ms. Struthers identified the key issue in using telehealth systems: the importance of ensuring that the technology dollars spent add value for the patient and the region.

Questions for Ms. Struthers were the following:

- Where do referrals come from to the program, and what is the capacity in terms of home monitors?
 - Referrals come from family practice and hospitals. The original capacity of the program was 20 home monitors, but it has increased recently.
- If the program provides for patients out of province, are there jurisdictional issues over responsibility for the patient if there are complications?
 - This is not an issue since the patients are referred by physicians in Ontario, even if they are from out of province. Therefore, their physician is still within province.

Mitigating Demand through Appropriate Care

Overview of Appropriate Care

John You, McMaster University

Dr. You is a general internist and health services researcher with an interest in the appropriateness of diagnostic imaging. He has served on the Ontario Wait Times Strategy MR/CT Expert Panel and holds an Ontario Ministry of Health Career Scientist Award to support policy-relevant work to increase evidence-based decision-making for diagnostic imaging. In his presentation, Dr. You described appropriateness, with a specific focus on diagnostic imaging, and why it was relevant to a wait times conference.

By restating the need for timely access to *quality care*, Dr. You placed the issue of appropriateness of care within the context of wait times. He suggested that wait times are a good starting point for the health system to address, since they are amenable to targets and relatively simple to measure. Appropriateness, however, is a more abstract concept to measure and more difficult to set targets for. Dr. You outlined how to measure appropriateness: by using evaluative criteria specific to clinical scenarios and deliberately addressing areas of clinical uncertainty (distinct from clinical guidelines).

There is a danger when addressing wait times that an increase in capacity could also mean an increase in inappropriate procedures – something that could lead to increased harm, increased costs and ultimately no reduction in wait times. As an example, Dr. You noted that, in Ontario, there has been a doubling of MRI capacity since 2004, yet the wait time target for MRI is the only priority area wait time target not achieved. Increasing capacity has only led to increased use. He also cited a US study of health care spending in different regions and its effect on the use of guideline-recommended procedures. The findings showed that increasing spending actually led to lower rates of evidence-based care, suggesting that increasing capacity does not

automatically lead to improvements in quality of care. Dr. You concluded by suggesting that there are potentially diminishing returns on spending on health care because increasing capacity may lead to inappropriate care and potential harm. This underscores the need for simultaneous efforts to collect better data to monitor appropriateness of care while striving to reduce wait times.

Questions for Dr. You were as follows:

- Should appropriateness be used to decide whether a procedure should be performed or to manage demand for procedures?
 - Appropriateness criteria are best used as a tool to evaluate patterns of care for procedures that have already been performed and to highlight settings where inappropriate use may be a particular problem and merit further efforts to manage demand.
 - Conventional definitions of appropriateness are limited because they do not incorporate patient values and preferences into decision-making about whether or not a procedure should be performed. As a result, appropriateness criteria are less useful in prospectively informing decisions about whether a procedure should be performed.

Radiology Appropriateness Guidelines

Martin Reed, Guidelines Working Group for Canadian Association of Radiologists

Dr. Reed is on the Board of the Canadian Association of Radiologists and the Chair of its Guidelines Working Group, and he is a member of the Appropriateness Criteria Committee of the American College of Radiology. He is a Professor of Radiology and of Paediatrics and Child Health at the University of Manitoba and Head of the Department of Diagnostic Imaging at the Children's Hospital in Winnipeg. In his presentation, Dr. Reed discussed unnecessary imaging diagnostics and how to avoid them.

“Ten to twenty percent of imaging studies are unnecessary.” After making this statement, Dr. Reed showed how physicians do not understand either what an appropriate diagnostic procedure is or that the most appropriate diagnostic tool is not available. To illustrate, he showed the reduction in x-rays by ER doctors after the introduction of the Ottawa Ankle Rule³ guidelines (between 15% and 35% reductions). He also showed similar figures for similar guidelines for knees, C-spine and head CTs. To show the prevalence of inappropriate procedures, he presented the results from imaging diagnostics used to investigate headaches in children, in which all the diagnostics (100%) failed to show anything of clinical significance. The unnecessary procedures have negative consequences: cost, radiation and increased wait times.

To aid physicians, guidelines on radiology use have been integrated into a computerized ordering system for diagnostics. This means that, when a physician orders a specific imaging test, the physician is asked about symptoms identified in the patient, history and differential diagnosis. If these align with the diagnostic test being ordered, according to the guidelines, then the order form will print. If not, then a decision support box is provided on screen detailing why the test is inappropriate and suggesting a more appropriate imaging study or that no imaging is indicated.

³ The Ottawa Ankle Rules are guidelines to determine whether an x-ray is necessary for ankle injuries. They comprise three rules covering tenderness in the ankle bones and the ability to bear weight on the ankle in the emergency room.

This system has been tested in a children’s hospital and a family practice clinic, with results suggesting that physicians tend to ignore the advice given on not using a particular test (between 80% and 98% of the time). Drilling into the data can show what conditions physicians will accept advice on and whether particular physicians always ignore the advice.

Questions for Dr. Reed were as follows:

- Should we also worry about short wait times leading to more inappropriate procedures?
 - There is a possibility that decreased wait times would lead to more inappropriate imaging, but the guidelines should help to control this.

2.2.3 Quebec Minister of Health Address

Installed as Minister of Health and Social Services for Quebec in June 2008, Dr. Yves Bolduc, a former general practitioner and emergency room doctor, has taken on the health mandate in a province that has aggressively addressed wait times issues. Known as the “Toyota Health Minister,” Dr. Bolduc was a driving force in the uptake of Toyota’s system management tool (Lean systems) into the Quebec health system as a method to eliminate non-value-added steps in the process of health care delivery.

In his address to the conference, Dr. Bolduc described the findings of preliminary work conducted in Quebec on surgery wait times that showed the lack of good data collection to manage wait lists. The changes instigated (such as providing the Health Minister with access to waiting list data for each hospital in the province) have had the effect of allowing 93% of patients in Quebec to undergo surgery within six months now,⁴ while the remaining patients seem to be those of a small cohort of surgeons who have such large backlogs that they will find it extremely difficult to process them without sharing the load. These findings led to the approach needed for managing wait lists called “Manage – understand – resolve.”

With successes in surgery wait times, the focus has shifted to family medicine, and Dr. Bolduc described the Family Medicine Groups as an example of how to implement collaboration and organization of family practice services to reduce wait times and the pressure on emergency room capacity. He stressed the importance of using multiple approaches to reduce wait times, highlighting four approaches in particular:

1. Doctor capacity: Quebec has had problems in encouraging students to see family medicine as an attractive prospect, with only 21% of family practice positions within medical faculties being filled in 2003. By adding in a two-month training module in family medicine prior to a student’s residency choice, Quebec has seen the uptake rise steadily (with 40% uptake in 2007 and 46% in 2008).
2. Models of service provision: By implementing Family Medicine Groups, Quebec has put in place a more interdisciplinary approach to primary care. There are currently 180 Family Medicine Groups across the province. These groups complement the 34 Network Clinics that provide care for those who do not have access to a family doctor currently (25% of the province’s population). The ultimate goal for Quebec is to provide access for all to a family doctor with minimal wait times for an appointment.

⁴ The focus in Quebec was on four priority areas of surgery: cataracts, knees, hips and cancer x-rays.

3. Improving access to care: Quebec is actively investigating different approaches and systems for facilitating patient access. Examples of this include the application of Lean systems and models of support for family physicians in accessing diagnostics. The challenge for the province is to spread better practice across primary care.
4. IT as a tool: Dr. Bolduc stressed the importance of having good IT tools to support the drive to reduce wait times and cited the example of SGAS (Système de gestion de l'accès aux services) as an IT tool that is already working to provide patients with timely care. SGAS monitors information on wait lists, particularly in tertiary cardiology, and provides that information to the health system managers at government, regional health authority and organizational levels to track the progress of wait lists. It also provides details on individual patients to health professionals that are accepting referred patients.

Dr. Bolduc concluded by suggesting that, although Quebec has made progress over the last few years, meetings such as *Taming of the Queue* are invaluable for sharing ideas and success stories widely across the health system.

2.3 Summing Up *Taming of the Queue VI*

To sum up, the two co-chairs identified their “take-home messages” from the two days:

- an increasing coverage of the patient’s perspective on wait times;
- the acknowledgement of the roles of a range of health professionals in achieving a reduction in wait times (including multidisciplinary teams);
- the need to work more efficiently, not necessarily harder;
- the focus on public health, prevention and tools for addressing chronic disease management;
- the importance of *Taming of the Queue* in providing cross-fertilization of knowledge; and
- the existence of issues around having immediate access to care, as well as having long wait times for care (such as increasing inappropriate care).

This year’s *Taming of the Queue* broadened the scope of wait time management approaches to include patients, primary care and reducing the demand for care. The success of this approach will depend on the way participants and interested stakeholders take on board the findings, approaches and lessons.

The feedback received through participants’ evaluation forms at *Taming of the Queue VI* was overwhelmingly positive.⁵

- 88% of respondents considered the overall conference to be “excellent” or “very good.”
- 80% of respondents considered that they had either an “excellent” or “very good” improved understanding of wait time issues.

⁵ Based on the feedback forms of 77 participants at the conference (roughly three-quarters of the total participants at *Taming of the Queue VI*).

- 87% of respondents would consider attending another *Taming of the Queue* conference in the future (with only 1% suggesting that they would not attend another conference).

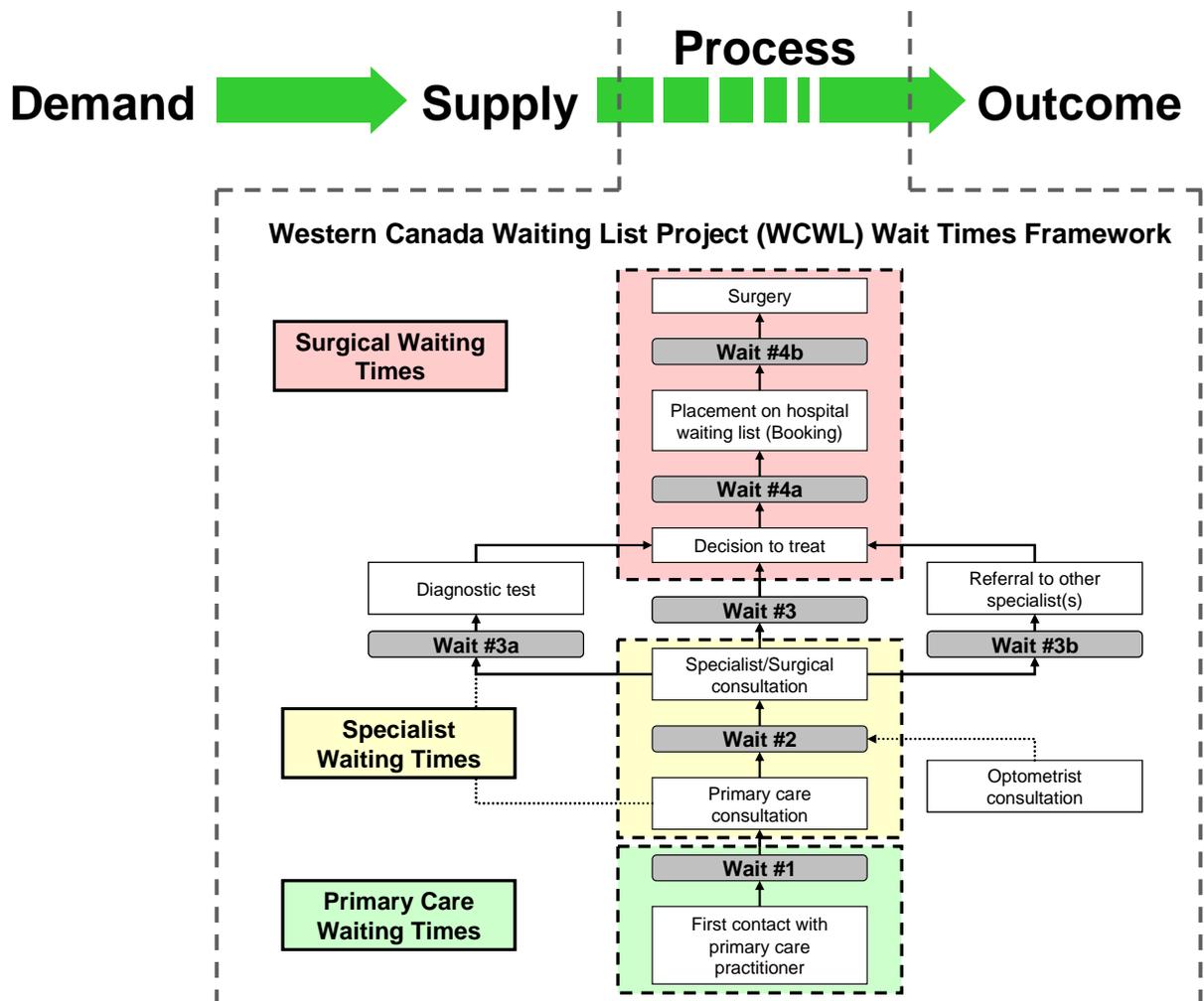
In Section 3 below, we address the conference as a whole, summarizing the key messages from *Taming of the Queue VI* and pulling out some overarching themes.

3. Key Messages: *Taming of the Queue VI*

To understand the conference fully, it is necessary to draw out the themes that cut across individual presentations.

CPRN has identified a simple framework around the wait times issues that helps to categorize these themes. The framework was not presented at the conference, but was developed by CPRN for this report. It is not intended to explain all of the issues associated with wait times.

Figure 4. A Framework for Analyzing Wait Time Challenges and Solutions



This framework uses a simple flow diagram to show how the demand for health services interacts with the supply of health professionals or other health resources (including space, time, money, etc.) to inform the process of providing health care, a complex system that has multiple waiting points. In this framework, the process has been opened up to show the route through the health system that an individual takes, based on the work of the Western Canada Waiting List project (Sanmartin et al., 2003 (Figure 4) – see Section 2.1.2).

While previous conferences in the “Taming” series have addressed specific wait times within the process of our framework (those identified in the WCWL section of the framework), *Taming of the Queue VI* used a broad approach to wait times. This has allowed us to categorize the key messages from the conference as:

1. Demand issues
2. Supply issues
3. Process issues
4. Multiple level issues
5. Crosscutting themes

3.1 Demand: Understanding Demand’s Effect on Wait Times

In order to understand the demand for health care, it is essential to understand two major themes: the needs of patients and their perception of wait times, and where aspects of the health system can reduce demand. This second point also leads us into issues of matching up supply and demand more appropriately to make use of resources most efficiently and effectively.

Patients’ Experience of Wait Times

When discussing demand for health care we are really discussing patients, but what is the patient’s experience of wait times? This was the focus of the opening presentation and set the tone for the entire conference, placing all the presentations in light of a patient-focused health care system. Although it is clear that patients experience frustration and anxiety during the wait times identified in the framework (at various stages in the process of health care delivery), the conference identified two other external waits that patients experience. Prior to entering the health system, patients experience a wait time of “suspicion,” where they are not sure if they require health care. At the other end of the process, once they have reached their health outcome, they also experience a wait time of “fear of recurrence.” Both of these waits can be considerable and are aspects that public health awareness and the health system can help to address.

Addressing Prevention and Inappropriate Care

Benjamin Franklin said in the 1730s that “an ounce of prevention is better than a pound of cure.” Immunization and public health activities were highlighted during the conference as ways to reduce the demand on the health system, along with the shared responsibilities for citizens around public health, not just those in the health system or government. Once patients are in the system, providing appropriate care can reduce the burden on the health system (and the patient) by reducing unnecessary diagnostics. This can be achieved through communication, education and using the IT resources available to provide up-to-date information on the most appropriate diagnostic tests.

Matching Supply and Demand

Demand fluctuates with seasons, public health issues, media stories and across locations. Meeting the demand in a timely fashion is the ultimate question of reducing wait times. During the conference, the different ways to match supply and demand were addressed. By creating a single queue for multiple providers, it is possible to use capacity in the system to deal with overflow in another section of the system – described as the ice-cube tray model. This model was described in the context of specialist consultations, where referrals are made to a group of specialists rather than an individual (unless the patient specifies an individual physician).

For more general supply-demand imbalances, the use of a supply-demand matching model was recommended. This would use data on the trends around demand for services, such as the times when the ER is busiest, and create a matched supply of health professionals to address the need. This may mean moving from standard shifts and work patterns to more flexible approaches to providing health care such as having a larger proportion of floating shift workers than those working standard hours.

3.2 Supply: How Can Increasing Supply Help Wait Times?

At the supply point of the framework, there are various inputs that can be changed to address waiting times. The ones most commonly thought of are people and space (albeit both are dependent on funding), but this conference also identified other approaches to improving supply.

Collaborative Approaches to Providing Health Care

Rather than simply increasing the human resources available, the conference identified benefits to diversifying the pool of human resources to provide health care. This was highlighted through the effectiveness of nurses in family practices, the opportunities for other health professionals to be involved in collaborative primary care and the ability of physicians to work together to reduce wait lists without compromising continuity of care.

Increasing Capacity Is Not Always the Answer

Aside from collaborating across disciplines and professions to provide the most effective and efficient health care for patients, the conference also identified when increasing the capacity was not the answer to reducing wait times. For example, the conference identified situations in which increased capacity actually leads to increased demand, such as in many emergency rooms, where providing more health care professionals encourages more inappropriate use of ER facilities by the public. The solutions to reducing wait times in these situations require an understanding of the processes that lead to waiting time for patients.

Delegate to Your Technology

One key way to address wait times is to better use the range of technology available to health care professionals. This could be in the form of accessing the latest technology for reading blood pressure, increasing the number of workstations in the primary care setting or something as simple as placing the printer in an emergency department in a place where it is most efficient for staff to collect printouts. Electronic patient records were also identified as having great potential for reducing wait times and increasing continuity of care. As one speaker put it, “Don’t be afraid to delegate to your technology.”

3.3 Process: How to Tailor Process to Improve Outcomes

While demand and supply are considered the most common factors in determining wait times, the process of delivering health care itself can be modified to reduce waits. Process is considered very broadly in our framework, covering the activities and actions of the health system that culminate in the health outcomes of patients. By understanding, modifying and communicating health care processes, we can address many aspects of wait times for individuals. We also need to consider those patients who do not seem to experience queues for health care in the same way as the majority of patients: those that queue jump.

Priority Setting, Process Engineering and Process Development for Health Care

Priority setting for existing wait queues, ensuring those with the greatest need are attended to first, was a recurrent theme at the conference. There were variations on this theme, such as modifying the priority setting criteria of simple medical need to include the length of time a patient has already been waiting and the impact on a patient's mental health or economic status.

Although priority setting can provide a method for dealing with current queues in an appropriate order, it may not be the best way to *reduce* wait times. For this, there is a need for process re-engineering in the health care system. By creating an increased competency around process engineering in the health system, it would be possible to reduce wait times and keep them low. This kind of process engineering expertise is already present in other industries and has been taken on to some extent in Canadian health care (the use of Lean systems and *Six Sigma* in the Quebec health system, for example). Priority setting is still an important approach that should not be discounted even with process re-engineering. Prioritizing can be useful during the change process and in times of unforeseen demand upon the new system.

Navigation Guidelines for Process Change

Once there is an understanding of how to engineer processes, there is a need to spread that knowledge to all aspects of the health system. This is not to suggest that guidelines for process management in primary care would be the same as those in surgical wards, but rather that the way to change processes should be translated to different systems and jurisdictions. These guidelines need to address the full continuum of health care interventions (be it in primary care, hospitals, x-ray departments, etc.), not simply how to create a new process. That would mean guidelines around creating a system, implementing the system and ways to make the system sustainable *in situ*.

Giving the Queue a Bypass

It was suggested that queue jumping can sometimes occur in the Canadian health care system. Three potential reasons that queue jumping might happen were identified: (1) power/money – being in a position of power or recognition; (2) special knowledge – knowing the right people (health professionals) or knowing how to access a particular aspect of the system (for example, clinical trials or specialist centres); and (3) professional courtesy – the act of one health professional seeing another (or a member of his/her family).

3.4 Multiple Level: Solutions across the Framework

We have already identified the value of linking supply and demand, but there are also crossovers between supply, demand and process that can lead to improved outcomes. The conference very clearly identified one of these crossovers: the need to understand where wait times, inefficiencies and ineffectiveness arise in the health care system.

Identifying the Sticking Point in the System

Key to identifying sticking points in the health system is understanding how to manipulate data that the system already collects. As demonstrated by The Advisory Board Company, there are numerous approaches to data mining that can facilitate pinpointing causes of wait times. There is a clear need to move away from a simple focus on “supply” as the cause of increased wait times – be that the supply of doctors, nurses, space or resources (such as beds) – and toward root cause analysis that can determine where the system is least efficient. Re-engineering the process in that area would then provide the most payback on decreasing wait times. It may turn out that supply is the issue, but without a root cause analysis, allocating resources to increase supply could be fuelling inefficiency.

3.5 Crosscutting: What Does the Body of Work in *Taming of the Queue VI* Tell Us?

Although our framework provides an overview of the flow of patients through the health service, there are messages from *Taming of the Queue VI* that do not necessarily address the demand, supply or process of providing health care.

Tensions between Patient and System Maximization

With the first presentation of the conference addressing the patient’s perspective on wait times, the drive for a patient-focused health care system was never far from discussions on approaches to reducing waits. This had the effect of highlighting the tension that exists between creating a patient-focused health system and having one that maximizes the efficiency of the system. For example, priority setting of treatment is most efficient if it only addresses medical need, but a truly patient-centred focus would also incorporate social and emotional needs of the patient – something that would lead to an increase in the time spent with individual patients and a decrease in the handling of demand in primary care.

The Need for a Triangulated Approach to Reducing Wait Times

The framework has provided us with a categorization for initiatives to reduce wait times, but the reality of reduction is that multiple levers must be used together through a quality mapping process to reduce wait times. Simply addressing only the supply, IT or any other aspect of the system will not lead to optimization, but to increased pressure elsewhere within the system. Only by using multiple approaches to reducing wait times (triangulation), identified as the most appropriate solutions through a mapping process that focuses on improving the quality of the health system, can we realistically reduce and sustain short wait times.

Providing Timely Access to Quality Care

Through discussions on the appropriateness of care toward the end of Day Two of *Taming of the Queue VI*, the debate over the timeliness of providing health care to patients was broadened to address other concerns that the system as a whole must contend with. Key to this aspect of the debate is the concept of providing the highest quality care possible for patients within the parameters of the Canadian health system.

Although reduction in wait times is the overarching theme of the *Taming of the Queue* series, doing so without recourse to quality care (which includes appropriate, safe, competent, effective and efficient care with continuity for patients) could lead to negative impacts on the health system as a whole. The overarching message for this *Taming of the Queue*, and all that preceded and follow it, is the need for timely access to quality care.

Appendix 1. Conference Program



Taming of the Queue VI - Improving Patient Flow March 26-27, 2009, Chateau Laurier Hotel, Ballroom - Ottawa, ON

Thursday, March 26

8:00-8:30 am Registration and Continental Breakfast

8:30-8:45 am Welcome
Co-chairs - Brian Goldman and Pamela Fralick

8:45-9:15 am *The patient's perspective on waiting*
o Peter Goodhand, Canadian Cancer Society

9:15-9:35 am *Improving access to primary care*
Waiting times for primary and specialists care:
Results from national surveys - Claudia
Sanmartin, Statistics Canada

9:35-10:35 am Primary care models in action
o Advanced access - Ernst Schuster, Family
Physician, Alberta
o Nursing in your family practice: A
program for physicians - Patsy Smith,
Capital Health, Nova Scotia

10:35-10:50 am Break

10:50-12:15 pm *Improving wait times in the referral-
consultation process*
o Urology services - Kishore Visvanathan,
Saskatoon Health Region
o Bridging General and Specialist Care - Brie
DeMone, Manitoba Health and Healthy Living
o WCWL Priority Referral Scores -
Tom Noseworthy / Carolyn De Coster

12:15-12:30 pm Federal Minister of Health, Honourable Leona
Aglukkaq (Invited)

12:30-1:30 pm Lunch (Adam Room)

Patient flow management tools and strategies

1:30-2:50 pm IT management tools for patient flow
o International experiences - Michael
Wagner, Advisory Board, Washington DC
o Regional example - Michael Carter, B.C.
Interior Health Authority
o Office level experience - Steve Pelletier,
Clarence-Rockland Family Health Team

2:50-3:10 pm Break

3:10-4:15 pm Patient flow management principles
o Operations research perspective -
Michael Carter, University of Toronto
o UK experience - Michael Wilson, Brighton
and Sussex University Hospitals

4:15-4:25 pm Summary of Day One - Conference Co-chairs

4:25-6:00 pm Reception (Ballroom Foyer)

Friday, March 27

8:00-8:30 am Registration and Continental Breakfast

8:30-8:40 am Overview and objectives for day two -
Conference Co-chairs

8:40-9:15 am *White Coat, Black Art - Perspective on
queue jumping*
o Brian Goldman, CBC Radio One

Reducing wait times by managing the demand side

9:15-10:10 am Mitigating demand through prevention
o Primary prevention - David Butler-Jones,
Chief Public Health Officer, Public Health
Agency of Canada
o Secondary prevention: Cardiac follow-up -
Christine Struthers, Ottawa Heart
Institute

10:10-10:30 am Break

10:30-11:15 am Panel on appropriateness of care
o Overview of issue - John You, McMaster
University
o Radiology appropriateness guidelines -
Martin Reed, Guidelines Working Group
for Canadian Association of Radiologists

11:15-12:00 pm Dr. Yves Bolduc, Minister of Health, Québec

12:00-12:15 pm Closing remarks - Conference Co-chairs

12:15 pm Lunch (Ballroom)

*Please note: Simultaneous interpretation will be
provided*

Appendix 2. Speaker Biographies

Honourable Leona Aglukkaq

Ms. Leona Aglukkaq was first elected to work for the Nunavummiut in the House of Commons in October 2008. On October 30, 2008, she became the first Inuk to be sworn into the federal Cabinet.

Prior to entering federal politics Ms. Aglukkaq served in the Nunavut Legislative Assembly as the MLA for the district of NATTILIK (communities of Gjoa Haven and Taloyoak).

During her time as an MLA, Ms. Aglukkaq was elected by her peers to be part of the Executive Council. She was first given the responsibility of Finance Minister and House Leader, before becoming the Minister of Health and Social Services and the Minister for the Status of Women.

Ms. Aglukkaq has enjoyed an extensive career in government throughout her life. Before entering politics, Ms. Aglukkaq served in numerous roles in the governments of both the Northwest Territories and Nunavut, including as Deputy Clerk of the Legislative Assembly, Deputy Minister for Culture, Language, Elders and Youth, Deputy Minister for Human Resources and as an Assistant Deputy Minister for Human Resources and Executive and Intergovernmental Affairs.

Whether it has been during her time involved in the federal government, the territorial government, the Cambridge Bay municipal government (where she served for six years as a Councillor), her numerous hours spent volunteering in the communities, or during her time serving on different boards, such as the Arctic College Board of Governors, the Nunavut Impact Review Board or the NWT Science Institute, Ms. Aglukkaq has always fought hard for Inuit issues that she was raised to believe in.

Ms. Aglukkaq was raised in Thom Bay, Taloyoak and Gjoa Haven. Ms. Aglukkaq is married to Robbie MacNeil and has a son, Cooper.

Yves Bolduc

Dr. Yves Bolduc was appointed Minister of Health and Social Services for Quebec and Minister responsible for the Saguenay-Lac-St-Jean in June 2008 and was elected as the member for Jean-Talon in September 2008.

Doctor, manager and tireless worker, Dr. Bolduc has never been afraid of commitment. A man of convictions, he was involved with many organizations and boards of directors in hospitals, economics and sports. He served for five years as president of the association of doctors, dentists and pharmacists of Quebec.

He completed his training in medicine, a doctorate, in 1981. His first degree was a Bachelor of Health Sciences from Laval University. He also holds a Master of Public Administration from the École nationale d'administration publique (ENAP) and a degree in bioethics from the University of Quebec at Chicoutimi.

For 25 years, Dr. Bolduc has improved access to health care wherever he has worked. He was inspired to make the leap into politics to improve the lot of others. On a daily basis, Dr. Bolduc has always promoted the importance of communication, which enabled him to better understand the concerns of patients and make appropriate clinical and political decisions.

David Butler-Jones

Dr. David Butler-Jones is Canada's first Chief Public Health Officer. He heads the Public Health Agency of Canada, which provides leadership on the government's efforts to protect and promote the health and safety of Canadians. He has worked in many parts of Canada in both public health and clinical medicine and has consulted in a number of other countries.

Dr. Butler-Jones has taught at both the undergraduate and graduate levels and has been involved as a researcher in a broad range of public health issues. He is a Professor in the Faculty of Medicine at the University of Manitoba as well as a Clinical Professor with the Department of Community Health and Epidemiology at the University of Saskatchewan's College of Medicine.

From 1995 to 2002, Dr. Butler-Jones was Chief Medical Health Officer and Executive Director of the Population Health and Primary Health Services Branches for the province of Saskatchewan.

Dr. Butler-Jones has served with many organizations, including as President of the Canadian Public Health Association, Vice-President of the American Public Health Association, Chair of the Canadian Roundtable on Health and Climate Change, International Regent on the Board of the American College of Preventive Medicine, Member of the Governing Council for the Canadian Population Health Initiative, Chair of the National Coalition on Enhancing Preventive Practices of Health Professionals and Co-Chair of the Canadian Coalition for Public Health in the 21st Century.

In recognition of his service in the field of public health, York University's Faculty of Health recently bestowed on Dr. Butler-Jones an honorary Doctor of Laws degree.

Michael Carter

Dr. Michael Carter graduated from medical school at the University of British Columbia in 1984. After completing a one-year rotating internship at the Royal Columbian Hospital in New Westminister, British Columbia, he practised general and family medicine for the next two years. Subsequent to this, he was a Registrar in Obstetrics and Gynaecology in Christchurch, New Zealand, for one year. He returned to Vancouver and completed a four-year residency in urology. This was followed by one-year fellowship training in Male Reproductive Medicine and Surgery at Baylor University in Houston, Texas. He practised urology in Calgary, Alberta, for two years before moving to Kelowna where he now practises. His areas of interest include male infertility, urinary incontinence and urologic oncology.

Dr. Carter has served on the Interior Health Authority Surgical Council since its inception in 2004 and is currently its Co-Chair with Dr. Andy Hamilton.

Michael W. Carter

Mr. Michael Carter is a Professor in the Department of Mechanical and Industrial Engineering at the University of Toronto and Director of the Centre for Research in Healthcare Engineering. He received his doctorate in Mathematics from the University of Waterloo in 1980. Since 1989, his research focus has been in the area of health care resource modelling with a variety of projects in hospitals, home care, rehabilitation, long-term care, medical laboratories and mental health institutions. He has supervised more than 160 engineering students in over 100 projects with health care institutions.

Mr. Carter currently has 12 graduate students (seven doctoral and five masters) working in the area. He was the winner of the Annual Practice Prize from the Canadian Operational Research Society (CORS) three times (1988, 1992 and 1996). In 2000, he received the CORS Award of Merit for lifetime contributions to Canadian Operational Research. He also received an “Excellence in Teaching” Award from the University of Toronto Student Administrative Council.

Mr. Carter is on the editorial board for the *Journal of Scheduling* and the journal *Health Care Management Science*. He is a member of the Nursing Effectiveness, Utilization and Outcomes Research Unit and a mentor in the Health Care, Technology and Place Program at the University of Toronto. He was a lecturer with Project HOPE’s international program in health care quality in Central and Eastern Europe in 2002 (Estonia and Latvia) and 2003 (Hungary and the Czech Republic). He is on the Advisory Board for the Regenstreif Centre for Healthcare Engineering at Purdue University. He is an Adjunct Scientist with the Institute for Clinical Evaluative Sciences (ICES) in Toronto.

Carolyn De Coster

Dr. Carolyn De Coster is a Senior Researcher with Alberta Health Services – Calgary Health Region and holds faculty appointments in the Department of Community Health Sciences at the universities of Calgary and Manitoba.

Prior to moving to Calgary two years ago, Dr. De Coster was the Associate Director of Research at the Manitoba Centre for Health Policy at the University of Manitoba. Her research there was primarily on issues of concern to the Manitoba Ministry of Health, such as wait times for surgery, primary care practice indicators, hospital patient safety indicators, quality of care in nursing homes, mental health and children’s health.

Dr. De Coster’s current activities include looking at the use of health care resources after a call to Health Link, measuring the quality of care for patients with heart failure, and the development and implementation of priority referral tools for patients referred to medical subspecialties.

Brie DeMone

Ms. Brie DeMone is the Director of Manitoba Health and Healthy Living's Wait Times Task Force. In this role, she leads a team of 15 staff responsible for developing and implementing a number of provincial access projects, including Manitoba's provincial Patient Access Registry Tool, an electronic system to collect wait times on all patients waiting in Manitoba for medical consultations and surgical services; Manitoba's Catalogue of Specialized Services, an online catalogue of Manitoba clinicians, their clinic information, and the specific services they do and do not provide to ensure referrals are directed to the right place the first time; and the Bridging General and Specialist Care project, a family physician and specialist collaborative focused on developing and testing referral algorithms and an e-referral system.

Pamela C. Fralick

Ms. Pamela Fralick has spent 25 years addressing issues of social concern in the fields of health, education and sport. Her long-time commitment to addictions and mental health encompass front line treatment, research, education and national policy development with the Canadian Forces, Health Canada and the Canadian Centre on Substance Abuse. Her work in education focused on school-to-work transitions with the Collegium of Work and Learning, and most recently, she headed the Canadian Physiotherapy Association. In a volunteer capacity, she has contributed many years to organizations such as Ontario's Centre for Addiction and Mental Health (including serving as Board Chair), The Learning Partnership, Triathlon Canada and the International Triathlon Union.

Ms. Fralick joined the Canadian Healthcare Association as President and CEO in February 2008. Ms. Fralick also acts as Co-Chair of HEAL (Health Action Lobby), a coalition of 37 national health associations and organizations, Co-Chair of CPH21 (Canadian Coalition for Public Health in the 21st Century) and Chair of QWQHC (Quality Worklife-Quality Healthcare Collaborative).

Brian Goldman

Dr. Brian Goldman is a staff emergency physician at Mount Sinai Hospital in Toronto and an expert in pain management and prescription drug diversion and abuse. He is a member of the Canadian Pain Society's task force that developed guidelines in managing chronic pain with opioid analgesics and has written numerous articles and book chapters on pain management and drug diversion.

Dr. Goldman has also had a successful career in broadcasting. His TV credits include stints as a medical reporter on CBC-TV's "The National" and "The Health Show." For the past nine years, he has appeared across Canada as CBC Radio One's "House Doctor." Since the summer of 2007, Brian has been the host of "White Coat, Black Art," a controversial show that recently completed a third successful season on CBC Radio One. "White Coat, Black Art" gives an honest appraisal of the world of medicine – warts and all – from the point of view of the health professionals who work inside the hospital's sliding doors. The show recently won "Best Weekly Network Program" and "Best Overall Program" at the 2008 CBC Radio Awards.

Peter C. Goodhand

Mr. Peter Goodhand is the Chief Executive Officer of the Canadian Cancer Society, Ontario Division, a community-based organization of volunteers whose mission is the eradication of cancer and the enhancement of the quality of life of people living with cancer. In his role, he provides strategic leadership to the organization based on extensive experience in the health care industry and not-for-profit sectors.

As CEO, Mr. Goodhand leads Society efforts to advocate for public policies that protect the health of Ontario residents. He chairs the Environmental and Occupational Carcinogens Stakeholders' Group and sits on the Ministry of Health Promotion's Advisory Committee on Healthy Eating and Active Living and Princess Margaret Hospital's Advisory Committee on Oncology. He is also the Chair of the Board of the Health Technology Exchange.

On May 4, 2009, Mr. Goodhand will be leaving Ontario Division to take up the position of National CEO of the Canadian Cancer Society.

Mr. Goodhand's personal connection to cancer was as a primary caregiver and patient advocate throughout a 12-year cancer journey after his family moved to Canada in 1988.

Tom Noseworthy

Dr. Tom Noseworthy is the Director of the Centre for Health and Policy Studies as well as Professor (Health Policy and Management) and Head of the Department of Community Health Sciences at the University of Calgary.

Dr. Noseworthy is the former Vice-President, Medical Services, and CEO of the Royal Alexandra Hospitals and Chair of the Department of Public Health Sciences, Faculty of Medicine and Dentistry, University of Alberta. He holds a Master of Science in Experimental Medicine from the University of Alberta and a Master of Public Health – Health Policy and Management from Harvard University.

Dr. Noseworthy is a physician with specialty certification in the Royal College of Physicians and Surgeons of Canada, and the American Colleges of Physicians, Chest Physicians, and Critical Care Medicine. He has been a member of the National Statistics Council since 1999. He served as a member of the Prime Minister's National Forum on Health from 1994 to 1997 and chaired the Steering Committee, co-chaired the Advisory Council on Health Infostructure from 1997 to 1999, chaired the Senior Reference Committee for Alberta Wellnet from 1997 to 2002 and has been Chair of the Western Canada Waiting List project since 1999. His research has been published in over 80 papers and book chapters and includes a focus on improving access to scheduled services.

In 2005, Dr. Noseworthy was awarded the Alberta Centennial Medal by the Province of Alberta for contributions to health care and policy and was named as one of Alberta's top 100 Physicians of the Century by the Alberta Medical Association and the College of Physicians and Surgeons of Alberta.

In 2007, Dr. Noseworthy was named by the Governor General as a Member of the Order of Canada for his contributions to medicine and health care policy.

Steve Pelletier

Dr. Steve Pelletier is the managing associate in a fully computerized 11-doctor group practice that provides primary and urgent care in the rural community of Clarence-Rockland, Ontario. He is an Assistant Professor of Family Medicine at the University of Ottawa. In 1996, Dr. Pelletier graduated with an MBA from the University of Ottawa and received the Strategic Leadership Forum Award of Excellence after finishing at the top of his class. He has frequently presented at accredited education seminars for physicians across Canada, commonly speaking about the challenge of making sound business and efficiency decisions regarding computer systems. Dr. Pelletier has a special interest in human resources management, medical economics and overcoming the obstacles to integration of computers into established medical offices. His most recent efforts have involved creating a facility that leverages the use of a multidisciplinary team, custom-designed space and computers to effectively provide responsive and high-quality service to all residents of Clarence-Rockland.

Martin Reed

Dr. Martin Reed is on the Board of the Canadian Association of Radiologists and the Chair of its Guidelines Working Group, and he is a member of the Appropriateness Criteria Committee of the American College of Radiology. He is a Professor of Radiology and of Paediatrics and Child Health at the University of Manitoba and Head of the Department of Diagnostic Imaging at the Children's Hospital in Winnipeg. His research interests include health services research in radiology, in particular, guidelines, utilization and quality improvement. He was the Lead Investigator for the Clinical Decision Support in Diagnostic Radiology Project, which was carried out at the Children's Hospital of Winnipeg, and he is the Lead Investigator for a similar project in progress now at the Steinbach Family Medical Centre. The Canadian Association of Radiologists' guidelines for diagnostic imaging have been embedded in an electronic order entry software program. These projects are designed to determine if having the guidelines available as part of the process of ordering an imaging procedure will result in more appropriate ordering and a reduction in the number of diagnostic imaging procedures ordered, which in turn would help to reduce wait times for diagnostic imaging.

Claudia Sanmartin

Dr. Claudia Sanmartin received her Master of Science (MSc) in Health Administration from the University of Toronto and a PhD in Health Services Research from the University of British Columbia. Dr. Sanmartin currently works as a senior researcher in the Health Information and Research Division at Statistics Canada. She also holds an Adjunct Research Assistant Professor in the Department of Community Health Science at the University of Calgary and has been a research collaborator with the Western Canada Waiting List project since its inception. Claudia has worked extensively in the area of access to health care services with a specific focus on waiting times, including contributions to the development of the first national survey on waiting times at Statistics Canada.

Ernst Schuster

Dr. Ernst Schuster holds the position of Medical Director, Primary Care, for Capital Health. In this role, he provides medical leadership to Capital Health in primary care. Until July 2006, he also co-chaired the provincial primary care initiative committee for Alberta's health regions.

Dr. Schuster has been in private practice as a hospital-based family physician for over 20 years. His previous positions included Chief of Family Practice for the Misericordia Community Hospital and the University of Alberta Hospital in Edmonton, Alberta. His current practice includes community practice, in patient medicine at the University of Alberta Hospital, and he has practiced obstetrics and emergency medicine in the past.

Dr. Schuster has many years' experience teaching Family Medicine residents and is an Associate Professor in the Department of Family Medicine at the University of Alberta.

He is a past board member and currently holds the position of the "Speaker" for the Alberta Medical Association. He also served as the Vice-Chair of the political action committee of the Canadian Medical Association.

After obtaining his undergraduate degree at McGill University in Montreal, he obtained his medical degree at the University of Heidelberg in Germany. His postgraduate training included one year of Internal Medicine and two years of Family Medicine at the University of Alberta.

Patsy Smith

Ms. Patsy Smith completed her undergraduate and graduate degrees in nursing at Dalhousie University. She has held a number of leadership positions at the Queen Elizabeth II Health Sciences Centre and the IWK Health Centre in Halifax for 17 years in the areas of orthopedics, oncology, bone marrow transplant and maternal/newborn care.

She is a leadership and health care consultant with a special interest in primary health care systems. Currently, she is the project lead for the "Nursing in your family practice" initiative with Primary Health Care at Capital Health. This program offers an innovative approach to supporting nursing practice and teams in family practices. She is also working with the Canadian Nurses Association to support the development of a national online tool kit for nurses and nurse practitioners in family practice. She is involved with the implementation of electronic health records, chronic pain management planning, team building, evaluation and business model development in primary health care.

Ms. Smith maintains a clinical practice as a family practice nurse in a primary health care centre in rural Nova Scotia. She is an active volunteer in her community, working on initiatives that support wellness and health. She lives in Prospect, Nova Scotia, with her husband and three children.

Christine Struthers

Ms. Christine Struthers has been working as the Advanced Practice Nurse for the Cardiac Telehealth program at the University of Ottawa Heart Institute since 2005. She obtained her Bachelor of Science in Nursing in 1983 and her Master of Science in Nursing, graduating as a Clinical Nurse Specialist in 2000 from the University of Ottawa.

Ms. Struthers has been involved in the provision of cardiac services to patients and families for over 20 years as a clinician, educator, researcher and leader. Her clinical interests include heart failure, access to specialized services, and novel delivery systems. Besides managing the Telehealth program, she is also involved in following cardiac patients using home telehealth technologies such as Telehome Monitoring and Interactive Voice Response systems.

Ms. Struthers is an active member of the Canadian Council of Cardiovascular Nurses, the Canadian Society of Cardiology, the Canadian Society of Telehealth, the Heart Failure Society of America and the Canadian Congestive Heart Failure Clinic Network.

Kishore Visvanathan

Dr. Kishore Visvanathan is Division Head, Urology, for Saskatoon Health Region (SHR) and Associate Professor of Surgery at the University of Saskatchewan. He is project lead for Advanced Access (an initiative to reduce Saskatoon urology wait times) and chairs the Saskatchewan Surgical Care Network Prostate Cancer Education Programme. He is also Co-Chair for SHR's Client and Family-Centered Care Steering Group.

Michael Wagner

Mr. Michael Wagner is currently a Managing Director with the Advisory Board Leadership Academies, a division of The Advisory Board Company. The research agenda of the Leadership Academies is dedicated to helping leaders in the health care professions elevate the performance of their institutions and innovate new ways to deliver higher quality care.

In his current role, Mr. Wagner is responsible for developing curriculum, training faculty and presenting research findings in the United States, Australia, Asia, the United Kingdom and Europe. He has moderated case study discussions, provided consultant services and conducted workshops for more than 750 health care organizations, government agencies and professional associations.

Prior to joining The Advisory Board, Mr. Wagner was elected to four terms in the South Dakota House of Representatives, serving as Assistant Majority Leader and Vice-Chair of Health and Human Services. His professional experience includes work as the Chief Operating Officer of an international distribution company, the Executive Director of a Habitat for Humanity agency and a college lecturer in business management and leadership.

Mr. Wagner earned a Master of Public Administration from Harvard University, where he was named an Archibald Bush Leadership Fellow and a Lucius N. Littauer Fellow for outstanding citizenship and academic achievement.

Michael Wilson

Mr. Michael Wilson has been Deputy CEO at the Brighton and Sussex University Hospitals NHS Trust since July 2007. Key achievements in his current role include a 50% reduction in MRSA rates, 18 weeks' compliance, achievement of the accident and emergency (A&E) standard and a balanced budget for the first time in six years.

Prior to joining the Trust Mr. Wilson spent a year working at the Department of Health in the Commercial Directorate, where he was a Director for Commercial Solutions. He worked across a range of national projects and helped manage the interface between the Commercial Directorate and the NHS.

Before joining the Department of Health, Mr. Wilson's entire career has been in the NHS. He joined the NHS in 1980 and trained as a general nurse and mental health nurse. After a varied clinical career, mainly in intensive care, he moved into general hospital management. His first management post was at West Middlesex University Hospital, where he managed the Imaging and Diagnostic Department.

After two years, he became Assistant Director for Emergency Services at the same Trust. He later moved to Northwick Park Hospital to manage their Emergency and Critical Care Services. After a year, he was asked to take up the post of Hospital Director at Epsom Hospital to help turn around a number of difficult priorities.

Mr. Wilson became Executive Director of Clinical Services at the Royal Surrey County Hospital, a large general hospital and cancer centre just outside London, where he helped turn around a failing organization in 2003. During his time at the Trust, Michael worked in the Prime Minister's Delivery Unit, where he led a national review on MRSA. The findings of this review were published as a best practice guide and are now in place across all hospitals in England.

Mr. Wilson has a BSc (Hons) degree in Health Studies and an MA in Health Service Policy and Management. He is currently a Visiting Senior Fellow at the School of Management and Law at the University of Surrey.

John You

Dr. John You is a general internist and health services researcher with an interest in the appropriateness of diagnostic imaging. He joined McMaster University in 2007, where he is an Assistant Professor in the departments of Medicine and of Clinical Epidemiology and Biostatistics. He is also an Adjunct Scientist at the Institute for Clinical Evaluative Sciences in Toronto. Dr. You has served on the Ontario Wait Times Strategy MR/CT Expert Panel and is a member of the Ontario Positron Emission Tomography (PET) Steering Committee. He holds an Ontario Ministry of Health Career Scientist Award to support policy-relevant work to increase evidence-based decision-making for diagnostic imaging. His research findings have received coverage in regional and national print, radio, television and Internet media.

Appendix 3. Participant List

As of March 26, 2009

Mr. Owen Adams	Canadian Medical Association	Ottawa, ON
Dr. Andrew Affleck	Canadian Association of Emergency Physicians	Ottawa, ON
Ms. Helen Angus	Canadian Institute for Health Information	Toronto, ON
Mrs. Lisa Ashley	Canadian Nurses Association	Ottawa, ON
Dr. Tom Bailey	The College of Family Physicians of Canada	Victoria, BC
Mrs. Shalu Bains	Cancer Care Ontario	Toronto, ON
M. Gilles Beaulieu	Ministère de la Santé / Réseau du cancer du Nouveau-Brunswick	Fredericton (N.-B.)
Ms. Kathy Bell	New Brunswick Department of Health	Fredericton, NB
Dr. Lorne Bellan	Wait Time Alliance	Winnipeg, MB
D ^{re} Sylvie Bernier	Ministère de la Santé et des Services sociaux	Québec (Qc)
Mrs. Megan-Ashlee Bowes	Champlain Local Health Integration Network	Ottawa, ON
Dr. Neil Branch	Regional Health Authority A	Bathurst, NB
Dr. Ron Bridges	Canadian Association of Gastroenterology	Calgary, AB
Mr. Glenn Brimacombe	Association of Canadian Academic Healthcare Organizations	Ottawa, ON
Ms. Judy Budgell	Central Health Authority	Grand-Falls Windsor, NL
Dr. David Butler-Jones	Public Health Agency of Canada	Ottawa, ON
Ms. Julie Caffin	Kingston General and Hotel Dieu Hospitals	Kingston, ON
Dr. Craig Campbell	The Royal College of Physicians and Surgeons of Canada	Ottawa, ON
Ms. Lillian Campbell	Health and Social Services, Government of Yukon	Whitehorse, YK
Dr. Michael Carter	British Columbia Interior Health Authority	Kelowna, BC
Professor Michael Carter	University of Toronto	Toronto, ON
Mr. Tyler Chalk	Ontario Ministry of Health and Long-Term Care	Toronto, ON
Ms. Julie Chan	Canadian Paediatric Surgical Wait Times Project	Toronto, ON
Mr. Tony Chin	CIHR – Institute of Health Services and Policy Research	Toronto, ON
Dr. Rhonda Church	Doctors Nova Scotia	Dartmouth, NS
Dr. Kweku Dankwa	Labrador-Grenfell Health	St. Anthony, NL
Dr. Carolyn De Coster	Alberta Health Services	Calgary, AB
Mrs. Trina Decker	Labrador Grenfell Health	St. Anthony, NL
Ms. Lynn DeGroot	New Brunswick Department of Health	Fredericton, NB
M ^{me} Marielle Demers	Santé Canada	Ottawa (Ont.)
Mrs. Brie DeMone	Manitoba Health	Winnipeg, MB

Ms. Denise Desautels	Canadian Healthcare Association	Ottawa, ON
Dr. Karen Dodds	Health Canada	Ottawa, ON
Ms. Kim Duncan	St. Michael's Hospital	Toronto, ON
Mrs. Tammy Estabrooks	Canadian Institute for Health Information	Toronto, ON
Ms. Adele Fifield	Canadian Association of Radiologists	Ottawa, ON
Mr. Tamas Fixler	Canadian Paediatric Surgical Wait Times Project	Toronto, ON
Ms. Laura Fletcher	Canadian Health Services Research Foundation	Ottawa, ON
Ms. Pamela C. Fralick	Canadian Healthcare Association	Ottawa, ON
Mrs. Danielle Fr�chet	The Royal College of Physicians and Surgeons of Canada	Ottawa, ON
Ms. Gwendolyn Friedrich	Saskatchewan Ministry of Health	Regina, SK
Dr. Brian Goldman	Health Columnist, CBC Radio One	Toronto, ON
Mr. Peter Goodhand	Canadian Cancer Society, Ontario Division	Toronto, ON
Mrs. Emily Gruenwoltd	Canadian Medical Association	Ottawa, ON
Dr. Hamilton Hall	Canadian Spine Society	Markdale, ON
Ms. Nora Hammell	Canadian Nurses Association	Ottawa, ON
Ms. Sheryl Harris	Health Canada	Ottawa, ON
Dr. Lydia Hatcher	Canadian Medical Association – Co-Chair, Primary Care Wait Time Partnership	Mount Pearl, NL
Ms. Jacqueline Houston	St. Michael's Hospital	Toronto, ON
Mr. Michael Hurka	Alberta Health and Wellness	Edmonton, AB
Mr. Don Husereau	Canadian Agency for Drugs and Technologies in Health	Ottawa, ON
Ms. Sharon Johnson	Alberta Medical Association	Calgary, AB
Ms. Tracy Johnson	Canadian Institute for Health Information	Toronto, ON
Mr. Ryan Kalladeen	Ministry of Health and Long-Term Care	Toronto, ON
Ms. Beatrice Keleher-Raffoul	Association of Canadian Academic Healthcare Organizations	Ottawa, ON
Mrs. Elizabeth Kennedy	Eastern Health	St. John's, NL
Ms. Kori Kingsbury	Cardiac Care Network	Toronto, ON
Mrs. Robin Laird	Prince Edward Island Department of Health	Charlottetown, PE
M. Jacques Laplante	H�pital du Sacr�-C�ur de Montr�al	Montr�al (Qc)
Mr. Jeff Laskoski	Alberta Health and Wellness	Edmonton, AB
Ms. Christina Lawand	Canadian Institute for Health Information	Ottawa, ON
Dr. Denice Lewis	Canadian Health Services Research Foundation	Ottawa, ON
Ms. Lisa Little	Canadian Nurses Association	Ottawa, ON
Ms. Nadine Lunt	Canadian Association of Emergency Physicians	Ottawa, ON
Ms. Ann Lynch	McGill University Health Centre	Montreal, QC
Ms. Monika MacLaren	Canadian Medical Association	Ottawa, ON
Ms. Kendra MacLean	Health Canada	Ottawa, ON
Ms. Nancy MacLeod	Nova Scotia Department of Health	Halifax, NS

Dr. Shilpi Majumder	Health Council of Canada	Toronto, ON
Mr. Eric Mang	The College of Family Physicians of Canada	Mississauga, ON
Dr. Renwick Mann	Canadian Medical Association	Peterborough, ON
Mr. Julian Martalog	Cancer Care Ontario	Toronto, ON
Dr. John Maxted	The College of Family Physicians of Canada	Mississauga, ON
Ms. Kathryn McDade	Health Canada	Ottawa, ON
Mr. John McGurran	Cordova Bay Research Ltd.	Victoria, BC
Mr. Paul McKeague	Health Canada	Ottawa, ON
Ms. Lindsay McVicar	Nova Scotia Department of Health	Halifax, NS
Ms. Alison Millar	Ministry of Health	Victoria, BC
Dr. J. Kenneth Milne	Salus Global Corporation	London, ON
Ms. Nancy Milroy-Swainson	Health Canada	Ottawa, ON
Ms. Tamara Mohammed	Ministry of Health and Long-Term Care	Toronto, ON
Mr. Denis Morrice	Best Medicines Coalition	Toronto, ON
Ms. Kathleen Morris	Canadian Institute for Health Information	Toronto, ON
Dr. Alec Morton	London School of Economics	London, England
Mr. Eddy Nason	Canadian Policy Research Networks	Toronto, ON
Ms. Wendy Nicklin	Accreditation Canada	Ottawa, ON
Dr. Tom Noseworthy	University of Calgary	Calgary, AB
Dr. Mark Ogrady	Regina Qu'Appelle Health Region	Regina, SK
Dr. Luis Oppenheimer	Winnipeg Regional Health Authority	Winnipeg, MB
D ^f Robert Ouellet	Association médicale canadienne	Rosemère (Qc)
Dr. Matthew Parliament	CARO – Cross Cancer Institute	Edmonton, AB
Mr. Colin Patey	Interhealth Canada Limited	Toronto, ON
Dr. Steve Pelletier	Clarence-Rockland Family Health Team	Rockland, ON
Ms. Teresa Petch	VON Canada	Ottawa, ON
D ^{re} Marie-Pascale Pomey	Université de Montréal	Montréal (Qc)
Dr. Helen Ramsdale	CMA Committee on Health Policy and Economics / Canadian Thoracic Society	Burlington, ON
Dr. Martin H. Reed	Canadian Association of Radiologists	Winnipeg, MB
Dr. Glen Roberts	Canadian Policy Research Networks	Ottawa, ON
Dr. Jeff Robertson	Canadian Medical Protective Association	Ottawa, ON
Dr. Ian Rongve	Ministry of Health Services	Victoria, BC
Mr. Morris Rosenberg	Health Canada	Ottawa, ON
Mrs. Josette Roussel	Canadian Nurses Association	Ottawa, ON
M ^{me} Johanne Roy	Hôpital du Sacré-Cœur de Montréal	Montréal (Qc)
Ms. Janice Sanger	Department of Health and Community Services	St. John's, NL
Dr. Claudia Sanmartin	Statistics Canada	Ottawa, ON
Ms. Tina Saryeddine	Association of Canadian Academic Healthcare Organizations	Ottawa, ON
Mr. Marcel Saulnier	Health Canada	Ottawa, ON
Mr. Alex Saunders	Canadian Psychiatric Association	Ottawa, ON
Dr. Ernst Schuster	Family Physician	Edmonton, AB

Ms. Cathy Seguin	The Hospital for Sick Children	Toronto, ON
Dr. Sam Shortt	Canadian Medical Association	Ottawa, ON
Dr. Christopher Simpson	Kingston General Hospital / Queen's University	Kingston, ON
Mr. Paul Sinclair	Canadian Association of Gastroenterology	Oakville, ON
Mrs. Linda Smith	Nova Scotia Department of Health	Halifax, NS
Ms. Patsy Smith	Capital Health	Prospect, NS
Ms. Stephanie Soo	CIHR – Institute of Health Services and Policy Research	Toronto, ON
Ms. Linda St-Amour	Health Canada	Ottawa, ON
Mrs. Christine Struthers	Ottawa Heart Institute	Ottawa, ON
Dr. Wayne Tanner	Ontario Medical Association	Toronto, ON
Mr. Douglas Thomson	Canadian Orthopaedic Association	Westmount, QC
Ms. Sheri Todd	Health Canada	Ottawa, ON
Mr. Stephen Vail	Canadian Medical Association	Ottawa, ON
Mrs. Kathy VanBenthem	Canadian Association of Occupational Therapists	Ottawa, ON
Dr. David Vickar	Canadian Association of Radiologists	Edmonton, AB
Dr. Kishore Visvanathan	Saskatoon Health Region	Saskatoon, SK
Mr. Michael Wagner	The Advisory Board	Washington, DC
Ms. Marisha Warrington	The Fraser Institute	Toronto, ON
Dr. Eric Wasylenko	Canadian Medical Association	Okotoks, AB
Ms. Judy Watson	Health Canada	Ottawa, ON
Dr. David Wells	New Brunswick Surgical Care Network	Fredericton, NB
Mrs. Christy Westropp	Health and Social Services, Government of Yukon	Whitehorse, YT
Mrs. Nancy White	Western Health	Corner Brook, NL
Mr. Mark Wigmore	Privy Council Office, Intergovernmental Affairs	Ottawa, ON
Mr. Michael Wilson	Brighton and Sussex University Hospitals NHS Trust	West Sussex, England
Dr. Ruth Wilson	The College of Family Physicians of Canada	Kingston, ON
Ms. Jenn Yiokaris	Ontario Medical Association	Toronto, ON
Dr. John You	McMaster University	Hamilton, ON
Ms. Amy Zierler	Health Council of Canada	Toronto, ON



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