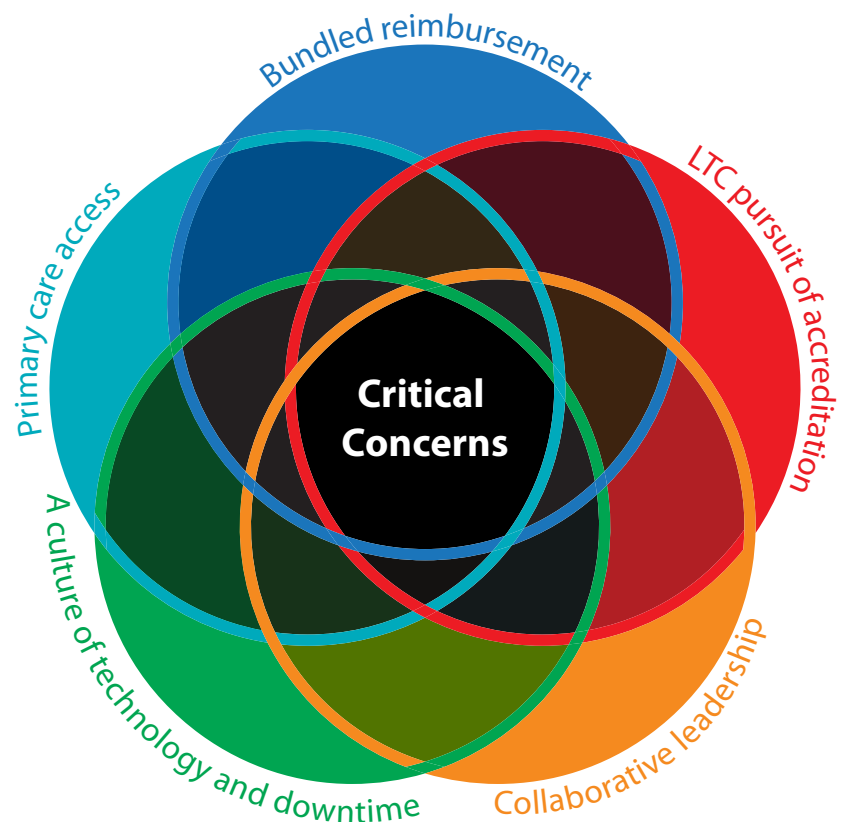


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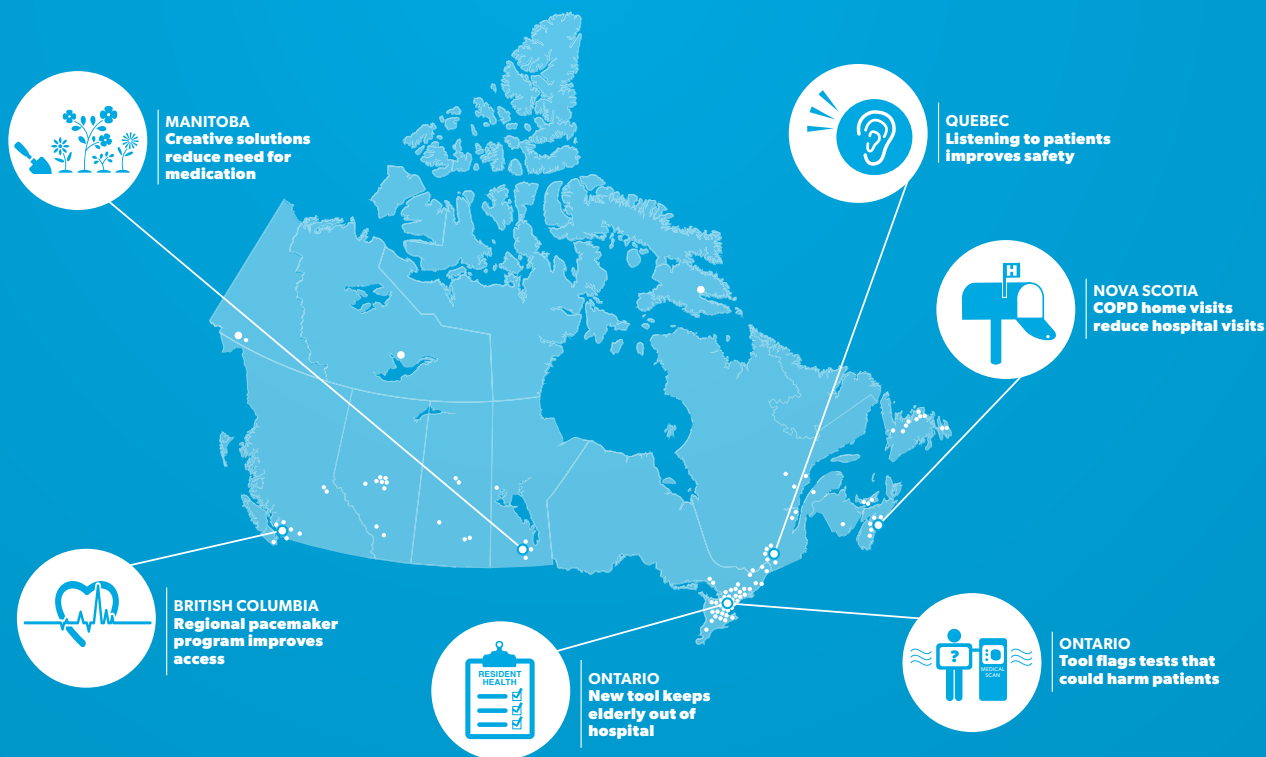
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Ken Tremblay's interview with Health Canada's new deputy minister, Simon Kennedy, opens a window onto the complex nature of an organization tasked with regulatory, policy-making and operational functions (all while seeking elusive federal-provincial cooperation). This brief glimpse inside Health Canada's plethora of roles and responsibilities makes a superb entry portal for the first Healthcare Quarterly issue of 2015, which similarly ranges across a wide field of critical concerns.

Funding Reform

Where there is public healthcare there is also talk of funding reform. Anne Wojtak and Dipti Purbhoo take us deep inside that topic in their discussion of "bundled reimbursements," which, advocates argue, raise care quality while lowering costs. Focusing primarily on Ontario's home care system, Wojtak and Purbhoo note that challenges and uncertainties associated with bundled payment increase when one moves from a single diagnosis to complex, chronic conditions. Fascinating, therefore, is their contention that, in the case of home care, a "practical and necessary place to start is with bundling care" rather than payments. The example they provide of an integrated palliative care team brings that point home.

Our next article looks at reforms affecting long-term care (LTC) funding in Alberta. Trafford Clamp, Nadya Repin and Jason Sutherland focus on that province's patient-care-based funding (PCBF) model, which ties the complexity and care needs of LTC residents to the payment LTC providers receive – specifically asking, "Does PCBF support Alberta's goals for providing transparent, stable and equitable funding to LTC providers across the province?" While the authors say that more time is needed to discern the policy's full

impact, two clear "positive strides" have been made: standardizing LTC residents' assessment and reporting, and linking payments to care plans and staffing requirements. But what, they also ask, will be the consequences as LTC providers seek to lower costs below the government's funding level?

Leadership Development

The Canadian Interprofessional Health Leadership Collaborative (CIHLC) recently completed extensive research on collaborative leadership in healthcare. In their article, Matthew Gertler et al. built on this work by developing an inventory of health leadership education programs in Canada, and then analyzing the availability and nature of leadership education to specific health professionals. While they found "many opportunities" for such training, amongst their most discoveries was that continuing education and executive courses had the "highest instances of having evidence of collaborative leadership attributes."

On a related topic, Isser Dubinsky and his two co-authors asked, beyond clinical excellence or mere rotation of roles, what are the ingredients of "truly effective physician leadership" and how can those elements be nurtured? Many physicians have the "traits" leaders require (e.g., integrity, passion, judgment), but "few possess the requisite competencies and technical skills" necessary for optimizing quality, fund raising and other functions. In their article, Dubinsky et al. take readers through a physician leadership skills matrix and implementation toolkit they developed based on seven key competencies (e.g., network development and relationship building, strategic planning and thinking).

Using Technology

“Downtime preparedness” – this was a new term to many of us. However, for Michael Caesar and Scott McIntaggart, it signifies a “culture” that needs to be developed throughout the increasingly digitized healthcare world. The basic premise, the authors explain, is that work needs to continue even when an information technology (IT) system is offline, but preparing for and dealing with clinical system outages requires an “enterprise-wide response.” It’s not just the folks in IT who own the problem. Taking Toronto’s University Health Network as their model, Caesar and McIntaggart’s offer a transferable list of “lessons learned” – including shared accountability, standardization and prioritizing applications and user groups.

Healthcare teaching through simulation is widespread in Canada and elsewhere. Not a lot is known, though, about using simulation to effect organizational change. Darlene Hubley and her colleagues present findings from Holland Bloorview Kids Rehabilitation Hospital in Toronto, which employed a simulation event to support the rollout of an outpatient electronic health record (HER) and a corresponding point-of-care documentation system. The authors extrapolate from their particular example to generate five key lessons – such as clear communication, staging in small and larger groups, supporting active learning – that other organizations will find useful for their change-focused efforts.

Patient Safety

Accreditation is another ubiquitous practice throughout modern healthcare, but, in LTC homes, does it lead to better safety processes and outcomes for residents? And do the characteristics of individual LTC facilities influence whether they seek accreditation? Shawna McDonald, Laura Wagner and Andrea

Gruneir provide this issue’s second look at the LTC space through a tour of their research into these important policy- and finance-related issues (via 587 homes in Ontario). Readers will likely be surprised that, with regard to the first question, only a decreased incidence of falls – 8% lower – correlated with accreditation (as the authors note, accreditation in itself is not a guarantee of better care; only “appropriate implementation and execution” can further that goal). Meantime, the researchers found that for-profit ownership, belonging to a chain and an urban location were predictive of accreditation. Based on these results, it is clear that policymakers “may need to consider new initiatives that reduce barriers for facilities that lack sufficient resources” to pursue accreditation.

Primary Care

Timely access to primary care: it would be hard to find a Canadian who did not wholeheartedly endorse that objective. In this issue’s final essay, Jennifer Fournier et al. introduce us to an “advanced access scheduling system” aimed at bringing about primary care access within 48 hours (we recommend reading this article in conjunction with the ICES report on using primary care practice reports to guide quality improvement in primary care). Implemented at a nurse practitioner (NP)-led clinic in northern Ontario, the results were primarily positive, and included outcomes such as decreased pressure on NPs, enhanced quality of documentation, improved patient safety, fewer missed appointments and heightened patient satisfaction. Even clerical staff, it seems, benefitted, reporting reduced confrontation with clients and greater job satisfaction.

– The Editors

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Primary Care Practice Reports: Administrative Data Profiles for Identifying and Prioritizing Areas for Quality Improvement

Richard H. Glazier, Brian Hutchison, Alexander Kopp and Gail Dobell

Abstract

Information to help guide quality improvement activities in primary care should be readily available, routinely updated and include comparisons across groups, regions and jurisdictions. Primary care practice reports, developed jointly by the Institute for Clinical Evaluative Sciences and Health Quality Ontario, is one such effort. These data include practice demographics, the prevalence of common chronic conditions, the use of health services and measures of chronic disease prevention and management. All Ontario primary care physicians can register for the profiles online using a secure login; the profiles are available only to them. Enhancements under development include new formats, targets and tools to support quality improvement.

The Issue

Historically, there has been little or no information available to primary care practices to help guide quality improvement activities. This has started to change in recent years with the availability in several Canadian jurisdictions of feedback to primary care practices about practice composition and certain aspects of healthcare use and performance (Katz et al. 2006; Birtwhistle et al. 2009; Tu et al. 2014). Quite extensive measurement of primary care practice takes place in other countries, including Accountable Care Organizations in the United States and within the Quality and Outcomes Framework in the United Kingdom (Rittenhouse et al. 2009; Gillam et al. 2012).

In the past few years, policymakers have become more aware of the widening gap in primary care practice internationally, with Canada most often in the bottom half of international comparisons of access to primary care and quality improvement activities (Schoen et al. 2009, 2013). These measures of performance vary widely, however, between practices, models of care and jurisdictions. To plan and set priorities for quality improvement, it would be ideal for every practice to be able to access routine reports that are frequently updated with group, regional and jurisdictional comparisons.

The Data

Although administrative data that are derived from physician billing claims, drug benefit claims and hospital reporting have limitations, they are readily available in many jurisdictions and are routinely updated. In the current initiative, the Institute for Clinical Evaluative Sciences (ICES) and Health Quality Ontario (HQO) partnered to identify, format and feed back to practices administrative data for quality improvement. These data include practice demographics, the prevalence of common chronic conditions, the use of health services, and measures of chronic disease prevention and management.

Practice demographics include the size of the practice population, the percentage rostered in a primary care patient enrolment model, age distribution of the practice, rurality, relative income distribution and patient complexity. Common chronic conditions that can be identified using validated algorithms included

hypertension, congestive heart failure, myocardial infarction, diabetes and visits for mental illness (Hux et al. 2002; Steele et al. 2004; Tu et al. 2008; Schultz et al. 2013). Use of health services includes emergency department visits by level of triage, hospital admissions for chronic conditions, hospital readmissions within 30 days, continuity of primary care and specialist visits. Measures of chronic disease prevention and management include cervical, breast and colorectal cancer screening and several aspects of diabetes management. Details about each of these measures can be found in Appendix B of the sample practice report available at <https://www.hqontario.ca/quality-improvement/primary-care/practice-reports>.

The Process

Physicians can register for the profiles at the website above. They provide consent using a secure login at HQO, after which their data are generated at ICES, where data sets are linked using unique, encoded identifiers and analyzed. Data are securely transferred from ICES to HQO. HQO generates the reports in a custom Portable Document Format (PDF) file with run charts extending over several years of data, including comparisons of the individual practice to the practice group if applicable, to the Local Health Integration Networks (LHINs, Ontario's regional health authorities) and to the province as a whole. Small cells are not reported. Because healthcare use varies by age, sex and morbidity, practice-level healthcare use measures are reported as raw data and also after adjustment for these characteristics. The physician-level reports are available only to the consenting physician. A process is being implemented to make group-level reports available to the executive directors of family health teams and community health centres.

Key Findings

Large variability was found across practices, groups and LHINs for a number of measures included in the report. In March 2013, 23% of the Ontario population was age 18 and younger, 62% age 19–64 and 15% age 65 and older. About 75% of Ontario's population had been rostered in a patient enrolment model. Approximately 21% had hypertension, 19% had a mental health visit, 9% had diabetes, 2% had congestive heart failure and 1% had myocardial infarction. The rate of emergency department visits was 399 per 1,000 for Ontario, 40% of which were considered less urgent or non-urgent at the time of triage. The rate of hospital admissions for asthma, congestive heart failure, chronic obstructive pulmonary disease and diabetes combined was 3.6 per 1,000 patients. Of patients discharged for all conditions, 5% were readmitted within 30 days and 16% within one year. Just over 69% of primary care visits were with the patient's own physician. Specialist visit rates per 1,000 patients were 159 for psychiatry, 73 for general internal medicine, 71 for cardiology, 32 for endocrinology, 27 for respirology and 1,287 for all other specialties combined.

Among those with diabetes, 43% had two or more glycated haemoglobin tests in the previous 12 months and 65% had at least one cholesterol test; 68% had a retinal examination in the previous 24 months. Among those with diabetes aged 66 and older, 72% had been prescribed angiotensin converting enzyme (ACE) inhibitors or angiotensin II receptor blockers (ARBs) in the previous 12 months, and 70% had been prescribed a statin. For cancer screening, 66% of eligible women had a Pap smear in the previous three years, 52% had a mammogram in the previous two years and 60% had colorectal screening, including faecal occult blood testing in the previous two years, barium enema or sigmoidoscopy in the previous five years or colonoscopy in the previous ten years. Figure 1 uses simulated data to demonstrate how the indicators are depicted in the report.

Strengths and Limitations

These primary care practice reports have been accessed by several hundred Ontario primary care physicians. Feedback to date has been informal but positive. Team-based primary care groups in Ontario, including family health teams, community health centres and nurse practitioner-led clinics, are following quality improvement plans that generally include practice-based patient experience surveys and data extracted from their electronic medical records. The administrative data profiles are meant to supplement these other data sources. In the context of practice-based quality improvement, the major strength of these profiles is that they provide robust population-based comparisons between physicians and their group, their region and the province as a whole.

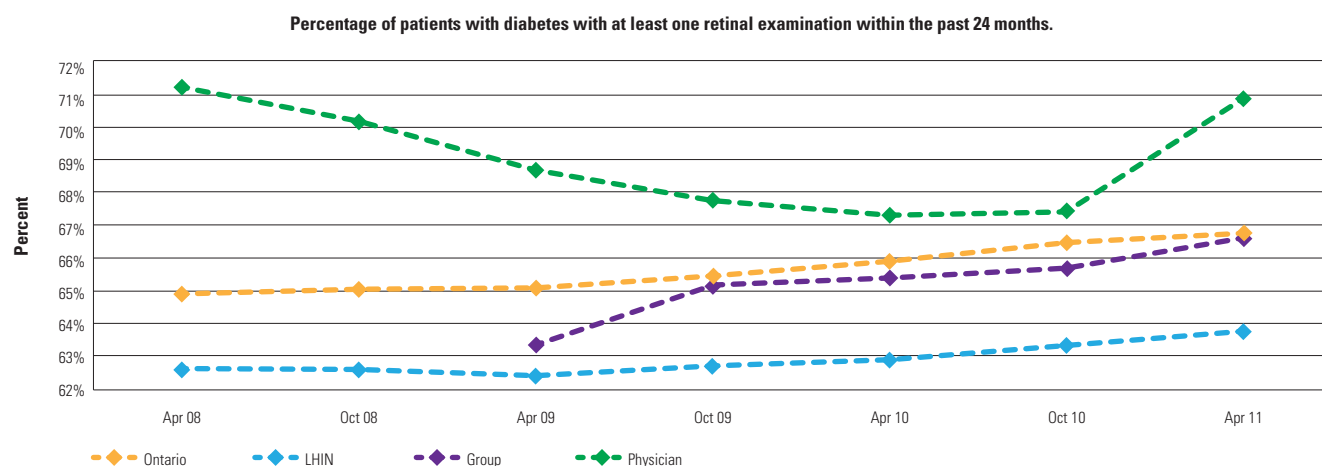
As a result of using administrative data, the profiles have a number of limitations. The data are not collected for research purposes, and therefore, some important data are missing and not all measures have been validated. In particular, the data do not include prescriptions for those younger than age 65 or tests done in hospital laboratories. They cannot be used to distinguish Type 2 from Type 1 diabetes mellitus, although the large majority of patients would be expected to have Type 2. The data include only physicians and not the activities of other interprofessional team members. They also do not capture provider-patient interactions that take place by telephone or email. The most important limitations are the long lag time between care provision and the release of administrative data, which is typically about a year, and the inability to identify individual patients as a result of current privacy policies.

Next Steps

In the current format, profile indicators are presented as a single PDF consisting of separate run charts, each comparing the practice with its group, its region and the province. These allow a direct visual impression of each measure in relationship to relevant comparators over time. The profile document is quite long, though, and it may take time and patience to locate

FIGURE 1.
Sample data from a primary care practice report

This graph and accompanying table show the percentage of patients with diabetes who have had at least one retinal examination within the past 24 months for the physician, group, LHIN and the province.¹ The table also shows the number of patients with diabetes who have had at least one retinal examination within the past 24 months. Patients were considered to have diabetes if they had at least two physician claims or at least one hospital admission for diabetes within the past two years. The data was collected from OHIP.



Reporting Period	Apr 08	Oct 08	Apr 09	Oct 09	Apr 10	Oct 10	Apr 11
Physician	71.18% (85)	70.16% (86)	68.67% (87)	67.76% (88)	67.33% (89)	67.42% (93)	70.83% (102)
Group	DS	DS	63.37% (718)	65.22% (808)	65.44% (832)	65.70% (901)	66.61% (764)
LHIN	62.69% (64,173)	62.62% (67,181)	62.43% (71,427)	62.72% (74,673)	62.93% (76,529)	63.34% (80,444)	63.82% (84,420)
Ontario	64.95% (518,085)	65.10% (541,726)	65.13% (563,385)	65.49% (587,194)	65.93% (609,337)	66.49% (633,174)	66.78% (656,620)

DS=data suppressed; physician group size <6

the most relevant indicators for a particular practice. Current discussions with the design team at HQO include new format options with a dashboard of the measures most practices would find highly relevant, the addition of new measures of practice complexity and cost and an intention to continue to provide detailed graphs and tables in an appendix.

Current evidence suggests that this type of audit and feedback can lead to small but potentially important improvements in practice (Ivers et al. 2012). The current profiles lack explicit targets, a feature associated with greater effectiveness. The implicit targets in the report are the performance of the comparators. There are times when this is likely to be effective, but it could be problematic when the group, region and provincial performance levels are lower than desired, such as for cancer screening where provincial rates are below 70%. The development of targets could be helpful for practices that want to identify the largest gaps between their performance level and that which is considered ideal. Audit and feedback are also more effective when an action plan is included. Available tools could be adapted for use with the profiles so that links in the profiles lead readers to possible actions they could implement in their practice or group.

Conclusion

The primary care practice reports described in this paper are designed to help practices and groups identify and prioritize areas for quality improvement. The reports are available online for most Ontario primary care physicians and groups, they are routinely updated and they include relevant comparators. They are intended to be used with other sources of health-system and practice-level data, including surveys and electronic medical records. Further developments are planned to further increase their usefulness and actionability.

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Drug Use among Seniors on Public Drug Programs in Canada, 2012

Jeff Proulx and Jordan Hunt

Abstract

Seniors take more drugs than younger Canadians because, on average, they have a higher number of chronic conditions. Although taking multiple medications may be necessary to manage these conditions, it is important to consider the benefits and risks of each medication and the therapeutic goals of the patient. This article provides an in-depth look at the number and types of drugs used by seniors using drug claims data from the CIHI's National Prescription Drug Utilization Information System Database, representing approximately 70% of seniors in Canada. In 2012, almost two-thirds (65.9%) of seniors on public drug programs had claims for five or more drug classes, while 27.2% had claims for 10 or more, and 8.6% had claims for 15 or more. The most commonly used drug class was statins, used by nearly half (46.6%) of seniors. Nearly two-thirds (60.9%) of seniors living in long-term care (LTC) facilities had claims for 10 or more drug classes. Proton pump inhibitors were the most commonly used drug class among seniors living in LTC facilities (used by 37.0% of seniors in LTC facilities), while statins ranked seventh (29.8%).

Introduction

Seniors take more drugs than younger Canadians because, on average, they have a higher number of chronic conditions (Ramage-Morin 2009; CIHI 2011). Using multiple prescription medications is an important part of managing many of these conditions (CIHI 2011; Terner et al. 2011; Kwan and Farrell 2012). Although taking multiple medications may be necessary to manage these conditions, it is important to consider the benefits and risks of each medication and the therapeutic goals of the patient.

This article uses drug claims data from the CIHI's National Prescription Drug Utilization Information System (NPDUIS) Database to provide an in-depth look at the number and types of drugs used by seniors, and to compare drug use among seniors living in long-term care (LTC) facilities and those living in the community. The NPDUIS Database currently contains claims data from public drug programs in eight Canadian provinces –

Prince Edward Island, Nova Scotia, New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia – as well as one federal drug program, managed by the First Nations and Inuit Health Branch. Data include drug claims for approximately 70% of Canadian seniors.

How Many Drugs Are Seniors Using?

In 2012, almost two-thirds (65.9%) of seniors on public drug programs had claims for five or more drug classes, while 27.2% had claims for 10 or more, and 8.6% had claims for 15 or more. The number of drug classes used by seniors increased with age (Figure 1). In 2012, 42.7% of seniors aged 65–74 had claims for fewer than five drug classes and 20.0% had claims for 10 or more. Among seniors aged 85 and older, 20.5% had claims for fewer than five drug classes, while 39.3% had claims for 10 or more, including 13.2% with claims for 15 or more classes. As seniors age, they tend to use more prescription drugs owing to a higher prevalence of certain chronic conditions (Ramage-Morin 2009; CIHI 2011; Kwan and Farrell 2012).

Which Drugs Are Most Commonly Used by Seniors?

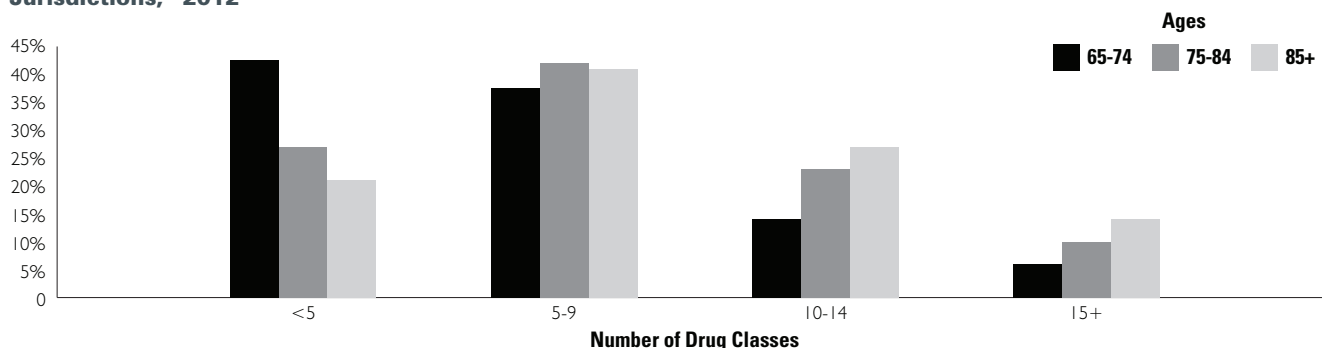
In 2012, 6 of the 10 most commonly used drug classes among seniors on public drug programs were cardiovascular-related (Table 1). The most commonly used drug class was statins, which are used to lower cholesterol. Nearly half (46.6%) of seniors had at least one claim for a statin in 2012. The next most commonly used drug classes were angiotensin-converting-enzyme inhibitors, used to treat high blood pressure and heart failure, and proton pump inhibitors (PPIs), which are used to treat gastroesophageal reflux and peptic ulcer disease. These were used by 28.2% and 26.9% of seniors, respectively.

Statins were the most commonly used drug class in each age group, although the rate of statin use varied with age, from 46.1% among seniors aged 65–74, peaking at 50.9% in seniors aged 75–84 and declining to a low of 39.1% in seniors aged 85 and older.

Two drug classes – sulfonamide diuretics (used to treat high

FIGURE 1.

Percentage of Seniors on Public Drug Programs, by Number of Drug Classes and Age Group, Selected Jurisdictions,* 2012



* Eight jurisdictions submitting claims data to the NPDUI Database as of March 2013: Prince Edward Island, Nova Scotia, New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia. FNIHB is excluded due to the limited availability of age data. Source: National Prescription Drug Utilization Information System Database, Canadian Institute for Health Information.

TABLE 1.

Top 10 drug classes by rate of use among seniors on public drug programs, by age group, selected jurisdictions,* 2012

Drug Class	Common Uses	65–74 (%)	75–84 (%)	85+ (%)	Total (%)
HMG-CoA reductase inhibitors (statins)	High cholesterol	46.1	50.9	39.1	46.6
Angiotensin-converting-enzyme (ACE) inhibitors, excluding combinations	High blood pressure, heart failure	25.5	30.9	31.9	28.2
Proton pump inhibitors (PPIs)	Gastroesophageal reflux disease, peptic ulcer disease	23.2	29.9	33.2	26.9
Beta-blocking agents, selective	High blood pressure, heart failure, angina (chest pain)	19.3	27.6	30.8	23.8
Dihydropyridine calcium channel blockers	High blood pressure	17.1	24.3	27.7	21.1
Thyroid hormones	Hypothyroidism	15.1	19.2	24.3	17.8
Natural opium alkaloids	Management of moderate to severe pain	15.1	16.3	17.8	15.9
Angiotensin II antagonists, excluding combinations	High blood pressure, heart failure	13.8	17.6	16.7	15.5
Biguanides	Diabetes	16.1	16.0	10.6	15.3
Thiazides, excluding combinations	High blood pressure	14.1	16.6	15.9	15.2

*Eight jurisdictions submitting claims data to the NPDUI Database as of March 2013: Prince Edward Island, Nova Scotia, New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia. FNIHB is excluded due to the limited availability of age data. Source: National Prescription Drug Utilization Information System Database, Canadian Institute for Health Information.

blood pressure and heart failure) and fluoroquinolones (a class of antibiotics used to treat pneumonia and urinary tract infections) – were among the top 10 most commonly used drug classes for seniors aged 85 and older but not for younger seniors. The rate of sulfonamide diuretic use had the biggest increase across age groups, from 6.0% among seniors aged 65–74 to 25.3% among seniors aged 85 and older. For fluoroquinolones, the rate of use ranged from 11.2% among seniors aged 65–74 to 19.3% among seniors aged 85 and older. The increase of sulfonamide diuretic use as seniors age is likely because the prevalence of heart failure also increases with age, while the increase in fluoroquinolones use is likely due to an increased prevalence of pneumonia and urinary tract infections in older seniors (Bleumink 2004; Anderson 2008; Toward Optimized Practice 2010).

How Does Drug Utilization Differ among Seniors Living in Long-Term Care Facilities?

Nearly two-thirds (60.9%) of seniors living in LTC facilities in five provinces (the five provinces where LTC data can be identified: Prince Edward Island, New Brunswick, Ontario, Manitoba and British Columbia) had claims for 10 or more drug classes in 2012. This is more than double the rate among seniors living in the community (26.1%). The difference is even greater when looking at seniors using 15 or more drug classes. A total of 26.6% of seniors in LTC facilities were using 15 or more drug classes, compared with 8.1% of seniors living in the community.

PPIs were the most commonly used drug class among seniors living in LTC facilities (used by 37.0% in the LTC facilities) but ranked third among seniors in the community (25.9%)

(Table 2). Statins, the most commonly used drug class among seniors in the community (used by 48.0% of seniors in the community), were ranked seventh among seniors in LTC facilities (29.8%).

Seniors living in LTC facilities are older than seniors living in the community, with 57.7% of LTC facility residents aged 85 and older, compared with 14.7% of seniors living in the community. The age distribution of LTC facility residents was similar across provinces, although the population in Manitoba was older than in the other four provinces, with 64.2% of seniors living in LTC facilities aged 85 and older, compared with 57.0% of seniors in the other four provinces. Differences in age can influence the number and types of chronic conditions being treated, which in turn can influence the number and types of drugs being used.

These findings and others – as well as more information on data, terminology and methods – are described in detail in a recent Canadian Institute for Health Information publication *Drug Use Among Seniors on Public Drug Programs in Canada, 2012* (2014). This report is available free of charge at: <<https://secure.cihi.ca/estore/productFamily.htm?pf=PFC2594&lang=en&media=0>>. **HQ**

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TABLE 2.

Top 10 drug classes in long-term care facilities, by age-sex standardized rate of use by seniors on public drug programs, selected jurisdictions,* 2012

Drug Class	Common Uses	Long-Term Care Facility		Community	
		Rate (%)	Rank	Rate (%)	Rank
Proton pump inhibitors (PPIs)	Gastroesophageal reflux disease, peptic ulcer disease	37.0	1	25.9	3
Selective serotonin reuptake inhibitors (SSRIs)	Depression	36.1	2	9.5	19
Other antidepressants	Depression	32.6	3	7.7	23
Natural opium alkaloids	Management of moderate to severe pain	30.7	4	15.4	8
Fluoroquinolones	Antibiotics	30.5	5	13.1	11
Sulfonamide diuretics	High blood pressure, heart failure	30.5	6	10.2	18
HMG-CoA reductase inhibitors (statins)	High cholesterol	29.8	7	48.0	1
Angiotensin converting enzyme (ACE) inhibitors, excluding combinations	High blood pressure, heart failure	28.9	8	28.7	2
Diazepines, oxazepines, thiazepines and oxepines	Schizophrenia, bipolar disorder	26.0	9	2.3	72
Beta-blocking agents, selective	High blood pressure, heart failure, angina (chest pain)	26.0	10	23.7	4

Note: *Five jurisdictions submitting claims that can be identified as LTC facility data in the NPDUIS Database, as of March 2013: Prince Edward Island, New Brunswick, Ontario, Manitoba and British Columbia.

Source: National Prescription Drug Utilization Information System Database, Canadian Institute for Health Information.

In conversation with

Simon Kennedy

Ken Tremblay



Simon Kennedy was named Deputy Minister, Health Canada, in January 2015. With 9,000 employees working coast-to-coast, Health Canada provides a unique spectrum of services spanning food and drug safety, health services to federal employees and public health, disease surveillance and research. Previously, Simon served as Deputy Minister, International Trade, where he provided leadership to the Canada-European Union Economic Trade Agreement and the Canada-South Korea Free Trade Agreement. Prior to those negotiations, he was responsible for Canada's foreign investment review regime, work that included significant work with the US counterparts; particularly noteworthy were the Canada-US Beyond the Border Working Group and Action Plan for Perimeter Security and Economic Competitiveness. His career in public service started in 1990 with roles at Transport Canada, the Canadian Coast Guard, Agriculture and Agri-Food Canada and the Privy Council, culminating with two Deputy Secretary postings to Cabinet: for Operations and for Plans and Consultations. Mr. Kennedy holds a bachelor's degree

in public relations from Mount Saint Vincent University, a Master of Science in Communications Management from Syracuse University and ICD.D designation from the Institute of Corporate Directors.

HQ's Ken Tremblay caught up with him earlier this year.

HQ: Welcome to healthcare. With some 25 years of broad-based experience at the federal level, what factors influenced your career decision to join Health Canada?

SK: I was thrilled to be named Deputy Minister. As a career civil servant, you look for a challenge and one of the things so interesting about Health Canada is that it has all the key functions of a major government department under one roof. As a regulatory organization, we have a critical mandate to help ensure the health and safety of Canadians. As a policy setting organization, there are many issues with health and healthcare where policy decisions need to be made. We're an

operational department providing services to First Nations and Inuit across Canada. The Health Canada team has an excellent reputation and its public policy mandate affects every Canadian. It's a real privilege to be here.

HQ: How did you approach those first days at Health Canada? What was familiar and what were some early lessons learned?

SK: One thing familiar is that it is a government institution and, like all government departments, some elements of how decisions are made are common to Health Canada: we have a minister and the minister is a member of the cabinet. Our organization has to conform to all the various policies set by the treasury board and so on. For someone who has worked in a variety of government organizations over the years, these are systems and processes with which I am familiar.

The areas with less familiarity are specific files at Health Canada. My initial focus was to get briefed and to very quickly get immersed in the specific issues within the departments. Because of the breadth of the issues at Health Canada, there was an awful lot to learn. My first focus was to gain an understanding of Health Canada's key priorities and the details of the various issues.

HQ: Health Canada's mission and vision speak to its mandate to improve the lives of Canadians such that we are "among the healthiest populations in the world as measured by longevity, lifestyle and effective use of the public healthcare system." As Deputy Minister, what speaks to you as the road ahead?

SK: One of the things that struck me was that many of the forces at work in the other portfolios were also at work in Health Canada. You can see the impact of an aging society and globalization where the production of goods and services, medicines and medical devices, etc., are increasingly international and outside Canada's borders, e.g., pharmaceuticals and other products that come in from outside of Canada's borders. Whether it's the pace of change, innovation or new developments, these are quite exciting in the health field. New therapies, biologics, these sorts of things, have the potential to challenge us and to be beneficial to the health of Canadians. A major concern of mine is to ensure that Health Canada continues to stay abreast of these changes, to be relevant and adept at carrying out its mission for the health and safety of Canadians. The world is changing and we need to make sure that our approach stays relevant with it.

HQ: Iconic to "Medicare" in Canada is jurisdictional tension between federal and provincial counterparts, from funding and standards to compliance and

outcomes. What experiences and perspectives do you bring to these discussions where national, provincial and territorial interests must find common ground and strategies?

SK: There are always jurisdictional questions when it comes to the federal government working with the provinces. But that doesn't mean that we can't work well together and find ways of collaborating. My experience over the years has been that there are always opportunities to work together to achieve better outcomes for the citizens. At the end of the day, we're all serving the same people to get the best outcome.

My early career at Agriculture Canada included an area under the constitution where there is shared constitutional jurisdiction with the provinces. In fact some programming was jointly administered with the provinces. Both [parties] had direct responsibility for some programming. With healthcare, the constitutional arrangements are obviously different but there are tremendous opportunities to work together.

You can see that in that the Government of Canada provides significant funding through the Canada Health Transfer that supports provinces and territories in the delivery of health services. Federally, CIHR (Canadian Institute of Health Research) is a major funder of research across Canada and the Government of Canada has been a major supporter of electronic health records and e-health infrastructure at Canada Health Infoway. Another example of collaboration is the Canadian Institute of Health Information, where provincial representatives sit on the board and the provinces provide data to CIHI.

There are always going to be differences and sometimes they can become a focus. Conflict is always interesting: it gets the headlines but there are so many ways where we work together. My focus as deputy minister will continue to be to build collaborative relationships with my provincial and territorial colleagues as we work together for the common good.

HQ: Some have argued that Canada's performance on the global stage has waned, vis-à-vis health outcomes and system performance. How do you see Canada's journey with healthcare changing to address that observation?

SK: That comparative analysis is important if you want to stay sharp with your competitors. I have had these discussions with colleagues in Canada and from other countries. There are areas where our performance is not at the top of the list; on the other hand, there are other areas where we do very well.

Much depends on which statistics you're looking at. For example, Canada does quite well in health outcomes but not so well with certain performance indicators. So, it's really important to know which statistic is being referenced because depending on the actual measure we can be better or worse.

The important thing is not to rest on our laurels. My focus at Health Canada is to look at how we are doing relative to peers and other countries and the direction of our trend lines. We need to ensure that we're adapting and responding to the evidence in such trends.

HQ: A pan-Canadian solution to the information age has been a huge challenge to shepherd, perhaps policy but more so funding and deployment. What are your thoughts about how Canada's healthcare system should approach the issues and challenges inherent in a national e-health strategy?

SK: Canada Health Infoway's collaborative efforts are to create the conditions for a compatible information structure across the country: to develop common standards for data and to design a funding model supporting projects that will lead to interoperability of systems. There are challenges inherent in building a system that's interoperable across 13 jurisdictions, from one ocean to another. What we've tried to do is create the right conditions to have those systems talk to each other. While that work is not obviously finished and there have been good strides in the right direction, a lot more needs to be done to achieve a fully electronic system across the country.

HQ: The Canada Health Act is central to any discussion about the future of healthcare and the responsibilities and accountabilities of its many stakeholders. With such diverse perspectives and expectations, how do you see these players achieving a consensus view on healthcare's triple aim: better access, better outcomes and lower costs?

SK: There are a variety of ways in which the various jurisdictions can learn from each other and support the dialogue needed for continuous improvement. For example, the Canadian Foundation for Healthcare Improvement does a great job in sharing innovations in one part of the country or health system with other parts of the system. We have mechanisms in place to facilitate the sharing of best practices. When it comes to applying the latest health research to real-world settings, the Canadian Institute of Health Research, through its strategy for patient oriented research, has been examining how you apply the best research to clinical settings. These are the kinds of venues and mechanisms in place to actually facilitate those kinds of exchanges across the country.

Since the provinces manage their health systems, Canada enjoys many advantages. It supports innovation and different approaches. That kind of innovation and experimentation produces a lot of good results. Because we have different

jurisdictions managing their own systems, we don't have a single approach or one-size-fits-all approach in Canada. We need these mechanisms to share best practices and to learn from each other.

One example of the things that the federal government has tried to do is support innovation and the sharing of best practices across the country. Minister Ambrose struck a panel of eminent Canadians on healthcare innovation, led by Dr. David Naylor, to engage in a dialogue about this issue of health innovation: how do we ensure that Canada continues to adapt to all the health issues and challenges we've been talking about. That panel is going to report in June.

HQ: Unique to Health Canada are its healthcare responsibilities for First Nations and Inuit. With a challenging list of complex issues, how do you see Health Canada and its partners addressing the pressing needs of First Nations and Inuit communities?

SK: This is a very important responsibility, one priority we take very seriously. The vast majority of Health Canada's budget supports our mandate for First Nations and Inuit health, about \$2.5 billion per year. Ensuring excellence in program and service delivery is critically important and a key focus for both the First Nations and Inuit health branch and me.

It's very important to work closely with the First Nations communities themselves to build strong relationships. A good example is in British Columbia with the transfer of services to the First Nations Health Authority where the First Nations community have taken direct control and oversight of their health services. Evidence shows that where First Nations communities take greater charge and better control of their resources, they achieve better outcomes.

HQ: Health Canada plays a leadership role in the health and safety of food, water, drugs, chemicals, consumer products, medical devices and technology, among others. Given the global nature of today's supply chain, how do you strike balance between entry to market/technology transfer and ensuring that Canada is user-friendly to innovation?

SK: Health and safety clearly come first and are a top priority for Health Canada. We're also mindful that many of these innovations and developments hold tremendous promise for Canadians. There is a constant balancing act: ensuring the highest standards for health and safety but also enabling innovative new products to come to market where they have the potential to make advances in health and safety. We work very closely with regulatory colleagues in other countries where

we share best practices and information and data. That helps us to ensure that we stay abreast of the latest trends. There is an agenda at Health Canada to ensure that our regulatory regimes are up-to-date and take into account the latest developments internationally.

Vanessa's Law, which the government passed not that long ago, is a significant update to our regulatory framework which will allow us to move quickly to deal with labelling requirements or the need to withdraw products from the market quickly. Vanessa's Law provides for a series of new authorities that Health Canada will receive to enable us to respond more quickly to changes in the environment.

HQ: Engagement of stakeholders is critical for organizations such as Health Canada. How do you see that activity unfolding as we sponsor 21st-century solutions for 20th-century problems: e.g., reducing the social impacts of living longer, improving access to timely care, integrating models of care, etc.?

SK: It's very important to engage with stakeholders, a priority I have had throughout my career. Engagement is a critically important part of Health Canada doing its job well. It's very difficult to manage an organization well without understanding the external environment and to get out of my office and talk to a variety of people, including staff. This is a very large organization with locations all across the country and all kinds of expertise: scientists, chemists, biologists, radiologists, policymakers and service providers such as doctors, nurses and others. Getting out and talking to employees is really important to understand how the organization works and what people at the front line are thinking and doing.

It's important to talk to my provincial and territorial colleagues because the provinces and territories are major, front and centre, players. As well, there is the private sector where many different private organizations play a key role, whether it's intelligence about new medicines, medical devices or technologies. Speaking to representatives in the private sector gives you a sense of what innovation might be coming down the pipe.

HQ: Health Canada currently functions as leader/partner, funder, guardian/regulator, service provider and information provider. As we shift the emphasis of government away from direct service provision and system funding to purchaser and regulator as a means to better control costs and drive accountability, how do you see Health Canada's role changing over time?

SK: Our mission is to support the health and safety of Canadians. So, we have and will continue to have an important role as a policy and regulatory organization with activities across a broad array of areas, pharmaceuticals, medical devices, biologics, food, consumer products, etc. I would see these core regulatory functions continuing into the future.

Health Canada is a significant health service provider to First Nations and Inuit but, as I mentioned earlier, the BC example may be a trend towards greater First Nations ownership and control over those health services. I think those two critical roles in the Canadian system will continue.

Significant shifts that you're describing in service delivery are perhaps less applicable to some of the major roles that we play as an organization because those roles are actually central to the roles of the department.

HQ: I note your *alma mater* at Syracuse University include Aaron Sorkin, Bob Costas, Ted Koppel, Steve Kroft and Joe Biden. Is there life after Health Canada?

SK: I really like Syracuse University (although I'm not quite so sure about their mascot named Otto the Orange). I was in New House graduate, its communications school probably one of the better known or if not the best known for broadcast journalism. As you noted, Steve Kroft is a graduate but I've never really thought of myself as being in the company of Joe Biden or Aaron Sorkin.

HQ: Any sense of what you want your legacy to be at Health Canada?

SK: Like any good senior official, supporting my Minister is a top priority. I want to make sure that I help her achieve her objectives. To support the continued strong role that Health Canada has played in ensuring the health and safety of Canadians means continuing to adapt the organization with emerging realities. Health Canada needs to remain ahead of the curve with respect to dealing with new developments in Canada and internationally.

As deputy minister I want to make sure the organization remains excellent. We need to continue to attract the best people, to have modern tools that help us deal with new challenges, to build new relationships with my provincial and territorial colleagues. And, you always want to leave an organization better. This is a great organization but as the deputy minister you always want to come in and try to make it an even better place.

HQ: Thank you. HQ

Perspectives on Advancing Bundled Payment in Ontario's Home Care System and Beyond

Anne Wojtak and Dipti Purbhoo

Abstract

Now more than ever, healthcare funders are weighing options to drive better value in care delivery, including using bundled payments to compensate healthcare providers based on expected costs to achieve specific health outcomes for patients. Ontario is currently exploring options for expanding bundled payment beyond acute care to home care, primary care, long-term care and across the continuum of care. This paper reviews the evidence, including the Ontario experience with bundled payment, and identifies opportunities for advancing bundled payment in home care as well as with other sectors. The authors consider the most promising opportunities, offer perspectives on where to start and identify the critical success factors. They conclude that is unlikely that payment reform on its own would be sufficient to drive changes in care delivery across providers. Instead, the evidence from the review points to the need to shift the conversation on bundled payment to a larger strategy for integration of care across providers and to engage providers in designing solutions, particularly for supporting chronic and complex patients who require support from multiple providers across the system.

With increasing interest in achieving healthcare's Triple Aim,¹ bundled payment options that reimburse providers on the basis of expected costs for expected outcomes are seen as one solution to the health system's most critical issues. The Triple Aim approach is designed to optimize health system performance through a three-pronged focus on (1) improving patient experience, (2) reducing per capita costs and (3) improving

population health (Berwick et al. 2008). Bundled reimbursement ideally aligns incentives that force changes in how health-care is organized and delivered to achieve the Triple Aim by setting expectations for quality, integrating care across providers, identifying optimal health outcomes and service pathways to achieving them, reducing variation in delivery of care and decreasing costs. In particular, as our population of patients with costly complex and chronic health conditions grows, bundled reimbursement is cautiously viewed as a means to achieve better coordination of cross-continuum care for patients, encourage flexibility in how care is delivered across providers and compensate providers in a way that does not penalize them for spending appropriate time caring for patients to facilitate better health outcomes.

The challenge for Ontario, along with other jurisdictions, is that the logic behind bundled reimbursement is there, but in general, the evidence for higher quality and lower costs is scant. In reality, the implementation is complicated and multidimensional; for patients requiring support from multiple parts of the health system, it is difficult to apportion accountability for outcomes and financial responsibility.

Our "original" goals for this paper were to review the evidence more broadly, including the Ontario experience with bundled payment strategies, and to identify opportunities for advancing bundled payment in home care and across other parts of the system. Instead, as we reviewed the evidence, we now consider that the most critical outcome of our paper is to facilitate the repositioning of the conversation on bundled payment within the context of a larger strategy for integration of care across providers, centering our efforts on "bundling care" around the needs of patients and caregivers, and engaging the system in designing more creative and flexible care delivery models.

Our Approach

Important progress on bundled payment models has been made in Ontario's acute care system over the past few years with home care and primary care being the next frontiers for advancement. In thinking about the Ontario context, there are a few questions we considered for this review:

- Could bundled reimbursement improve value (higher quality; lower costs) in Ontario's home care system?
- If so, what are our most promising opportunities? How do we leverage opportunities to advance integrated care and funding models across home care and other sectors?
- What are the critical elements for success?
- Where do we start?

Based on our experience in Ontario's home care sector, evidence from the literature and review of results from early tests with bundled payments, we share our perspectives and recommendations for advancing this form of reimbursement model in home care as well as across other sectors. We recognize that the populations supported in the community pose different challenges from the acute care environment, particularly when it comes to sharing responsibility for caring for complex, chronic populations across home care, primary care, hospitals, community support services and other sectors such as housing and attendant care. We considered two different ways to approach bundled payment for patients in the community:

1. *Condition-based:* Identifying opportunities in which there is a defined group of patients with a simple, clearly defined treatment goal; a single or uncomplicated diagnosis; and an evidence-informed treatment pathway, such as hip and knee replacement surgery followed by rehabilitation or less complicated surgery followed by post-surgical wound care. Under this type of bundled payment model, accountability for quality and cost could rest with a single organization that provides all the care, with a lead "most responsible provider" organization that either partners with or sub-contracts for any supplementary services that it requires from other organizations or sectors, or with shared accountability across two or more organizations.
2. *Population-based:* For patients with multiple complex and chronic health conditions such as a frail older adult with dementia, congestive heart failure (CHF) and chronic obstructive pulmonary disease (COPD), bundled payments are a more challenging proposition. The challenges stem from the need for integrated care pathways that consider multiple providers involved in care combined with the heterogeneity of complex/chronic client populations in the community. We recommend a two-step process by first "bundling care" across our multi-provider home care

model and with other sectors *before* establishing bundled payments.

While there is more evidence for and experience with condition-based bundled payments, we believe that implementing population-based bundled payments shows greater promise for achieving higher quality and cost savings for the system, as long as we are able to overcome the structural challenges posed by the current home and community care delivery model and the rest of our fragmented health system.

A Review of the Literature

The literature evidence for bundled reimbursement is still emerging, with few empirical studies completed. Where evidence exists, it is primarily found for single-condition patient groups in acute care, as opposed to other health sectors. The empirical literature starts with pilots in the 1990s on coronary artery bypass graft (CABG) surgeries in the United States (RAND 2010). Results from these pilots demonstrated reduced Medicare spending and average costs per case (Cromwell et al. 1997; RAND 2010) as well as lower total variable costs per patient (Liu et al. 2001; RAND 2010). Similarly, in Pennsylvania, Geisinger Health System's ProvenCareSM showed reduced hospital costs, shortened average length of stay and increased compliance with best practices and the likelihood of discharge to home through the implementation of bundled payments and best practices for non-emergency CABG procedures (Casale et al. 2007; RAND 2010; Sood et al. 2011). More recent examples include: (1) Blue Cross and Blue Shield of North Carolina's bundled payment in 2011 for total knee replacement 30 days pre-surgery, the surgery itself and most follow-up care for 180 days post-discharge; and (2) PROMETHEUS, which assigned bundled reimbursement for all inpatient and outpatient care for depression, Type 2 diabetes, CHF, total joint replacements and labour deliveries (Delbanco 2014; RWJF 2012).

Tests of bundled payment in home care and primary care in the United States are either just launching or are too recent to be conclusive, but do show some promise. The Centers for Medicaid and Medicare Services (CMS) recently launched the Bundled Payments for Care Improvement Initiative to fund and test four models for bundled payments on 48 clinical conditions including: cellulitis, chest pain, COPD, CHF, diabetes, renal failure, pneumonia and respiratory infection, stroke and urinary tract infection; results on whether the model improved patient care and lowered costs are expected in 2016 (HHS 2013; CMS 2014). Bundled specialist payment programs are also being planned for the management of chronic complex diseases that require a specialist to work with a primary care provider over an extended period (Pieper 2014).

There are a very small number of more established non-acute care models. One is Sutter Health's program (Sutter Care at

Home Advanced Illness Management or AIM), an integrated care program that improved patient care, reduced costs per patient and reduced intensive care unit days and hospitalizations through a nurse-led interdisciplinary team to coordinate and deliver care to chronic and complex patients across the care continuum (Sutter Health 2012; Stuart 2014). AIM focuses on care coordination and care transitions, with integration across primary care, palliative and end-of-life care, and leveraging tele-health and remote monitoring to engage patients and scale efficiency (Alliance for Home Health Quality and Innovation 2014). In the Netherlands, bundled payments were implemented nationally in 2010 for diabetes, COPD and vascular risk management. An evaluation found that bundled payments lead to improved care delivery, coordination of care, protocol adherence, multidisciplinary rounds attendance and use of e-health records, as well as increased transparency in patient care across multiple providers (Struijs and Baan 2011).

The core themes we identified in the literature review were that:

- bundled payment is more common for single diagnoses or conditions;
- higher quality has been achieved in both acute and non-acute models;
- where cost savings have been achieved, they are related to physician care and higher cost components of care delivery (we found no strong evidence in the literature for cost savings in home care or long-term care); and
- jurisdictions that already have a higher degree of integration in their systems, like the Netherlands or in US-based integration models, are more likely to have made progress on bundled care for complex patient populations.

We also identified a number of key considerations for successful bundled reimbursement programs, including that they are more likely to be successful when:

- providers are centralized, integrated and able to coordinate and deliver seamless care for the full episode across the care continuum (Guterman et al. 2009; Satin and Miles 2009; RWJF 2012);
- organizational culture supports collaboration and facilitates “changes in care patterns” (RAND 2010);
- there is strong continuity of care for patients (Davis 2007);
- there is a mechanism for managing the shared payment (Hussey et al. 2012);
- conditions and procedures have clear start and end dates and standard care processes (RAND 2010);
- the episode and bundle are clearly defined (Moeller and Evans 2010);
- senior leaders are engaged in developing and implementing the model (RWJF 2012);

- providers have electronic records that allow for collection, sharing and tracking patient outcome data (RWJF 2012);
- contractual and collaborative relationships exist between providers and organizations in an integrated delivery system (MedPAC 2008; RWJF 2012); and
- there is a “sense of urgency to move forward aggressively and efficiently” (RWJF 2012), for instance, in competitive markets or financially stressed institutions (McDonald et al. 2013).

To be successful, there are clearly prerequisites for bundled payment models including a purposeful strategy, capacity and engagement among providers, a sufficiently supportive environment to restructure care and, particularly for more complex patients, a foundation for integrated care delivery. Bundled payment cannot be seen as merely a funding or payment approach; it needs to be part of a larger strategy to align care and establish relationships that bridge across different provider organizations.

The Ontario Context

Condition-Based Bundled Payment

Ontario has some experience with testing bundled payment systems in acute care, but less so in other sectors. As identified in the literature evidence, the likelihood of success for bundled payment systems increases when providers are centralized, integrated and able to coordinate and deliver seamless care for the full episode across the care continuum (Guterman et al. 2009; Satin and Miles 2009; RWJF 2012). The fragmentation of Ontario's health system makes bundled reimbursement for chronic, complex populations particularly challenging.

Ontario's 14 Community Care Access Centres (CCACs), the agencies responsible for coordination and delivery of publicly funded home care services, are starting to phase in more patient-based funding to drive better value and quality in home care, including introducing more value and quality-based contracts with their service providers. Bundled reimbursement is a very attractive option for home care in Ontario because the existing model almost exclusively uses volume-based compensation. While the CCACs employ some care providers directly, most of the nursing, personal support and rehabilitation therapies are delivered by service providers that have contracts with CCACs to deliver care based on an hourly or per-visit basis. CCACs have tried to balance the implications of a volume-based incentive system with the introduction of stronger measures of performance and outcomes. However, it is likely that more disruptive change will be needed to improve outcomes and reduce variation.

Toronto Central CCAC set out to explore new models to reimburse contracted providers based on patient outcomes, including bundled payments, grounded in the hypothesis that

a small test of change with a less complex population would have a greater chance of success – and be easier to implement. In 2011, in an effort to reduce our wait list for paediatric speech-language pathology (SLP) services in schools, the CCAC introduced a block payment approach in which the service provider was paid to provide a pre-determined set of visits to achieve established outcomes within a given timeframe; for example, using a service pathway with one or more goals that can be achieved within 10 visits over 10 weeks. One Toronto Central CCAC speech provider was given a negotiated sum of funding based on the service pathway to supply therapy services to all children on the waitlists in its public schools. The provider was given the opportunity to make radical changes to its clinical delivery model with the expectation that children on service would achieve a specified goal by the end of the treatment. A payment was negotiated between the CCAC and provider based on the number of children that the provider would be expected to treat each school year. Because they receive a lump-sum payment, the provider is incented to help the student achieve the treatment goal as quickly and efficiently as possible, and must report on a number of quality and outcome indicators to the CCAC. Under this model, service provider agencies have recently established different contractual agreements with their therapists, who are now salaried, rather than paid per visit or by the hour.

As a result of these changes in the SLP service framework, waitlists for children's SLP services have been eliminated in Toronto Central CCAC and the cost per child served is lower than in a second Greater Toronto Area (GTA) CCAC identified for comparison. Although the model is still under evaluation, providers and users report being satisfied and treatment goals are being achieved within an appropriate number of visits. Service providers appear to be willing to continue under this model, including taking on the financial risk that is associated with this funding arrangement. Although this test of change was conducted within our existing service delivery framework, it allowed us to appreciate the potential to achieve even greater impact with more substantial disruptions to our service delivery model.

The result of this test also supports the literature evidence that reimbursement based on expected costs for a defined episode(s) of treatment can work well in a situation in which there is a simple, clearly defined treatment goal; a single diagnosis; treatment by a single provider; and an accepted and expected treatment pathway. While healthcare delivery for patients with complex and chronic illnesses is rarely so easily defined, there are other such examples of other post-acute care treatments that could benefit from a simple service pathway and payment model such as:

- less complicated surgical interventions followed by post-acute surgical wound care; and
- hip and knee replacement surgery followed by rehabilitation.

In each of the above cases, if the patient does not have other complicating health issues to their primary treatment issue, the initial treatment can be delivered in hospital with follow-up care in the community delivered by a single provider such as a nurse or physiotherapist. In this scenario, it would make sense to have a single organization provide all of the services or to identify a lead “most responsible provider” organization, such as a hospital or CCAC, that can then partner with or sub-contract supplementary services from another organization(s). In either case, the financial accountability would rest with a single organization or, alternatively, the participating organizations would need to develop a mechanism for managing shared payment.

Logically, the same approach could be used for higher-risk discrete conditions including post-acute care for complex transplant surgeries such as lung transplants or post-acute care for complex cancer surgeries in which the patients do not have other complicating health issues to their primary illness. For the continuum of treatment for complex procedures such as transplants and cancer surgery, patients may require multiple hospital admissions. Unlike the simpler service scenarios identified above, these cases require a multidisciplinary team of highly skilled providers to provide follow-up care both in hospital and at home; however, as above, a single organization could be accountable and either provide all of the services or act as a lead organization that partners with or sub-contracts for additional services as needed, or, alternatively, the organizations could develop a shared payment model.

The majority of the literature explores the use of the bundled payment model for single-disease or condition-specific situations like CABG (MedPAC 2008), diabetes, COPD (Struijs and Baan 2011) and joint replacement and hip fracture (Sood et al. 2011). Sood and colleagues (2011) recommended bundled payments for hip fracture and joint replacement because they have a high potential for cost savings without compromising quality and pose less financial risk to providers. Although the literature does not specifically state that bundling for a single condition is preferable to multiple conditions, conditions suited to bundled payment tend to meet the following criteria: (1) prevalent across the population served and/or expensive to payers, (2) have limited variation in costs across patients with the same characteristics and (3) “have evidence-based clinical care guidelines” (Dobson et al. 2012: ES-4). Hussey and colleagues (2009) recognized that given the volume of clinically complex patients with co-morbidities, bundling payments for a single condition may not be an ideal approach, as managing

their multiple conditions is interrelated (Hussey et al. 2009). Covering multiple conditions would result in more heterogeneity and greater financial risk to providers (Hussey et al. 2009). In addition, in a diverse multicultural society such as the Greater Toronto Area, language barriers and socioeconomic disparities pose added risks to providers attempting to use a single standard pathway to achieve pre-determined healthcare outcomes.

Population-Based Bundled Payment

The dearth of experience in other jurisdictions and challenges posed by previous research raise questions about how to design bundled payment models for more complex populations in Ontario and whether the model would actually be effective. Outside of acute care, a small number of models are in development or have been implemented in Ontario, including in the 14 CCACs for wound care, within the St. Joseph's Health System in Hamilton as well as in Toronto Central CCAC's integrated care strategy.

In the past three years, the 14 CCACs initiated a bundled reimbursement model for wound care. Pathways for ten wound types, as well as a wound assessment pathway, have been developed and tested, and are in early implementation with shadow billing for data collection. Payment frameworks for these pathways have been developed, and work to establish pricing is underway but progress has been slower than anticipated. Wound care was selected as an area to explore bundled payment models because of its high costs and high variation in outcomes across home care providers and jurisdictions. We believe that there are many lessons we can learn from the CCACs' experiences with this early work in wound care. For older patients with multiple complex and chronic health conditions, such as diabetes, COPD and CHF, combined with a need for wound care requires an inter-disciplinary and inter-organizational team of healthcare providers, including nursing, primary care, dietitian services, personal support and care coordination, to meet the needs of the patients. Once a patient's healthcare services reach this level of complexity, the lack of integration across these services becomes a major barrier to being able to assign accountability for outcomes. Although contractual and collaborative relationships exist between the CCAC and its providers, the system is not sufficiently integrated and the contract levers do not yet exist to establish accountability for a payment model tied to outcomes. Consistent with other reported experiences, it is likely that a simpler more discrete diagnosis, such as a single-service pathway (nursing) for a less complex wound-type (e.g., post-surgical wounds) may have been an easier place to start. The authors also believe that, in hindsight, a more purposeful focus on integrating or bundling care as a first step would have provided a stronger foundation for a subsequent test of bundled payment.

St. Joseph's Health System in Hamilton has tested an integrated case management model for total joint replacements,

thoracic surgery and chronic diseases with integrated care coordinators who streamlined patient care across the hospital and community (Ciavarella et al. 2012). This approach includes both condition-based and population-based bundled payment. Although the program has not yet undergone a research-based evaluation, a third-party review has reported more efficient home visits, reduced acute care length of stay, decreased rehabilitation hospital referral rate and increased patient satisfaction (Ciavarella et al. 2012). The evidence for cost savings has yet to be determined.

In drawing on the literature evidence for bundled care and payment models, we believe that the reason for the achievements in the St. Joseph's Health System model is because it has many of the enabling factors identified in the literature, including having a centralized seamless care team (Guterman et al. 2009; Satin and Miles 2009; RWJF 2012), a culture that supported changes in care patterns (RAND 2010), a strong focus on continuity of care (Davis 2007), a single electronic record used by all providers (RWJF 2012) and collaborative relationships between the hospital and home care team (MedPAC 2008; RWJF 2012) that facilitated an environment for trust and seamless hand-offs between care providers. Our key learnings from the St. Joseph's model relate to the potential to realize improved quality of care by removing the constraints of the current delivery system, including being able to decide who delivers care and how it is provided, determining how care providers are compensated, having a one-team approach in which the hospital and community-based members of the care team are fully integrated and work together to deliver care from beginning to end and investing additional funds to enable innovations, such as a shared electronic record, that facilitate care integration. The other important outcome of this test of change is that St. Joseph's is providing emerging evidence for the impact of bundled care, which will set the groundwork for additional testing related to bundled payment.

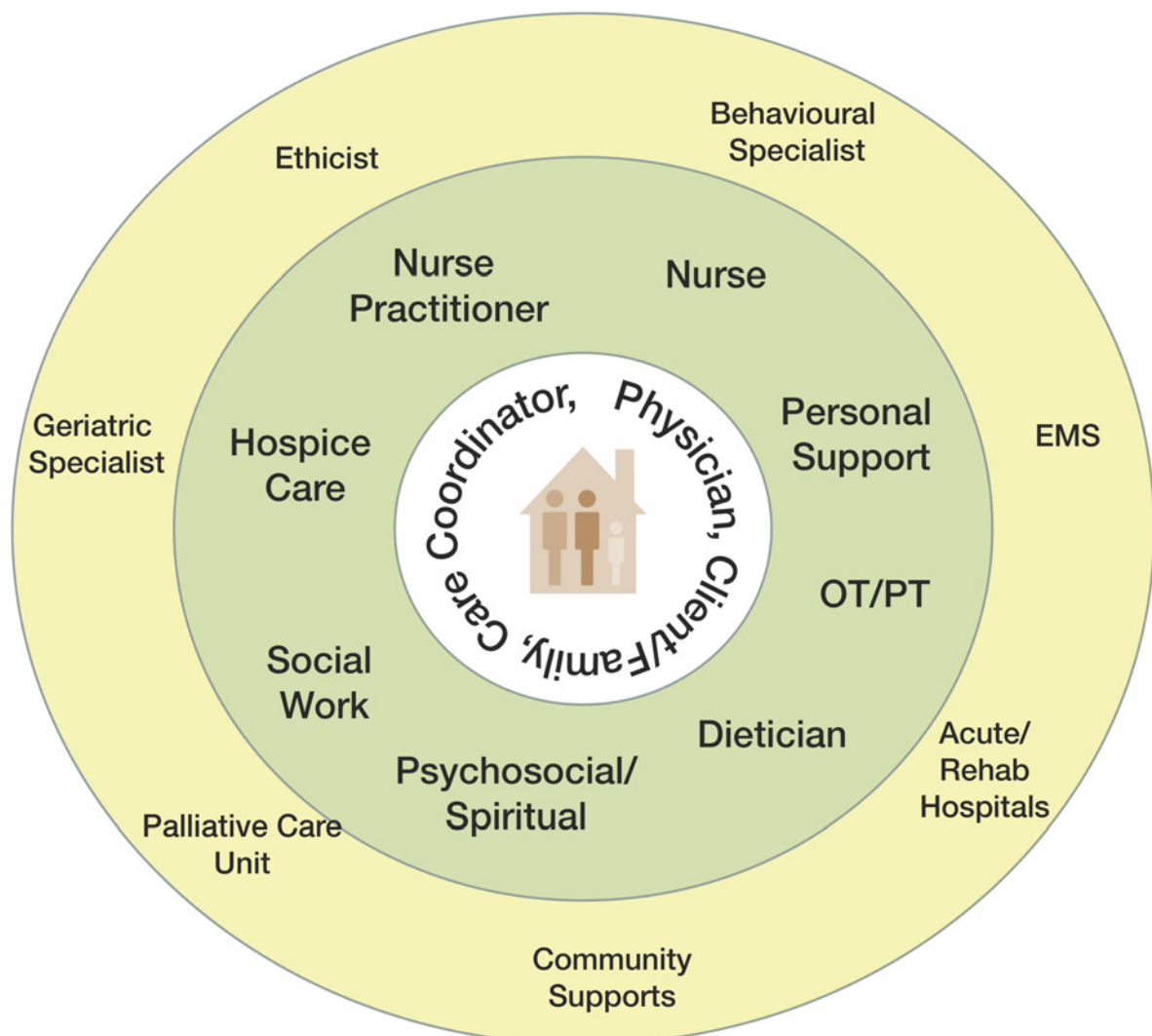
While bundled *payment* for complex, chronic conditions in home care is our desired outcome, we believe a more practical and necessary place to start is with bundling *care*, in other words, creating a much more integrated team that bridges the multi-faceted service delivery model in home care and across other sectors. Four years ago, the Toronto Central CCAC began creating this foundation for integrated care in three populations – palliative care, frail seniors with multiple complex and chronic health conditions and children who are medically fragile. For all of these client populations, the strategy has been driven by the aim to create a “one client, one team”² experience, which has included the CCAC collaborating with our contracted service providers, primary care, specialized care, community support services, emergency medical services, acute care and other sectors, to restructure care delivery across the continuum.

The strategy is intentionally designed through the lens of clients and their families/caregivers and bundles (integrates) the care based on their needs and experiences.

Here we share one example of how integration works within palliative care, where our clients and caregivers are cared for by a single integrated care team that includes primary care physicians from the Temmy Latner Centre for Palliative Care and the Dorothy Ley Hospice; CCAC care coordinators and nurse practitioners; home care nursing and personal support from Spectrum Healthcare, SRT MedStaff and St Elizabeth under contract to the CCAC; and hospice care from Toronto Hospice. Figure 1 is a graphic depiction of the CCAC's integrated team model including the core team in the centre and supporting members in the outer layers.

Outcomes and care pathways for this population are being clearly defined and measured. Early results include reductions in emergency department (ED) visits and hospital readmissions, as well as an increasing proportion of patients who die outside of acute care hospitals. In addition, we have introduced a number of innovations into the model to improve care to clients and caregivers, and to support team functioning, including daily 15-minute virtual team huddles, a single phone number, and joint assessments by multiple team members. Although team members come from seven different organizations, the goal is for patients, caregivers and the rest of the system to experience our community-based palliative support as a single team. While the situation still poses more challenges than having all services

FIGURE 1.
Toronto Central CCAC's integrated team for palliative care



sourced from a single organization, under this approach, shared goals and shared work effort become the basis for shared accountability. With a bundled care model in place and a plan to adopt a common electronic health record for the team, we are well-positioned to test a bundled payment model that is based on specified care outcomes including patient-reported outcome measures such as pain-control, and system outcome measures including ED visit rates, readmissions and death at home. Although this next stage of work to review a bundled payment system is just starting, it would have been difficult to even conceive without having first established the integrated/bundled care approach.

Restructuring the care model as a starting point has enabled us to better appreciate the improvements in outcomes that are achievable within our “one client, one team” model. Having this information will be critical to helping us understand the basis on which to establish a future payment model. Similar to our experience with our test of change in school-based speech-language pathology, the changes in our integrated care models have been conducted *within* our existing service delivery construct; this has helped us to envision even greater impact with the opportunity to advance more disruptive change outside of our current constraints. At a minimum, we believe Toronto Central CCAC's current integrated care approach is broadly applicable to other integration efforts happening across Ontario, including the establishment of Health Links in which multiple providers are functionally integrating their services to create more seamless care in support of the most complex and chronic patients in the system.

Conclusion/Summary

There is still much for us to learn about bundled care and bundled payment opportunities for home care and across the continuum of care, but the opportunities seem promising. While there is limited empirical evidence overall in the literature on bundled payment models in acute care, there is even less experience with models outside of acute care and across the continuum. At a provincial level, the CCACs are learning from their initial attempts at creating bundled payment models for patients with complex, chronic wounds. While progress has been slow, we believe this can be attributed to the challenges of our complicated care delivery system in which care must bridge across multiple home care providers and other partners without the benefit of even a common health record to support communication. Experience in the acute care system indicates that it would be easier to make progress by creating bundled payment models for single-disease or condition-specific care pathways. The Toronto Central CCAC has already successfully done this by restructuring the model and payment for delivery of speech-language pathology services to children in schools. While this approach is helpful in achieving higher quality and

cost savings, the fact is that single-diagnosis/condition patients are an increasing rarity in healthcare.

As Ontario's population ages and the number of people with chronic, complex health conditions increases, we recognize the need to find more effective and efficient models to deliver and fund care. We fully believe that bundled payment models have great potential to work in more complex, chronic populations; however, they are unlikely to be successful in the Ontario context without first creating integrated cross-continuum teams to achieve established outcomes and pathways. Once we have this system of bundled care in place, we will be better-positioned to test new approaches to bundling payment and increasing the likelihood of sustaining healthcare resources for the future.

Finally, we urge system leaders to consider which of the Triple Aim objectives we most want bundled care to deliver for our system - better patient experience, better population health outcomes or lower costs. Determining our priorities is a critical next step in transforming how we deliver care in Ontario. Our perspective is that bundled payment cannot be seen as merely a cost savings or funding approach; it first requires focused efforts to align care and establish relationships that bridge across different provider organizations and it must be part of a larger strategy for integrating care across the continuum. We conclude that it is very unlikely that payment reform on its own will be sufficient to drive changes in care delivery across providers. **HQ**

Notes

1. <http://www.ihl.org/Engage/Initiatives/TripleAim/Pages/default.aspx>
2. In our “one client, one team” scenario, the client also includes family and other caregivers.

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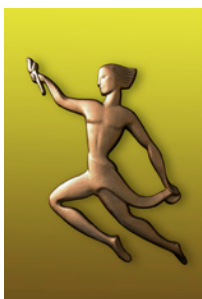
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Reforming Long-Term Care Funding in Alberta

R. Trafford Crump, Nadya Repin and Jason M. Sutherland

Abstract

Like many provinces across Canada, Alberta is facing growing demand for long-term care. Issues with the mixed funding model used to pay long-term care providers had Alberta Health Services concerned that it was not efficiently meeting the demand for long-term care. Consequently, in 2010, Alberta Health Services introduced the patient/care-based funding (PCBF) model. PCBF is similar to activity-based funding in that it directly ties the complexity and care needs of long-term care residents to the payment received by long-term care providers. This review describes PCBF and discusses some of its strengths and weaknesses. In doing so, this review is intended to inform other provinces faced with similar long-term care challenges and contemplating their own funding reforms.

Introduction

Long-term care (LTC) provides residents with a mix of physical and mental healthcare, social and assisted living services and housing. In general, LTC is intended for individuals experiencing chronically unstable health who, because of their condition, cannot live independently in their own homes, but who also do not require the specialized medical equipment and constant physician observation offered in a hospital. LTC is provided in dedicated facilities, often referred to as LTC homes, offering healthcare from a family physician and 24-hour nursing staff, including registered nurses and licensed practical nurses. Other

healthcare providers, such as therapists, may also be involved as needed. Social and assisted living services are generally provided in LTC homes by aides.

LTC is one part of a larger post-acute care sector, which can include specialized hospitals, assisted living facilities and home care. With the aging Canadian population, LTC is one of the fastest growing sectors in healthcare across Canada. The latest statistics from the Canadian Institute for Health Information (CIHI) report that public and private expenditures on LTC totaled \$20.8 billion in 2011 (CIHI 2013), quadrupling over the past 25 years. LTC expenditures are expected to continue to increase by 2.9% per annum (CIHI 2013). With 55.9 LTC beds per 1,000 seniors (i.e. those over 65 years of age) (Organisation for Economic Co-operation and Development (OECD) 2013), Canada has more LTC beds than other developed nations, which average 44.3 beds per 1,000 seniors (Organisation for Economic Co-operation and Development (OECD) 2013).

With the continued growth in spending projected and its high utilization rates, the LTC sector is being closely examined by provinces. In general, LTC is funded through public expenditures and means-tested copayments by residents, but the absence of federal direction means that funding policies and the range of services provided by LTC vary across provinces (Hirdes 2002). This review highlights LTC policy reforms that are being enacted in Alberta and is intended to inform other provinces contemplating similar reforms.

Alberta Health Services observed considerable variations in its LTC spending across regions within the province, and healthcare bureaucrats openly expressed concern about how the money the province was spending on LTC was being allocated. In 2009, the public portion of per-day spending on LTC varied by as much as 4.5 times (Duckett 2010), explained, in part, by the 17 different LTC funding methods used across the province (Mazurkewich 2010). Furthermore, each funding method was associated with different reporting requirements (Alberta Health Services 2013d), impairing the comparison of LTC providers in terms of their spending, quality and outcomes.

To address these variations, Alberta implemented an activity-based funding (ABF)-like approach to funding residents in LTC beds. This move is consistent with those in other healthcare sectors; a number of provinces have implemented ABF for acute hospital care as a way to promote improvements in cost-efficiency and timely access. The public money now spent on LTC is based on the health of the resident and the intensity of non-physician services provided.

Little has been published regarding how provinces fund LTC and the reform efforts undertaken to address the sector's variations in utilization and spending. This is a lost learning opportunity, especially considering that many provincial governments are grappling with similar issues. The purpose of this review, therefore, is to help address this gap by describing Alberta's LTC funding reforms and discussing its strengths and weaknesses. This study is based on a review of Alberta's new LTC funding policies, and a qualitative assessment of themes of concern among key decision-makers and LTC providers in Alberta (Sutherland Repin, & Crump, 2013).

The Delivery of Long-Term Care in Alberta

Alberta's healthcare organization and delivery system comprises different stakeholders that are responsible for setting policy, overseeing operations and delivering care. Alberta Health is the provincial ministry responsible for setting LTC policy and paying for publicly insured services, such as care from a physician. Alberta Health coordinates care between the provincial insurance plan (i.e. Alberta Health Care Insurance Plan), physicians and the regional health authority, Alberta Health Services (AHS). AHS is further divided into five "zones," which are responsible for regional aspects of healthcare delivery in the province.

To implement its policies, Alberta Health provides a lump-sum budget to AHS to deliver the non-physician, publicly insured services in the province. AHS provides direct management of publicly funded healthcare facilities, programs and infrastructure, including human resources, information technology, quality and patient safety. It also contracts some healthcare services, such as LTC, from private providers (Alberta Health Services 2014a).

LTC's footprint in Alberta is very large. In 2012, AHS reported that there are 14,554 LTC beds in the province (Alberta Health Services 2013a), which are operated by a mix of public and private LTC providers. Private providers include a range of non-profit operators and for-profit operators. In fiscal 2013, AHS spent \$887 million, 7.1% of its annual expenditures, on LTC (Alberta Health Services 2013a), spending that is used to purchase the non-physician healthcare costs for services that are provided to LTC residents, such as nursing care, support services from aides, supplies and prescription drugs. These spending figures are projected to grow nearly 10%, to \$1.005 billion, by 2016 (Alberta Health Services 2013c).

To receive LTC, an individual must be assessed by an AHS case manager (Alberta Health Services 2011) who evaluates the individual's need to be admitted. Placement into an LTC home is determined by AHS and the LTC provider, and is based on such factors as room availability, the individual's healthcare needs and geographic proximity to family and informal caregivers.

Similar to other provinces, LTC residents are expected to cover their hoteling costs, which include a furnished room and regular daily meals in the LTC facility. In Alberta, hoteling costs are capped between \$48.15 for a standard room and \$58.70 for a private room per day (Alberta Health 2012). For low-income residents, financial assistance is available through the Alberta Seniors Benefit or the Assured Income for the Severely Handicapped programs (Alberta Health Services 2011). Residents may also be asked to privately pay for care or services that are not part of their care plan (Alberta Health Services 2011).

Funding Long-Term Care in Alberta: The History

Unlike other provinces, Alberta has a long history of using data-driven approaches to fund LTC. In the late 1980s, Alberta introduced the Alberta Resident Classification System (ARCS) as a basis for funding LTC providers (Armstrong-Esther 1994). Among provinces, ARCS was the first system to involve categorizing LTC residents based on their care needs and aligning funding for LTC providers with those needs. At the time, ARCS was seen as a way to eliminate the variations in services being offered across LTC providers (Armstrong-Esther 1994).

While categorizing LTC residents, and funding services based on residents' needs, was novel in Canada, ARCS had limitations. First, it was never designed to be used for care planning or delivery (Ontario Ministry of Health and Long-Term Care 2011). This made it difficult for LTC providers to align residents' unique care plans and required resources with funding levels. Second, external assessors reviewed residents' charts and classified patients based on clinical notes contained therein (Hirdes 2002), yet these classification scores were never shared with LTC providers. Instead, providers received the aggregated case mix score of their facility. Finally, some LTC providers had

a tendency to annotate their charts so that residents appeared more complex than they really were, a practice commonly referred to as “upcoding” (Hirdes 2002). Combined, these factors ultimately undermined the validity of ARCS and its ability to facilitate equitable distribution of public funding of LTC to providers (Tsui et al. 2011).

Alberta abandoned ARCS in the early 2000s and returned to the mixed funding model that preceded it. This funding mechanism was a combination of global budgets (for capital costs) and per diem rates (per resident days). But the mixed funding model had its own limitations. LTC providers had little incentive to discharge the least costly residents who no longer required LTC services. Consequently, there were fewer LTC beds available to which hospital-based patients could be admitted to, and a backlog of patients grew in the acute care facilities, contributing to a phenomena referred to in Canada as “alternate level of care,” or ALC.

Alberta’s Patient/Care-Based Funding of Long-Term Care

In 2010, AHS began a step-wise implementation of patient/care-based funding (PCBF) for LTC. The objective of PCBF is to provide a transparent, stable and equitable approach to funding LTC services across the province that creates

incentives for cost efficiency, maintaining or improving access and improving quality (Alberta Health Services 2013d). PCBF does not define the amount of provincial LTC spending; rather, spending is capped, and PCBF allocates the budget between LTC providers based on their residents.

As illustrated in Figure 1, capital expenditures and hoteling costs associated with providing LTC to residents are excluded from PCBF. As is typical in other provinces, the former is paid through a separate funding envelope under AHS and the latter is paid by the LTC resident. PCBF is intended to cover the cost of care and encourage quality improvement in LTC through three distinct revenue streams: (1) fixed, (2) variable and (3) quality (Alberta Health Services 2013d).

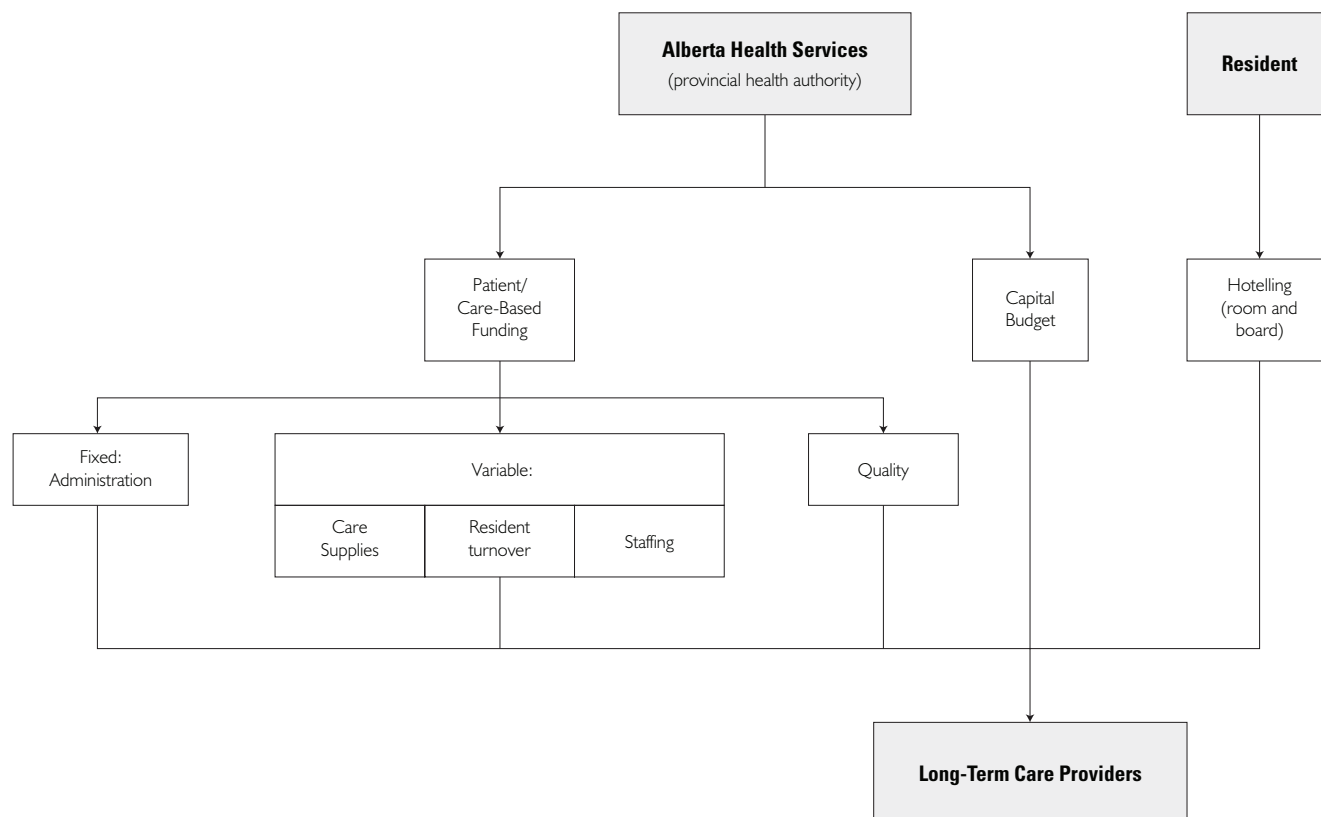
Fixed Component

This is a flat rate paid by AHS to LTC providers based on the number of beds they operate in their home. It is intended to cover the cost of healthcare administration, compliance and oversight.

Variable Component

This is the portion of funding representing approximately 85% of LTC providers’ revenues. Payment is made based on the care needs of residents and the number of days these residents

FIGURE 1.
Funding long-term care in Alberta



occupy an LTC bed. It is intended to cover the costs associated with care-related supplies and resident turnover. The majority of this component is intended to pay for the staff required to meet the health and social needs of each individual resident; residents with greater needs are associated with higher funding amounts.

Quality Component

This component is small; in 2011/2012, the pay-for-performance quality aspect of funding provided an additional 0.2% of providers' revenues if they met prospectively defined targets purportedly associated with high quality. These targets have included implementing care plans and quality improvement projects and vaccinating residents and staff for the flu.

PCBF is being implemented over the course of seven years, with greater financial risk being shouldered by LTC providers over that period – moving from a no-loss provision (i.e., providers are guaranteed not to earn less than they did prior to PCBF implementation) in the early years to recoveries and subsidies for over- and under-funded providers in the latter years.

Data Needs Supporting Patient/Care-Based Funding: Resident Health and Support Needs

PCBF is a data-driven approach to allocating funding based on LTC residents' care needs and expected use of health services. To measure these needs, each resident is to be regularly assessed on various clinical criteria, such as their ability to bath and groom. LTC residents are assessed using interRAI's Resident Assessment Instrument – Minimum Data Set MDS 2.0 (RAI-MDS 2.0). To comprehensively characterize residents in LTC, AHS mandates that the RAI-MDS 2.0 be collected and reported at (1) the time of admission, (2) every 90 days and (3) after any significant change in health status (Alberta Health Services 2013b).

Large LTC providers in Alberta have trained RAI coordinators who are responsible for completing assessments and the RAI-MDS 2.0. Small LTC providers do not have the resources for a dedicated RAI staff member, and responsibility for completing the assessment is shared among the clinical team. All LTC providers submit the RAI-MDS 2.0 data to AHS, which regularly audits these data for anomalies – unexplained or irregular changes in residents' health can prompt further investigation.

Data Needs Supporting Patient/Care-Based Funding: Expected Resource Utilization

There are two components to determining each resident's PCBF amount: (1) the case mix group to which the resident is assigned and (2) the cost weight of the case mix group. Using the RAI-MDS 2.0 assessment data, the residents are categorized into a single case mix group, based on their function and medical conditions. All residents in the same case

mix group are expected to have a similar level of care needs. Alberta uses the resource utilization group version 3 (RUG-III) with 44 different case mix groups, including seven major clinical categories: special rehabilitation, extensive services, special care, clinically complex, impaired cognition, behavioural problems and reduced physical function (Fries et al. 1994).

Each of the 44 RUG-III groups has a cost weight, known as the resident's case mix index (CMI). The CMI attracts the amount of PCBF associated with each resident. The higher a resident's CMI, the more PCBF revenue for the LTC provider. The resident's CMI value reflects the relative daily staffing costs of providing their LTC services (Feng et al. 2008). The resident's CMI is based on the amount of time care-givers of different skill levels – registered nurses, licensed practical nurses, and care aides – are expected to spend with a resident (or, staff time measures) and their respective provincial average wage rate (Centers for Medicare and Medicaid Services 2013).

A resident's CMI value is multiplied by the number of days they occupy a LTC bed, and the product is referred to as the resident's weighted-resident days (WRD). The sum of all the residents' WRD comprises a LTC provider's WRD, which is divided by the total number of resident days and multiplied by 100 to calculate the LTC provider's CMI.

Using each LTC provider's CMI from the third quarter of every fiscal year, AHS calibrates funding for the following year. Those LTC providers with a relatively higher CMI receive a greater proportion of the LTC budget than those with a relatively lower CMI.

Strengths and Weaknesses of Patient/Care-Based Funding

PCBF defines empirical criteria for establishing LTC residents' care needs and standard inputs for staffing and resource requirements. Payments to LTC providers from AHS are now based on these criteria. Does PCBF support Alberta's goals for providing transparent, stable and equitable funding to LTC providers across the province? PCBF has its strengths and weaknesses in achieving each of these.

In terms of transparency, AHS defines this concept as open, honest and understandable communication regarding expectations, decision-making and system and financial performance (Alberta Health Services 2014b). Compared to the mixed funding model it replaced, PCBF clearly establishes AHS' expectations for the provision of LTC. Compared to the former funding model, PCBF is also a more open way of remunerating LTC providers, using a standardized funding formula for all LTC providers across the province. However, PCBF could be more transparent, particularly as it relates to understandability; a number of LTC providers have struggled with understanding the allocation method.

In terms of PCBF achieving stability – that is, generating stable year-over-year funding for LTC providers – PCBF is still too new to draw firm conclusions. An analysis of CMI data from Alberta's LTC providers indicates a steady increase in the CMI over the past eight quarters, with some zones increasing more than others (Sutherland et al. 2013). It is not clear if this represents a real increase in the acuity of residents or LTC providers preparing for the removal of the no-loss provision. As the providers' CMI is a relative measure, an increase in their respective CMI value does not necessarily translate to an increase in their remuneration.

In terms of equity, whereby PCBF provides similar remuneration to LTC providers caring for similar residents, it does standardize the assessment and payment for LTC residents. Thus, a clear line can be drawn from a resident's care needs to the resources provided by AHS to meet those needs. In this regard, PCBF does a better job of providing more equitable payment compared to the mixed funding model it replaced.

Interviews with LTC providers highlighted several areas where the equity of PCBF falls short (Sutherland et al. 2013). A number of LTC providers employ a greater proportion of very experienced caregivers, who, because of negotiated contracts, earn above average salaries. As CMI values are based on average wage rates, structurally higher wage rates will disadvantage a number of LTC providers. Completing resident's assessment can be a strain, particularly for those small LTC providers that cannot afford the cost of a dedicated RAI coordinator; this may result in inaccurate resident assessments, which unduly lowers CMI values and, consequently, funding.

Discussion

The implementation of Alberta's PCBF was motivated by AHS' desire to reduce the variations in LTC spending observed across the province. In implementing PCBF, AHS is hoping that this not only reduces disparities in spending, but also makes LTC funding more transparent. Effective communication with LTC providers and stronger education during this time of transition will be important to ensuring stability to the sector.

More time is needed to rigorously assess whether PCBF is successful in meeting AHS' goals. In the short time that this policy has been in effect, positive strides have been made: standardizing the assessment and reporting of LTC residents, and linking payments to care plans and staffing requirements. To date, the emphasis on PCBF, however, has not been on the economic incentives it creates for LTC providers. In providing a standardized amount of funding to LTC providers, they now face incentives to decrease costs below the funding level. The consequences of this incentive will likely be felt soon, as LTC providers look to shed costs to stay in business.

Other provinces are surely watching Alberta's experience in reforming its LTC funding policy closely. The expected growth in the demand for LTC and the ongoing increase in its costs will continue to place pressure on provincial healthcare budgets. PCBF offers a funding alternative to global budgets, but its long-term consequences remain to be seen. **HQ**

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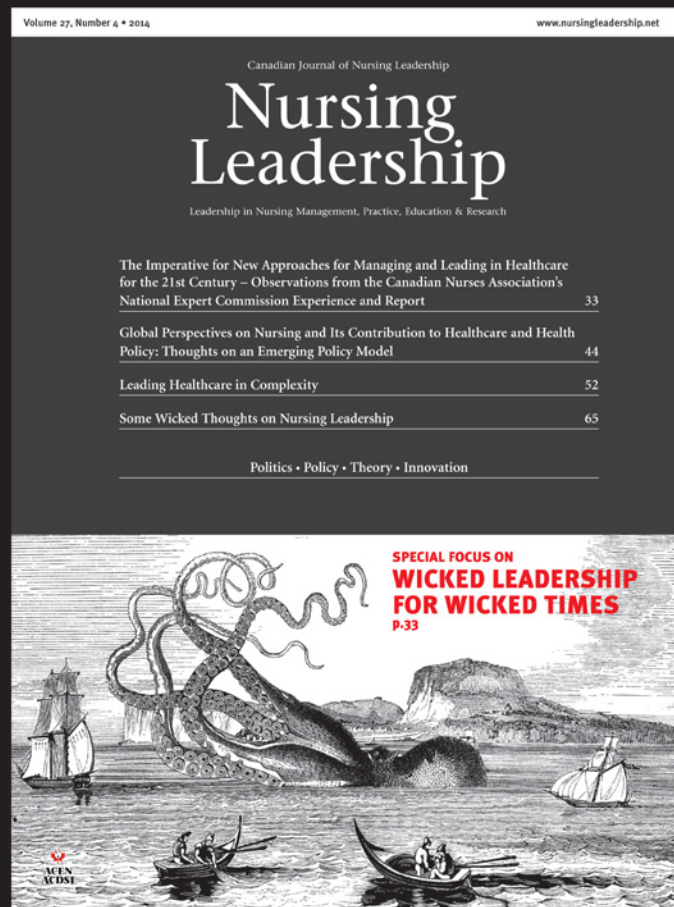
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Navigating the Leadership Landscape: Creating an Inventory to Identify Leadership Education Programs for Health Professionals

Matthew Gertler, Sarita Verma, Maria Tassone, Jane Seltzer and Emmanuelle Careau

Abstract

As health systems become increasingly complex, there is growing emphasis on collaborative leadership education for health system change. The Canadian Interprofessional Health Leadership Collaborative conducted research on this phenomenon through a scoping and systematic review of the health leadership literature, key informant interviews and an inventory of health leadership programs in Canada. The inventory is unique, accounting for educational programming missed by traditional scholarly literature reviews. A major finding is that different health professions have access to health leadership education in different stages of their careers. This pioneering inventory suggests that needs may differ between health professions but also that there is a growing demand for multiple types of programs for specific targeted audiences, and a strategic need for collaborative leadership education in healthcare.

Introduction

The Lancet Commission report, *Health professionals for a new century: transforming education to strengthen health systems in an interdependent world*, explored the role of health education in addressing systemic health system inequalities. One of the Commission's proposed solutions to this conundrum was the development of leadership attributes embedded across health professions education as a key to transformative learning. These attributes would create health leaders in a position to implement health system change, thereby highlighting the importance of

understanding and fundamentally changing the way that leadership education is currently taught (Frenk et al. 2010).

In 2012, the IOM Global Forum selected the Canadian Interprofessional Health Leadership Collaborative (CIHLC) as one of four international innovation collaboratives to incubate and pilot ideas for reforming health professional education as called for in the Lancet Commission report. The CIHLC is a multi-institution partnership led by the University of Toronto consisting of the University of British Columbia, the Northern Ontario School of Medicine, Queen's University and Université Laval. CIHLC members from these universities represent schools of health science, medicine, nursing, rehabilitation and programs of interprofessional education (IPE). The CIHLC's mandate is to develop collaborative leadership education to create health system change. To achieve this goal, the CIHLC conducted foundational research to better understand the concept of collaborative leadership. With the emphasis on educating "change agents," the CIHLC is leading change in the global understanding of health leadership education and its effectiveness.

The CIHLC's research began with a scoping review on collaborative leadership that enunciated the current move away from traditional methods of leadership to a more collaborative, inclusive leadership. This research provided evidence that as healthcare systems become more complex, traditional top-down approaches to leadership are not adaptive enough to support positive and transformative system change. The review noted

that new forms of leadership are emerging that aim to leverage interprofessional collaborative relationships. In this process, leadership and decision-making is distributed throughout the structure and identified as “collaborative leadership” (Creede et al. 2014).

A second phase of the research involved qualitative interviews with key informants that included global thought-leaders. Through this phase, the CIHLC sought a better understanding of the meaning of collaborative leadership. The key informant interviews showed that while collaborative leadership is a difficult concept to define and there is no one definition, it is essential to promote system change for better health system outcomes. Despite a divergence of definitions, common themes emerged, mainly based on the idea of non-hierarchical organizations (Tassone et al. 2014).

Thirdly, the CIHLC conducted a systematic literature review on the current practices in health leadership education. This research found that collaborative leadership education, being a relatively new concept, was not highly represented in the literature, but was seen to be essential. Through the rigorous analysis of 250 articles, important questions about the competencies, best practices taught and evaluation of effectiveness of health leadership educational programs were addressed (Careau et al. 2014).

Additionally, the systematic review found that nursing and medicine were served most often by the courses and programs represented, while professions such as dentistry, occupational therapy, physiotherapy and social work were not well-represented (Careau et al. 2014). There is literature on the availability of general leadership education for nurses and physicians, but it is not specifically directed at collaborative or interprofessional leadership practices. Physician leadership education has been strengthened in the past few years, but there is still room for development in all levels of medical education. Literature particularly shows that there is more need of leadership education in the medical residency stage (Blumenthal et al. 2012). Nursing leadership was also linked to nurses’ job satisfaction as well as patient outcomes (Upenieks 2003; Wong and Cummings 2007). Building leadership education for all health professionals during their academic training was also emphasized as a way to improve health outcomes.

This article builds upon the research on collaborative leadership conducted by the CIHLC described above. The CIHLC recognized that there are many health leadership education offerings in Canada that have not been systematically evaluated in available published grey literature, and the comprehensive scoping and systematic literature reviews only account for courses and programs that have been published in peer-reviewed journals. Thus, this last phase, a review of grey literature and an inventory of the health leadership education offerings available within a defined scope, was undertaken to ensure that gap

was filled. This work offers a unique perspective that addresses the leadership courses and programs that have otherwise been overlooked in previous literature and a contemporary nod to the fact that non-conventional methods are often used by e-learners, Internet users and digital education platforms that are not covered in the traditional reviews. To our knowledge, no such inventory exists in the literature.

Methodology

The methodology focused on creating an inventory of leadership programs available to health professionals and students through universities, other health education institutions and national associations across Canada. We identified and collected information on courses with leadership content available for health professionals and students. The main source of data was from institutional websites that provided course overviews, descriptions and outlines. Using the inventory data collected, a structured and evidence-based analysis on the availability and nature of leadership education to specific health professionals was conducted.

Selection criteria for health leadership programs and courses

Health-related programs and courses offered through Canadian universities and national health associations were included in the inventory if they were identified to teach leadership. Courses and programs from schools of business and management were also included in the inventory if they had evidence of teaching collaborative (distributed/shared) leadership or leadership in healthcare.

Search methodology

To find relevant courses and programs, a research analyst systematically searched through university and national association websites to find courses that contained the term “leadership.” To complete this process, program and course titles also indicating the course was on practice, management, interprofessional practice and clinical work were reviewed for a leadership component. Faculties and schools of medicine, nursing, public health and health sciences, programs of health administration, occupational therapy, physiotherapy, business and health management and continuing education were targeted.

Following the systematic search of institutional websites, a search using the Google search engine was conducted to ensure that all related programs and/or courses were identified from each institution. Furthermore, some courses identified in this review were found by CIHLC members from non peer-reviewed literature and curricula that focused on collaborative health leadership. Courses and programs in this review are referred to as education offerings. This search was conducted in both languages depending on the websites

(French and English) from mid-December 2012 to the end of January 2013.

Program evaluation methodology

Inventory data were organized and recorded in an Excel spreadsheet. The type of information abstracted from the curricula included the following:

- Education level – undergraduate, graduate, continuing education or executive education
- Target audience (career stage of intended learners) – pre-licensure health profession and other learners, practitioners, practice leaders and middle managers and executives
- Target audience (profession) – the profession the course targets, including nurses, physicians, public health and all other professions
- Course requirement for the completion of a pre-entry to practice degree (undergraduate)
- Uniprofessional or multiprofessional/interprofessional educational approach
- Collaborative leadership element

Because the CIHLC focuses on collaborative leadership for health system transformation, the first step was to determine whether a course contained elements related to collaborative leadership. These courses were categorized into two groups. One group with confirmed collaborative leadership elements that contained courses that self-identified to be collaborative leadership or contained descriptions that suggested they contained elements the CIHLC considered to be central to collaborative leadership. These central elements were distributed leadership, shared decision-making or the creation of a shared vision. The other group contained the courses with confirmed collaborative leadership elements, as well as courses that were not confirmed to be collaborative leadership, but contained elements commonly associated with it. These included terms such as interprofessional team leadership, change leadership, interprofessional collaboration and interprofessional communication.

Courses were also labelled to be uniprofessional, multiprofessional and interprofessional. This was based on the descriptions from Barr et al. (2005): “uniprofessional” education is undertaken by individuals within the same profession; “multiprofessional” education is when individuals of two or more professions learn alongside one another doing parallel rather than interactive learning, while “interprofessional” education occurs when individuals engage in learning with, from and about each other in an interactive way to improve collaboration for better health outcomes.

For analysis the inventory data were organized into five categories including nursing, medicine and public health, and a “generic” and “other” group. Education offerings were

categorized as “generic” when described to be multiprofessional, interprofessional or not specific to one profession. The “other” category included individual professional programs with only a small number of leadership offerings for that profession and included social workers, occupational therapists, physiotherapists, dentists and nutrition professionals.

The education offerings were then analyzed based on a list of chosen elements, including: the number of courses and programs available for each profession and the level of education by undergraduate, graduate and continuing education. Continuing education was further defined by whether it was directed at health practitioners and managers or courses targeting executives, and if it was offered by national associations. For undergraduate courses, the requirement of the course for graduation was noted. Finally, the profession-based categories were compared by the number of courses that included elements of collaborative leadership.

Results

This grey literature review found 349 courses related to generic health leadership, collaborative health leadership and generic collaborative leadership. Table 1 shows that the majority of these programs and courses were made available to all health professionals (46%, $n = 159$) or were directed only to nursing (35% $n = 123$). The remaining percentage is divided between medicine (7%, $n = 25$), public health (6%, $n = 21$) and other disciplines, including social work, occupational therapy, dentistry and nutrition (6% $n = 21$).

Early attempts were made to distinguish whether the courses included use of a uniprofessional, multiprofessional or interprofessional approach. The data available did not allow us to make a clear distinction with enough confidence, especially between multiprofessional and interprofessional approaches. In the websites searched, very few programs were explicitly advertised as multi- or interprofessional, and the distinction was not easy to make without having details on the pedagogical activities included in the program.

As presented in Table 1, the structure of post-secondary education would suggest that the majority of undergraduate offerings and to a slightly lesser extent, graduate offerings, are uniprofessional. This could be explained by the fact that students in specific health professions rarely have the opportunity to integrate with students from other faculties, despite the trend in Canada and internationally towards interprofessional education in the past 10–15 years. There are limited examples of clear exceptions to this apparent trend. These come from interprofessional health faculties, offices and schools with the mission of bringing students from more than one health discipline together to learn about, with and from each other. On the other side, continuing education, association and executive courses seem to provide more opportunities in terms of multiprofessional and interprofessional education.

TABLE 1.
Interpretation of uniprofessional, multiprofessional and interprofessional approach by education level

Education level	Interpretation
Undergraduate education	The majority of education offerings focus on the development of one profession in one faculty. The examples of interprofessional offerings were contained within offices/centres of interprofessional education.
Graduate education	The majority of education offerings focus on the development of one profession in one faculty. Multiprofessional and interprofessional opportunities were generally schools of health leadership and management where individuals from many backgrounds may participate.
Continuing Education (CE)	The majority of these offerings were multiprofessional or interprofessional. They were courses and programs aiming to develop leadership and are open to all professions.
CE-Executive	The majority of these offerings were multiprofessional or interprofessional. They were courses and programs aiming to develop leadership and are open to all professions.
CE-Association courses and programs	The majority of these offerings were uniprofessional aimed at developing leadership of physicians. The remainder of education offerings were multiprofessional and interprofessional offerings aimed at developing leadership towards all professions.

Leadership education for different health professions

The breakdown of leadership education offerings by education level and profession indicates that different professions teach health leadership in different stages of education. For example, the offerings for nurses show that a majority of the leadership education offerings (60%) were taught through undergraduate courses (Table 2). Of these 72 courses, 90% were taught in the third and fourth years of undergraduate education, and 75% were found to be required for graduation. There were also a sizable amount of courses and programs offered at the graduate level. Only a small number of continuing education offerings and no executive education offerings were found. This suggests that there may be limited leadership education options that specifically serve practicing nurses as well as nurses who are currently in management and executive roles.

The opposite trend is seen when looking at the 25 health leadership education offerings specifically for physicians. There is a very limited selection of leadership offerings found at the undergraduate level of medical education (Table 2). Of the five available, only two were required courses, while the rest were elective courses and programs. The majority of programs

and courses focused on physicians are available to practicing physicians as well as to physicians who are managers and executives. The largest source of leadership programs available specifically for physicians is provided by national associations such as the Canadian Medical Association.

When looking at the 21 health leadership education offerings for public health students and public health professionals, the majority at 17 were offered as part of graduate programs, which mainly consisted of Master of Public Health courses. Only one course was offered at the undergraduate level, while three were found to be offered as continuing education courses (Table 2).

Education offerings directed at occupational therapists, physical therapists, dentists and social workers were not well-represented, accounting for only 6% of the courses and programs combined (Table 2). Their main means of access for leadership education would be through interprofessional education organizations, university programs available to all professions as well as associations.

The education offerings for all health professionals, the “generic” category, account for nearly half of the options. The undergraduate programs and courses in this category were mainly health administration and health management courses.

TABLE 2.
Inventoried courses by profession, course level

Disciplines	Undergraduate	Graduate	Continuing Education (CE)	CE-Executive	CE-Association offerings	Total
Nursing	72	45	6	—	—	123
Physicians	5	6	1	3	10	25
Public health	1	17	3	—	—	21
Generic	39	53	48	13	6	159
Other	14	4	3	—	—	21
Total	131	125	61	16	16	349

TABLE 3.
Evidence of collaborative leadership elements according to disciplines and education level

Disciplines	Undergraduate	Graduate	Continuing Education (CE)	CE-Executive	CE-Association offerings	Total
Nursing	7	4	1	-	-	12
Physicians	2	1	-	-	1	4
Public health	1	1	-	-	-	2
Generic	8	12	20	5	3	48
Other	1	-	2	-	-	3
Total	19	18	23	5	4	69

There were also many programs and courses available at the graduate, continuing education and executive levels as well as courses and programs offered through national associations. These programs and courses available to all health professionals composed the largest category and represented the most opportunities for health leadership education.

Evidence of collaborative leadership component

Of the 349 education offerings analyzed, only 20% (n = 69) showed any evidence of the collaborative leadership attributes identified in the peer review articles, including interprofessional communication and knowledge on how to work in teams and across disciplines. The majority of these courses at 68% (n = 67) are from the generic category. Of the total 349 courses, only 7% (n = 26) directly mentioned collaborative leadership, distributed leadership, shared decision-making or the creation of a shared vision. The majority of these 73% (n = 19) were in the generic category. Nursing courses followed with 19% (n = 5). The final two courses were directed at pharmacists and physicians. These results are consistent with the findings included in our analysis of peer-reviewed articles where only a limited percentage of courses (3.2%) were directly confirmed to be collaborative leadership (Careau et al. 2014) (Table 3).

Limitations and Considerations

One limitation to this study is the nature of the information provided in the websites searched. The education offering information provided through the institution websites varied in detail and in length. These websites were designed to inform learners and to market the courses and programs, not for research purposes. This means that information important for analysis was not always available on the website. There were also variances in terminology used between different institutions and health professions. For the purposes of this review, the concept of leadership was considered to be separate from management. However, some management courses and programs may consider leadership as an inherent attribute of management or vice-versa. Nevertheless, we believe that the results provided an accurate estimation of the leadership courses available at the institutions. The scope of the review focussed on programs

and courses offered by universities and national associations. This means that health leadership courses offered by others such as colleges, private organizations and regional associations were not taken into account, nor were courses offered internally at hospitals.

Discussion

Leadership education in health professions

This review found that different health professions have access to health leadership education at a variety of stages of their career. There were many more offerings in leadership education available to nurses at the undergraduate and graduate levels, while for medicine, the majority of leadership courses were offered post-licensure. This may also present a need for and an opportunity to develop targeted post-licensure nursing education as well as to build leadership capacity earlier in physician training. This need for physicians is reflected in the 2015 draft CanMEDS framework that identifies leadership as a core competency, where collaborative leadership forms a key concept from medical school through residency and practice (Frank et al. 2014). Most of the leadership education opportunities for public health professionals were offered at the graduate level. The distribution of health leadership education offerings suggests there are many opportunities for practicing professionals, managers and executives to obtain leadership education from courses offered to all health professionals through continuing education courses programs at universities, private institutions and through national associations.

Collaborative leadership

The continuing education and executive courses available to all professions had the highest instances of having evidence of collaborative leadership attributes. The courses in this category also had the most opportunities for multiprofessional and interprofessional leadership education, providing a venue for individuals from multiple professions to come together and learn. The CIHLC believes that collaborative leadership is best taught through interprofessional education that allows different health professions the opportunity to learn to work together.

This latter approach is critical to understanding and acting on the complex health system issues globally, as no one profession or perspective will have all the answers. There has been extensive debate into when interprofessional competencies such as leadership should be introduced into health education. There has not yet been clear agreement on a best time to introduce these competencies (Oandasan and Reeves 2005). This may reflect a need to introduce different aspects of collaborative leadership at different stages of a healthcare provider's career.

Conclusion

The emerging conversation about complexity in healthcare is accompanied by a parallel conversation about the kind of leadership needed in a time of rapid change. In consideration of The Lancet Commission's call to produce leaders who can traverse complex health systems, this research created an inventory of health leadership education programs and courses in Canada that include interprofessional and collaborative elements. The collaborative leadership design emphasizes the shift away from a kind of "lone hero" leader whose personal vision drives a group's effort, to leaders who are more focused on the whole, and our research identified the opportunity for enhanced interprofessional innovative programs that bring together students from medicine, nursing and other health professions. This study identified that to do this effectively, programs must address the challenge in accessing comprehensive curricula on leadership in the context of IPE collaborative competencies. Finally, the collective findings of the CIHLC research indicate the critical need to focus future leadership education at the continuing education level, and even more importantly, to executive leaders, who are in a strategic position to make the changes necessary to transform health and health systems.

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A Model for Physician Leadership Development and Succession Planning

Isser Dubinsky, Nadia Feerasta and Rick Lash

Abstract/Strategic Context

Although the presence of physicians in formal leadership positions has often been limited to roles of department chiefs, MAC chairs, etc., a growing number of organizations are recruiting physicians to other leadership positions (e.g., VP, CEO) where their involvement is being genuinely sought and valued. While physicians have traditionally risen to leadership positions based on clinical excellence or on a rotational basis, truly effective physician leadership that includes competencies such as strategic planning, budgeting, mentoring, network development, etc., is essential to support organizational goals, improve performance and overall efficiency as well as ensuring the quality of care. In this context, the authors have developed a physician leader development and succession planning matrix and supporting toolkit to assist hospitals in identifying and nurturing the next generation of physician leaders.

Leadership Competencies and Skills – The Physician Leadership Challenge

Extensive literature has been published on leadership competencies in the healthcare domain (NHS Institute for Innovation and Improvement 2002; Guo and Anderson 2005; Mulec 2006; National Centre for Healthcare Leadership 2006; OHA 2008, 2010). More recently, an increased focus on the specific role of physician leaders in the healthcare sector has generated a number of articles focused on physician leadership

competencies (Lane and Ross 1998; Schwartz and Pogge 2000b; Birrer 2002; Tusso 2003; Lobas 2006; Chaudry et al. 2008; Stoller 2008; Xirasagar 2008; Clark and Armit 2010). These articles make special note of the challenges that (aspiring) physician leaders face in reconciling both their own clinical autonomy and that of physician colleagues with organizational expectations of collective accountability for organizational outcomes (Shortell et al. 1998; Xirasagar 2005; Quinn and Perelli 2011).

Desirable physician leadership competencies mirror those that are identified in the broader healthcare domain. The most commonly identified competencies and skills include strategic thinking and planning, building strategic partnerships, organizational awareness and industry knowledge, financial know-how, business acumen and results orientation, organizational management, collaboration, team building and conflict resolution, emotional intelligence and effective communication.

While many physicians inherently possess the character, or affective, traits necessary for leadership positions (e.g., integrity, passion, judgment, compassion, etc.), few possess the requisite competencies and technical skills (the so-called cognitive skills) to effectively lead organizations in an environment where organizations must make strategic choices, build alliances and partnership and focus not just on quality of care, but doing so in the most efficient and effective way possible (Schwartz and Souba 2000, Schwartz and Pogge 2000a). Historically,

physicians, in general, have been promoted to leadership positions as a consequence of one of two circumstances. In many organizations (typically smaller hospitals with small medical staff), leadership roles (Department Chief, Chair of MAC or Chief of Staff) are rotated among staff members. In many cases, there is an implicit or explicit expectation that each physician will, when called upon, take their “turn” as leader. Others are “promoted” to a leadership role because of their demonstrated clinical or academic expertise and professional competence rather than their leadership qualities. However, while physicians may be competent in clinical care and research, knowledge in the areas of strategic planning, finance, management, organizational behavior, etc., is essential to leading an organization in the planning, delivery and transformation of patient care services and creating a shared sense of responsibility for the success of a financially viable organization.

Recognizing the increasingly important leadership roles that physicians are playing in healthcare organizations, many healthcare organizations encourage and offer practicing physicians the opportunity to gain broader exposure to leadership concepts, skills and competencies. These opportunities may be offered by a collaboration of professional organizations or by business schools or faculties of medicine. These leadership development programs focus on identifying, developing and enhancing leadership qualities and skills. In our experience, however, in the absence of a structured development and planning model, healthcare organizations continue to struggle with the process of identifying, nurturing and recruiting (potential) high-performing physician leaders to take on prominent roles in their organization and positioning them for success.

Creating a Physician Leader Development and Succession Planning Matrix

In 2011, an Academic Health Science Centre engaged Hay Group to define the cognitive and affective skills necessary for their Chief of Perioperative Services role. In the course of this undertaking, the initial focus was to identify critical capability areas and development experiences necessary to succeed in the role.

However, as the work proceeded, several key issues arose. It became clear that it would serve this (and likely most) hospital's interest to have a “template” that could be used to identify the core skills necessary for a physician to serve in a senior administrative role. Once these competencies were identified, it raised the issue of whether it might be possible to “tailor” the experiences of younger physicians to ensure that they had an organized, systematic approach to the acquisition of leadership skills before assuming such a role. It was also realized that such a template could also be used by search committees as a tool on which to build both the screening tools and interview process

for applicants seeking senior medical (or hospital) leadership positions.

There are many approaches to designing and implementing advanced leadership development programs, executive coaching and team building, emotional intelligence training, competency model development and implementation as well as leader selection system development and implementation. We believe, however, that the process and outcome described below are distinctive from the perspective of developing a structured and defined development and succession planning matrix for a physician in a senior administrative role. In deriving the model, we combined our experience in this area, a comprehensive literature review on leadership competencies in healthcare and in-depth interviews with key internal and external stakeholders. We also reviewed the “leadership Skill Development System” that was developed by the Department of Oncology at the University of Calgary in 2010 (Craighead, Anderson and Sargent 2011).

Key healthcare leadership competencies and skills identified during our literature review were briefly summarized in the preceding section. Our interviews with key internal and external stakeholders confirmed the necessity for these skills and competencies and identified two additional areas of focus: (1) a focus on clinical work, research and education; and (2) a drive towards innovation. These additional areas of focus could, in theory, be seen as a reflection of the fact that the development of this profile and matrix was for an academic hospital. Importantly, however, stakeholders interviewed as part of this engagement were unanimous in their conviction that so long as an aspiring candidate possessed the leadership competencies that had been identified and had the benefit of sufficient exposure and experience in various positions, the candidate could come from a variety of backgrounds (e.g., community or academic health sciences centre coupled with a background in teaching, research or clinical work.) Conversely, it can be argued that the additional experiences and competencies would be of benefit in any clinical environment.

We first provided two “Foundational Documents” to the hospital: A Key Competency Definition Document and a Skills Matrix. These documents succinctly summarized the essential “Domains of Activity” (i.e., competencies and skills) and recommended experiences that any physician seeking to fill a leadership role should, ideally, undergo as part of his or her development. Once these documents were completed, it became clear that they could also be used to tailor the experiences of physicians with either an interest in or aptitude for leadership, starting as early as their postgraduate training. It was also clear that the tools could be used for succession planning, as they would allow a department chief or other senior leader to more effectively mentor a colleague, ensuring that he or she acquired the experiences necessary.

TABLE 1.

Key Competency Definitions – Hay Group Limited	
Network Development and Relationship Building	The ability to identify initiatives and bring to a successful conclusion, initiatives undertakings and change processes that require or would benefit from enhanced relationships and partnerships to facilitate the collaborative advancement of the program's and hospital's agenda. This competency allows individuals to successfully seek out, establish, develop and nurture strong relationships with both internal and external stakeholders and individuals. Individual's possession of this competency will allow them to recognize the subtle nuances of relationships with differing stakeholder groups and to facilitate meaningful engagement with various colleagues and groups.
Strategic Planning and Thinking	The ability to engage in strategic planning and thinking allows the individual to plan for the future and make difficult decisions while considering the organization's mission, vision and values. The individual is able to identify and define broad system issues and challenges and to propose feasible solutions that take the broad implications of their implementation into consideration. The individual demonstrates a deep understanding of the healthcare system, external/internal environments and current policy directions and appreciates how these factors impact hospital policies, initiatives and directions. This competency becomes particularly relevant when taking on roles within the organization that require a broad perspective of various issues and strategic vision.
Leadership , Mentorship and Coaching	This competency reflects the ability and commitment to effectively champion, motivate and influence others to adopt new behaviours, directions, technology, innovation and clinical practices. The individual recognizes the importance of identifying and nurturing emerging leaders and demonstrates genuine commitment to their development by dedicating time, resources, energy, mentorship and coaching to developing new skills and competencies. The individual promotes an environment for success for all staff by modelling a positive and supportive approach to learning and skills development.
Communication	The ability to motivate and influence internal and external stakeholders and, as a result, get desired results using effective oral and written communication skills. The individual facilitates the flow of information both within and beyond their respective program area and has the capacity to use a variety of different communication methods that reflect the unique needs and perspectives of the audience. These skills will not only allow an individual to engage in meaningful and respectful communications with internal and external parties but will enable them to display appropriate media relation skills.
Team Building/Conflict Resolution/Awareness of Regulatory/Legal Environment	The ability to establish a collaborative and engaging environment that fosters close and integrative working relationships within and between teams and individuals. The individual is able to mitigate arising or existing conflict within and between groups and individuals using effective dispute and conflict resolution, mediation and communication skills. The individual promotes mutual support, respect and partnerships among various stakeholders and individuals by modelling participatory and accountable behaviour and articulating expectations of others. Further, they demonstrate familiarity and comfort with regulatory and legal undertakings and the ability to ensure that personal, departmental, program and institutional initiatives and decisions comply with the regulated environment.
Financial Planning and Acumen in the Domains of Clinical Activity/ Research/Education	This competency reflects the individual's ability to understand financial planning concepts and skills. The individual effectively employs these skills by participating in or leading the development of program financial plans, the negotiation of AFPs, research infrastructure, budget planning, the nature of academic funding, lead a program/ department to answers and, where appropriate, funding models.
Conceptualizing and Implementing Innovative Programs	The ability to think innovatively to conceptualize, plan and implement innovative programs and initiatives that reflect not only current standards and literature but the ability to conceptualize new models. The individual seeks out opportunities to learn about new approaches to existing issues and challenges and promotes the adoption of innovative programs that are responsive to these issues. Further, the individual leads or supports the implementation of new programs, processes, technologies and best practices to ensure continuous quality improvement.

Key Competencies

Based on our review of the literature, our interviews with key stakeholders and our experience and expertise in leadership development programs and succession planning activities, we identified the following seven key domains of activity for the Chief of Perioperative Services role in an academic hospital: (1) network development and relationship building, (2) strategic planning and thinking, (3) leadership, mentorship and coaching, (4) communication,

(5) team building/conflict resolution/awareness of regulatory and legal environment, (6) financial planning and acumen in the domains of clinical activity/research/education and (7) conceptualizing and implementing innovative programs. While the Key Competencies Definitions document defined the seven competencies required for successful leadership of the perioperative services portfolio, it also, we believe, outlines the competencies necessary for any physician leader (Table 1).

Skills Matrix

As a next step in this process, we created a Skills Matrix that examined each of the seven essential competencies in greater detail and articulated how, in a logical stepwise progression, each competency could be acquired and “mastered” throughout an individual’s career. Behaviours and activities associated with three different career stages were also identified.

From Theory to Practice – A Toolkit for Implementation

To assist the hospital in translating and operationalizing the competences and skills identified in the development of the foundational documents, we developed a supporting “toolkit.” The toolkit included three separate documents: (1) a Development Tracking Tool (DTT), (2) a Self-Assessment Questionnaire and (3) an Interview Discussion Guide.

Development Tracking Tool

The DTT was designed to support the development of a physician’s leadership competencies by articulating a plan to acquire and/or enhance skills required to accomplish their future leadership aspirations. The tool was developed with the intention that its completion would be approached as a collaborative (or mentorship) effort between the candidate and their supervisor/leader (or another individual in an organization with an interest in mentoring junior colleagues) and would be informed by ongoing informal and formal discussions between the two parties. The DTT identifies the developmental need, relevant developmental actions, objective criteria for success, time frame for achievements and a mentor, and includes an area to note interim/final status and progress/results.

Self-Assessment Questionnaire

The Self-Assessment Questionnaire was designed for candidates interested in pursuing an administrative/leadership role. The questionnaire included a descriptor of each of the competencies that had been identified in the Key Competencies Definitions document as well as a scale of “behaviours” aspiring (and actual) leaders would be expected to exhibit. Each scale describes related behaviours of increasing sophistication to support a definitive way of determining how a candidate is progressing on a linear path of development. A candidate would complete the questionnaire by reflecting on their current demonstrated behaviours for each competency. Completion and review of the questionnaire allows both the candidate and his/her supervisor to understand how the candidate is progressing on a linear path of development. As an example, one of the competencies identified for physicians pursuing an administrative leadership role was “strategic planning and thinking.” The self-assessment questionnaire provides a clear description of the competency, and assists candidates in assessing their level of competency by providing

descriptors for each level; e.g., a Level 1 candidate is more focussed on developing awareness and demonstrating interest, whereas a Level 4 candidate is seen to actively contribute to the development and implementation of a strategic plan.

Interview Discussion Guide

The Interview Discussion Guide outlines the process for conducting an interview with selected candidates for the Chief of Perioperative Services position. The Guide provides a script and a series of questions to be discussed at an interview. “Green Lights” and “Red Flags” were listed for each question to assist the interviewer in identifying the candidate’s strengths and weaknesses. The objective of this guide is to provide the interviewer with a better understanding of how the candidate’s experiences and capabilities aligned with the requirements of the role (identified in the foundational Key Competencies and Skills Matrix documents). It was also designed to help identify specified behaviours that would contribute to the interviewee’s success in the role that the hospital is seeking to fill. Although the interview discussion guide was developed to assess a candidate’s suitability for the Chief of Perioperative Services position, it was designed so that it can be easily adapted to assess individuals for other clinical or administrative leadership roles within the organization. For example, one area of focus during the interview is “network development and relationship building.” The interview discussion guide includes specific questions to pursue with the candidate such as “tell me about an occasion when you had difficulty establishing and/or maintaining rapport with a colleague, group or stakeholder to achieve an organizational or program goal?,” directs the interviewer to probe on key actions as well as results and outcomes that would enhance the interviewer’s understanding of the candidate’s experience and highlights specific themes that would be considered green lights (e.g., values relationships network and partnerships, demonstrates ability to influence others, champions new relationships, etc.) and other themes that would be considered red lights (e.g., career driven at the expense of others, operating in isolation of others, lack of emotional intelligence, dogmatic/authoritarian approach, etc.).

Used together the tools outlined above have the potential to shift the paradigm of physician leader mentorship and recruitment from historic patterns to a new model that emphasizes the timely and sequential acquisition of the knowledge and skills necessary to ensure that physician leaders not only “serve” in the role, but make outstanding contributions to hospitals’ clinical, academic, strategic and operational planning and activities.

Conclusion

At the current time, hospitals are increasingly and appropriately focused on the need to mentor and/or recruit physician leaders who will bring the necessary and appropriate cognitive

and affective skills to their role. Historically, physician leaders have either been co-opted to the role (in some cases) or selected because of their excellence in domains such as their academic achievements or their clinical expertise. While these experiences are valued, it is felt by many healthcare organizations that they are insufficient to ensure that physician leaders have the necessary knowledge and skills to ensure the organization optimizes its quality, fund raising and other functions.

We present a model to assist in the career development, mentoring, screening and interviewing of current and potential future physician leaders. While thus far, our tool and implementation kit have only been trialed in one healthcare organization, we believe that the more rigorous approach, focused on opportunities to identify and mentor potential physician leaders, assist in the career planning of practicing physicians and the screening and interviewing of leadership candidates, will assist greatly in ensuring not only the success of the recruitment process, but also of future physician leaders. **HQ**

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IT Downtime – A Cultural Shift

Michael C.W. Caesar and Scott McIntaggart

Abstract

With the mounting evidence of benefits and incentives to digitize clinical information, healthcare organizations are increasingly reliant on information technology (IT) to deliver services. This reliance warrants organizational awareness and preparedness for IT downtimes such that in times of system outages, staff can continue to perform their work. At University Health Network (UHN), the responsibility of IT downtime preparedness does not lie solely with IT: the combination of organizational preparedness, incident management and a standardized recovery model has enabled UHN to handle major IT downtimes. This article will share UHN's journey to foster a culture of downtime preparedness.

It wasn't long ago that access to patient information during a system outage was the least of the care providers' worries. Keeping flashlights and candles on hand would quickly resolve any power outages that may impede access. In the early 1960s this changed — exploration into how patient information could be stored electronically was born. Efforts at both the University of Vermont and the Akron Children's Hospital in Ohio in the 1960s were experimenting with electronic data storage and problem-oriented medical information systems (PROMIS) (Ogg 2012). These systems were large main-frame systems that allowed care providers to enter and view a patient medical record. The system at University of Vermont, led by

Dr. Lawrence Weed, even boasted a touch-screen interface, which was developed through multiple iterations of human-computer interfaces (Frize 2014). These newly created electronic records contained both narrative and numeric data, mimicking the paper chart, including flow sheets, laboratory results, diagnosis and other related patient information. In time, these systems would mature into day-to-day care provider tools critical to patient care.

The aspirations for an electronic chart haven't changed much in the past 50 years. In the late 1960s, Dr. Weed articulated the objectives of an electronic medical record. He felt a system should: (1) provide patient data immediately, (2) allow the examination of data across multiple episodes of care, (3) align care practices through standardized data organization and (4) help hospitals plan and organize capacity and patient flow (Schultz 1988). Today, one doesn't have to look far to see the imprint of Dr. Weed's objectives in many of the "eHealth" organizations around the world. Many of these organizations espouse patient safety, quality, efficiency and satisfaction — all of which have roots in Dr. Weed's objectives.

The use of electronic medical records has proliferated over the past several years and continues to be a point of discussion in advancing and bringing additional quality, efficiency and safety to healthcare. In the United States, President Obama has declared a \$20-billion multi-year incentive package to advance the adoption of electronic records. In 2009, Canada

announced a \$500-million investment in similar efforts. As funding increases, we are also seeing new and innovative ways to capture information and store electronic information. The introduction of smart phones and cloud infrastructure has sped up our ability to access and share real-time patient information. As a result, the hospital electronic data sets have increased; more data are captured, stored and shared; and companies like IBM, through artificial intelligence systems like Watson, have introduced ways to sift through large amounts of data and provide value added analysis and trending (Neti et al. 2012).

Through the growth of the electronic patient record, the way in which clinical applications are delivered to care providers has also evolved. Early-day data centres (1960s and 1970s) were highly specialized areas with large main-frame systems that could only be accessed from within the walls of the organization, and sometimes limited to specific rooms. In the early 1990s, data centres began to support client-server applications, where the computing power and storage became more decentralized throughout the organization and more powerful in the hands of the users. Now we see a variety of ways in which applications and data can be hosted, ranging from traditional hospital-hosted and maintained, to software company-hosted and, finally, to cloud-hosted, where access and scalability is the primary objective and storage and processing power becomes a commodity.

Regardless of the way in which an application is hosted, data are stored and finally delivered to the care provider, there is inherent risk in moving what was available on paper in a health records department in a hospital to a data centre many miles away. As hospitals and care providers continue to populate more databases with important patient information, it becomes increasingly critical that hospitals prepare for the worst: prepare for when data are not available, when systems cannot be accessed and the critical chain of information technology (IT) systems becomes broken.

Most hospitals and data centre providers do invest in physical assets, which provide a much safer environment. Technology that supports redundant systems, mesh networks, automatic fail-overs, data and power back-up, etc., provide a certain amount of security. Nothing, however, is guaranteed and in the past 10 years, we have seen incidents in hospitals that emphasize the need to be prepared beyond the tangible systems, wires, power and disks.

In 2002, Beth Israel Deaconess, in Boston, Massachusetts, experienced a full network outage for four days. Not only was patient information not available to care providers, this outage slowed the results of laboratory orders from 45 minutes to five hours and the emergency department was closed for four hours. In 2003, the hospitals in downtown Toronto experienced a city-wide black-out for over 12 hours. Care providers could not access any electronic information and reverted to paper,

flashlights and generator power. In 2008, the NHS Norfolk hospital in the UK experienced a system outage for four days. More recently in 2012, the remote hosting service of a major electronic medical record vendor had a nation-wide outage, leaving multiple hospital systems without access to patient information.

These incidents make us realize that Dr. Weed's four objectives and benefits of an electronic health record can be wiped away within minutes, leaving the patient and care provider without data (laboratory results, allergy checking, medications), no data trending across multiple episodes of care, delays in treatment due to un-checked care practices and patient flow disasters as bed census and scheduled appointments can't be confirmed.

Today's complexity of hosting, networks, personal computers, mobile devices, cellular carriers and other systems makes preparation for such disasters that much more critical, as any broken link can bring systems down. Through the concentrated incentive efforts to expand the adoption of electronic medical records over the past decade, the recovery of a system when it goes down becomes far more critical. The recovery becomes more than an anticipated event, for which care providers are waiting — it has to become a well-orchestrated process of holistic activities, where coordinated efforts are managed from discovery of outage to live system stabilization, and care providers, leaders and executives are participating throughout the outage and once the system becomes available. Clinical system recovery is no longer the sole responsibility of the IT team — it requires a prepared, practiced organization that understands the mechanics and purpose of an enterprise-wide response.

University Health Network (UHN) in Toronto, one of Canada's largest academic research hospitals, has been developing and practicing such policies, processes and reactions to clinical system outages. UHN reached a tipping point in 2008 when medication orders started to be placed directly into the clinical systems for the over 30,000 yearly admitted patients, with no paper trail. When clinical systems went down, care providers could not access current medication orders or administration times, let alone laboratory or imaging results. The risk was high and UHN had to think differently about clinical system recovery and how the entire organization needed to be involved. System recovery became a broad effort, leveraging emergency response, paper documentation, communication and policy development processes. The result was a comprehensive process that partnered clinical leadership with IT leadership to lead the organization when downtimes are anticipated, realized and recovered. At the centre of the recovery process was the focus on continuity of patient care with an attempt to keep Dr. Weed's objectives intact throughout. The following paper reflects on lessons learned and structures UHN put in place to manage and recover through system outages.

The Seamless Patient Experience (Communication)

Historically, system outages have been seen as an IT problem with anxious clinicians waiting for updates on progress and inconvenienced through the outage. With increased dependency on patient information contained in the information system, clinicians are increasingly reliant on gaining access to patient information throughout the outage. No longer is reaching for a pre-printed order form or laboratory requisition enough to continue care. Accessing previous laboratory results, care documentation and medication orders and administration records are critical during the outage. Preparation and practice are critical to ensuring that patient care is seamless throughout the outage.

System downtime needs to be talked about beyond the walls of the IT department. The IT teams have had decades of thinking about and have best practices around system recovery, incident management and system backups. Sophistication abounds in the depths of the IT departments when it comes to managing and practicing an outage. The clinical side needs the equivalent sophistication when it comes to system outage, preparation and practice.

As UHN has increased its reliance on electronic orders, results and documentation, it has also matured its discussion around being prepared for a system outage. This dialogue is not limited to post-outage debriefs and lessons learned, it is an ongoing dialogue that spans the organization. In 2008, UHN struck an organization-wide IT Downtime Committee that was charged with not only helping the organization think about standards and policies during a system outage, but also helping the organization practice. Over the past several years, the Downtime Committee has sponsored two system outage tabletop exercises. This event brings together representatives from nursing, physicians, laboratories, pharmacy, radiology, facilities, switchboard, IT, administration and others to focus on testing system downtime processes from a patient and

clinical care perspective. The event allows the organization to walk through real-life events and examine how various departments interact with each other, the required communication between themselves and the organization, how direction is managed from senior leadership and how recovery is managed. This tabletop exercise has highlighted time and time again how important communication is from the beginning, right through to the end of the outage. Not only have these events highlighted the importance of communication but also the value of refining the channels, timing and content of the communications throughout the organization. Policies, procedures, job action sheets, processes can all be documented; however, it is communication that needs to be practiced and experienced to make sure everyone is acting and providing care as best possible throughout the system outage.

Reaction of the Whole

The first signs of a system outage are usually noticed by the direct care providers. Screens not refreshing, missing data, applications are not available and general slowness are usually the first insights into something going wrong. Large hospital organizations have sophisticated mechanisms to alert the IT department of unusual system behaviour, from automated monitoring to a centralized help desk to report issues. Regardless of the layers of alerts and triggers, when a care provider can't get the information they need to continue to provide care, there needs to be a reaction. In some cases, this reaction is localized, and moving to another terminal may resolve the problem. When cases of larger impact are emerging, the organization needs a mechanism to escalate and articulate the impact to patient care quickly and clearly.

UHN has developed an escalation matrix (Table 1) that allows the direct care provider to trigger a response right up to the executive and CEO office. Each step in this escalation has an assessment gate to allow the individuals involved to assess the impact and notify the appropriate leadership.

TABLE 1.
High-level summary of UHN's IT unplanned downtime escalation matrix

Incident Status	Scope	Escalation Trigger	Response
Minor	User	Device or system affected by service disruption	Notify Service Desk and Dept Manager
Minor	Unit	Threat to clinical services	Notify Clinical Director
Minor	Site	Number of users impacted >100	Notify Site Lead and initiate downtime procedures
Major	Organization	Estimated time to resolve >3 hrs	Notify CIO and initiate IT-clinical conference call
Major	Corporate	Crisis necessitating corporate incident management system	Initiate code for IT downtime
Code for IT downtime	Corporate	Follows code incident management system procedures	

This mechanism not only allows UHN to move a system outage up to the appropriate level but it also allows for broad communication to supporting services (e.g., laboratories, radiology, administration, emergency services, partner organizations). When the incident reaches the corporate level, the CEO and Site Operating Executives are engaged and remain engaged until resolution and recovery. UHN has also leveraged the corporate incident management system that is otherwise used for missing patients, fire, evacuation, bomb threat, outbreak incidents, etc. This management system is engaged to support system outages at the corporate level and it follows the emergency preparedness protocols, policies and processes across the organization. Having both a local escalation process and subsequently a corporate response to system outages enables the whole organization to get visibility into the system outage and again to allow for communication to flow throughout departments and patient units seamlessly.

It's Not Over When the System Is Back Up...

The moment a system is brought live again is a relief to many of the direct care providers. Having access to place laboratory orders, see and modify medications and interpret notes and care plans will kick-start patient care and it will quickly return to care as usual. Once the system is back up and the pressure is off, the IT department will be performing stability checks and ensuring the permanency of the fix, and perhaps planning any additional work required in the future. The patient care risk continues, however, if the organization doesn't have an appropriate recovery plan in place. While the system was down, paper was the primary mode of continuing patient care. Paper was used to place orders, deliver results, document medication and assess the patient. If this information is not adequately captured in the electronic patient record within a very short period after the system is recovered, the risk of the system outage remains throughout the organization. Additional doses of medication could be given to the patient, critical laboratory results could be missed and notes between care providers could be overlooked.

UHN has developed a process for system recovery, where even if the system is back up and running, care providers are not allowed to use the system until all critical patient activity is captured into the system (i.e., laboratories, medication, imaging and notes). When UHN first started this process, it embarked on an intensive, costly process that involved equipping "recovery teams" who were deployed throughout the organization after system availability to recover paper-based information into the electronic patient record. These teams were made up of physicians, nurses and pharmacists. They would be pulled from their departments and sometimes from home to assist with the recovery. In many cases, this recovery process would last two

to four hours after the system was made available. This process proved to be unwieldy and costly. The logistics of pulling 20–30 people together post recovery, organizing them on target units and managing the communication of completion or complications was inefficient. UHN decided to move towards a decentralized process where patient units were responsible for their own recovery and back-fill of patient information into the patient record. This also proved to be a challenge. Each unit approached the recovery in different ways and speed and quality became a concern. Eventually a middle ground was reached, where self recovery was acceptable for those patient units who typically had minimal activity and low-order complexity and a smaller "recovery team" was deployed to those areas that had higher patient volume/activity and more complex orders. UHN now has a process where there is increased clarity in recovery responsibility at both the unit and corporate level, quality of data entry is high and complications can be dealt with by a team of experts. The logistics of pulling these teams together has been streamlined and the system recovery occurs more quickly, all in effort to return the system to the hands of the direct care providers promptly with the right and complete patient information.

In addition to the minutes and hours post system recovery, UHN has a standard practice of incident review and lessons learned. Typically incident reviews are performed by the IT teams to assess malfunction and potential long-term corrective action. UHN's routine includes this review, but, more importantly, it conducts a review with the clinical teams to assess communications, recovery processes and any clinically focused action items (patient unit downtime kits, documentation or education). This process allows for a more holistic evaluation of the incident and ensures continuous improvement throughout the entire process of outage to recovery.

Lessons Learned

- IT downtime preparedness is an organizational effort, and must include IT and clinical perspectives.
- Shared accountability between IT and clinical groups ensures downtime efforts are collaborative. At UHN, the IT Downtime Committee is helmed by clinical and IT co-chairs.
- Centralized accountability ensures downtime preparedness is standardized and coordinated throughout the organization. The UHN IT Downtime Committee establishes guidelines for the entire organization. Standardization, in turn, sets the stage for effectively and continuously addressing gaps and lessons learned.
- IT downtimes are complex with many possible broken links. Prioritizing applications and user groups that are

most critically impacted helps the organization respond in a systematic way.

- IT downtime preparedness is a continuous process of planning, practicing, responding, recovering and debriefing.
- Downtime knowledge needs to be embedded in staff training and practiced and verified regularly. UHN's training tools and tabletop exercises continue to help increase awareness and preparedness for IT downtimes.

Conclusion

Dr. Weeds' objectives of an electronic medical record remain the beacon for utilizing electronic systems and keeping these objectives intact when electronic systems are not available remains a challenge. As hospitals introduce additional methods of capturing and storing electronic information, they must also introduce additional processes to manage when those methods become unavailable. More importantly, practicing and testing the processes in which a hospital reacts, communicates and recovers a system outage are critical to managing system outages big and small. As the healthcare industry continues to journey away from the main-frame of the 1960s to smart devices, cloud-enabled, decentralized storage, preparing and practicing for the worst will need to become standard clinical practice. **HQ**

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Simulation for System Change: Holland Bloorview's Experience Using Simulation to Enhance the Use of Technology at the Point-Of-Care

Darlene Hubley, Sean Peacocke, Joanne Maxwell and Kathryn Parker

Abstract

Simulation has the potential to invigorate teaching practices, facilitate professional development and impact client care. However, there is little literature on using simulation at the level of organizational change in healthcare. In this paper, the authors explore Holland Bloorview Kids Rehabilitation Hospital's experience using simulation to enhance the use of technology at the point-of-care. The simulation event demonstrated documentation using technology in two typical practice environments and allowed learners to discuss the challenges and opportunities. Participant feedback was positive overall, and this article reveals important lessons to support the future use of simulation as an educational tool for organizational change.

Holland Bloorview Kids Rehabilitation Hospital is Canada's largest children's rehabilitation hospital, serving about 7,000 children each year. As a fully affiliated teaching hospital of the University of Toronto, education is essential to Holland Bloorview's vision of a world of possibility. Holland Bloorview's Teaching and Learning Institute, fully launched in 2011, is an aligned network of leaders, programs and services that support the training of future healthcare specialists in the field of childhood disability.

Simulation-enhanced education is identified as a major focus of the Teaching and Learning Institute in the current five-year strategic plan. Simulation-based learning is recognized as powerful teaching modality because it allows learners the opportunity to participate in challenging situations and to

learn from the experiences in a safe and controlled environment. The literature shows that simulation is highly effective for skills acquisition (Cook et al. 2011). Simulation-based learning also fosters communication and collaborative practice competencies (Ziv et al. 2005).

The impact of simulation on patient care outcomes is well-established in healthcare literature (McGaghie et al. 2010). The use of simulation has positively impacted patient outcomes in the fields of anaesthesiology (Murray 2011), surgery (Ma et al. 2011) and nursing (Cant and Cooper 2010). However, when it comes to organizational change, there is little literature on using simulation at the level of healthcare organizations. This article explores Holland Bloorview's experience using simulation in the recent rollout of an electronic health record (EHR) and its corresponding point-of-care documentation system.

The Simulation Opportunity

In October 2012, Holland Bloorview expanded the use of an EHR from inpatient services to the entire organization. As part of the rollout, technology devices such as laptops and tablets were provided to staff to facilitate access to the EHR in multiple ambulatory care clinical settings. Implementing the EHR, however, involved more than just introducing new technology; it required a significant culture change and a new approach to documenting and using patient information. As such, this implementation was seen as an opportunity to enhance care.

The EHR project began with the vision that shifting from paper to electronic charting in all areas of the hospital would

increase the effectiveness and efficiency of documentation and improve quality of care and patient safety. The change process started with an extensive review of existing documentation practices within Holland Bloorview's outpatient programs, including the audit of 100 paper charts. Focus groups were also conducted with clinicians from across all disciplines, which provided insight into current documentation behaviour. This was followed by an evaluation of clinician experience using the existing EHR in inpatient areas, which had been previously rolled out in 2010. Understanding the challenges in utilizing the inpatient EHR informed the building of the outpatient electronic record templates and processes.

Once a thorough understanding of the current state of documentation practices had been established, a clinical documentation change team composed of clinicians, leaders and information systems staff began to consider what the new point-of-care system would look like. It was important to design a system that facilitated data input as well as retrieval and use. In addition, two family leaders from Holland Bloorview's Family Leadership Program joined the documentation change team and played a critical role in challenging staff to think about the client and family perspective and build a tool that would be responsive to the emotional and informational needs of families.

Through the process of building and testing the new system, members of the documentation change team became "super-users" and developed the capacity to play a key role in coaching other staff members and communicating the benefits of the change. Rigorous training for staff on the functionality of the new system was designed. Clinicians participated in both e-learning modules and group training sessions designed to build their technical skills.

An observed result of this training program was that while staff found they could use the EHR proficiently in an education session, they were less comfortable with the idea of integrating the tool in their practice setting. Clinical staff had many questions around how using technology at point-of-care would affect clinical practice and effect encounters with clients and families. In response to this perceived skill gap, a simulation program was chosen to educate staff and allow thoughtful discussion on how point-of-care technology could be used and sustained in clinical practice.

Designing a Simulation to Support System Change

A creative and collaborative approach was taken in the design of the simulation event. A simulation development team led by the



Electronic Health Record in clinical practice simulation

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Teaching and Learning Institute was convened with representation from across the organization. A family leader from Holland Bloorview's Family Leadership program was also fully integrated in the simulation-building process to ensure authenticity in the scenario design.

Step 1: Review of Literature and Focus Groups

A review of evidence and best practices in implementing point-of-care documentation was the first step of the simulation design. This review ensured that those planning the simulation were aware of, and building on, lessons already learned around point-of-care documentation. Evidence from Kingston General Hospital (Dagnone et al. 2006) showed that use of portable computers at the bedside was not detrimental to the clinician–patient encounter. Instead, many patients saw technology as a valuable tool that could foster an efficient hospital atmosphere as well as more reliable and accurate documentation. Tips for effective use of the EHR were also identified through the literature review and helped to inform the simulation design. For instance, a study from Taiwan showed that while patients perceived point-of-care documentation as a tool that could increase nurses' efficiency in data retrieval and calculation, they preferred that nurses explain the reasons for technology use (Lee 2007). Shachak and Reis (2009) emphasized the importance of focusing first on patients' concerns, telling patients what is happening, integrating typing around patients' needs, pointing to the screen, encouraging patients' participation in chart-building and maintaining eye contact.

In addition to reviewing the literature, internal focus groups were conducted with clinicians to help inform the design. By understanding the habits that would need to shift under the new system, simulation planners were able to craft scenarios that addressed the genuine stresses and pressures likely to face clinicians, such as how to acknowledge use of new technology, how to set up technology, how to include client and family in use of the technology and when to terminate the use of technology during an encounter.

Step 2: Making it Real

Simulation scenarios were built in partnership with actors and education experts from the Standardized Patient Program at the University of Toronto. The simulation event was envisioned not unlike a stage play where an audience of clinician learners would have the opportunity to observe actors "perform" documentation at point-of-care in an authentic re-enactment of a clinician–client encounter. Standardized patient actors are healthy people trained to portray the personal history, physical symptoms, emotional characteristics and everyday concerns of

an actual patient. Typically, standardized patients are involved in case management and specific clinical scenarios, so the focus on point-of-care technology was a new venture for the program.

In December 2012, clinical staff participated in Holland Bloorview's largest-ever simulation event. One hundred thirty-one staff learners participated in one of four 90-minute simulation sessions where the key learning objectives were to identify potential benefits of point-of-care technology from the perspective of clients and families, identify strategies to enhance the client/family encounter while point-of-care technology is being used and identify opportunities for the use of point-of-care technology within their practice.

The simulation event involved two back-to-back scenarios for learners to observe and discuss. The first scenario was a re-enactment of a client and parent visit in the clinician's office. The second scenario re-enacted an appointment in a clinic room. In both scenarios, standardized patients took on the roles of client and parent, while actual Holland Bloorview clinicians played the role of fictionalized clinicians. In both scenarios, actors and clinicians attempted to demonstrate the value of point-of-care documentation in clinical practice along with strategies for maintaining connection with a client/family. Each scenario was periodically paused so that learners in the audience could discuss what they were observing, as well as offer their ideas or solutions to any challenges observed. Education experts from the Standardized Patient Program facilitated this "start-stop" continuum.

Evaluating the Simulation

To date, Holland Bloorview's simulation has been evaluated in two ways. First, a confidential online questionnaire was sent out to all learners the day after the simulation exercise. Second, a debrief session was held with the simulation development team and the actors and facilitators from the Standardized Patient Program. The stated purpose of the evaluation was to provide a medium for participants and developers to comment on various aspects of the learning experience as well as to guide future use of point-of-care technology and simulation activities. Initial feedback is positive and provides strong indication of organizational receptiveness to simulation as a methodology for system change.

Part 1: Feedback from Learners

In all, 106 out of the 131 learners in the simulation responded to the post-simulation questionnaire (80.9% response rate). The questionnaire had a retrospective "pre-post" design. This means that respondents after participating in the simulation were asked to assess how much they valued point-of-care documen-

tation and how comfortable they felt with various aspect of the technology both prior to and after the simulation event.

Overall, the feedback gleaned from the survey showed a positive response to simulation as a learning method. Eighty-two percent of the respondents reported that the simulation event was at least somewhat useful. In considering the value of simulation in driving system change, it is worthwhile to consider findings from learners relative to the defined leaning objectives. However, in doing so, it is important to recognize that the EHR was very new at the time of the simulation event. It was not expected that the simulation event would bring about complete comfort and confidence in using the new technology. Rather, the simulation would create an early opportunity for clinicians to observe and discuss the integration of technology into practice settings.

Objective 1: Identify potential benefits of point-of-care technology from the perspective of clients and families

After the simulation, the majority of respondents agreed that point-of-care technology is useful. Sixty-seven percent said they agreed with the statement "I can see how technology at the point-of-care could be useful in my work" before the simulation. After the simulation, agreement with this statement was at 72%. However, just 33% of the learners agreed that they could see how technology at the point-of-care allowed for higher quality documentation.

While 55% of the respondents agreed that they could see how technology at the point-of-care can positively impact client outcomes, comments from open-ended questions show that the simulation was effective in teaching strategies for appreciating the client and family perspective. Twenty-five percent of the comments about the benefits of the simulation event related to new learning around client communication – for instance, how to maintain a connection with the client while technology is in use.

I had a better understanding of the importance of explaining to a client/family how technology was being used and times where its use could be advantageous. I also had a better understanding that it's okay to put the technology 'away' in order to connect with the client. (learner comment)

Objective 2: Identify strategies to enhance the client/family encounter while point-of-care technology is being used

After the simulation, just over half (52%) of the respondents agreed that they used specific strategies to facilitate

communication and connection with clients and families while using technology at the point-of-care. However, in an open-ended question about the specific benefits or learning opportunities that stood out from the simulation, as mentioned above, one-in-four comments related to new learning around client communication:

Although I had already formed an idea about how it would fit in to my work, it was very helpful to watch the simulation with real people and it was interesting to see how having the computer could pose a barrier, and how to adjust one's behaviour and language in order to implement the technology more successfully. (learner comment)

These comments suggest that the simulation did play a role in conveying how point-of-care technology can be set up as a communication enabler and what to do when it poses a barrier.

Objective 3: Identify opportunities for the use of point-of-care technology within their practice

Following the simulation, fewer than half (43%) of the learners reported that they felt confident of the types of situations where they could input information into the EHR at the point-of-care. However, 57% reported that they felt confident accessing information in the EHR at the point-of-care and the same percentage reported confidence using an electronic tool for client/family education. These findings point to the recommendation for future simulations to put more emphasis on inputting skills and/or more experiential learning. Corroborating this finding, on the question of what further skills learners would like to develop through simulation, the most frequently cited skill was "documenting in session" (18%). Specifically, learners wanted to see more live examples of what documentation "looked like" in practice.

Some learners also felt that the simulation scenarios did not sufficiently demonstrate their own clinical context. On the question of what was needed to "enhance use of technology at the point-of-care," 20% of responses related to needing more support and guidance in using the EHR in a community setting.

Part 2: Feedback from Program Planners

In February 2013, a facilitated group discussion was held with the simulation planning team. Overall, the planning team viewed the simulation development and event as a positive learning experience. However, a number of themes emerged.

- Need for clarity: The experience of the simulation event underscored the importance of clearly stating the purpose of the simulation for learners. While some learners

understood the goals of the exercise, others expected the event to have more of a specific technological training focus. Those with an underdetermined sense of the purpose of the simulation were believed to be disappointed and less receptive to the learning opportunity.

- Create opportunities for technical and hands-on skill development: Planners saw an opportunity for future simulations to better balance technical skills practice with communication skills development. Planners suggested more direct experiential learning rather than limiting the simulation to observation and discussion. For example, it may be possible to invite learners to participate directly in the scenario.
- Need for responsible scenario scripting: In an effort to develop simulation scenarios that are entertaining and engaging for the audience, there is a risk that the “drama” in the script may distract learners from learning objectives. Planners emphasized the need to strike a balance between content (driven by the learning objectives) and dramatic tension (created by the interactions between actors) in the scenario script. As well, when using clinicians as actors in a simulation scenario, it is important to clarify to learners that the clinician is acting as a fictitious character – this will help avoid a situation where judgement of the competence of the clinician becomes the learner’s focus.
- Consider the audience composition: While learners benefitted from the range of perspectives shared during large group discussions, planners also stressed that it is important to make sure that scenarios appear directly relevant to a clinician’s practice experience, knowledge and skills. It is important for scenarios to be tailored such that individuals can easily map what they see onto their own clinical experience.

Moving Forward: Lessons Learned

Analysis of both learner and planner feedback on Holland Bloorview’s simulation event reveals important lessons for other organizations interested in exploring simulation as a tool to support organizational change. While the experience discussed in this article relates to a specific change – the rollout of an outpatient EHR and the shift to point-of-care documentation – the authors believe that the five key lessons outlined below will help guide organizations thinking about simulation for a variety of changes in healthcare settings.

1. Clearly communicate the learning objectives to the learners. If learners do not understand the learning objectives of the simulation, they will be unsure of where to put their focus. The opportunity for skills acquisition is not maximized unless learners know how to focus their observations and discussion.

2. Resources permitting, staging simulation events from smaller to larger groups. It may be beneficial to stage a series of simulations from small, specific groups to larger, heterogeneous groups. Small groups allow for customization of the simulation scenario to match familiarity of the practice context. A follow-up town-hall-style discussion with participation of clinicians from across practice settings could then offer additional learning.
3. Where possible, enhance learner participation. Create opportunities for learners to express their ideas, comments and concerns. Allow for active learner participation in problem-solving and, where possible, invite direct learner participation in the scenario.
4. For scenarios involving the EHR, show the record alongside modelling communication skills. One suggestion from the planning group was to design a “cooking show”-style simulation with a split focus. In this scenario, learners could watch something happen live in the interaction while also observing what is being inputted into a tablet on a larger projection screen.
5. Protect the reputation of clinician actors involved in simulation scenarios. If clinician actors are participating as a role, then it is very important to emphasize the fictitious nature of the role. Furthermore, it may be a good idea to provide pre and post support to staff actors who are concerned about their credibility or risk to their reputation.

Simulation can play a vital role in many aspects of organizational operations and development, including organizational change. It is the hope of the authors that Holland Bloorview’s experience will provide healthcare leaders with lessons to guide the planning and delivery of future simulation events for organizational change. **HQ**

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Accreditation and Resident Safety in Ontario Long-Term Care Homes

Shawna M. McDonald, Laura M. Wagner and Andrea Gruneir

Abstract

Objective: To determine if accreditation is associated with better resident safety processes and outcomes in 587 Ontario long-term care (LTC) homes. A second area of interest is whether LTC home characteristics influence pursuit of accreditation. **Findings:** Out of five safety areas examined, accreditation was only associated with a lower occurrence of falls. Three of four organizational characteristics examined (facility ownership, chain membership and location) were predictors of facility accreditation. **Implications:** To prevent inequalities in organizations' ability to pursue accreditation, policymakers may need to consider new initiatives that reduce barriers for LTC homes that lack sufficient resources.

Introduction

The primary objective of this study was to determine whether accreditation through Accreditation Canada is associated with more favourable resident safety in Ontario long-term care (LTC) homes. Patient safety is an integral component of the Accreditation Canada program, and the accreditor has had a particularly strong focus on safety in recent years (Accreditation Canada 2012a). As no previous studies have examined Accreditation Canada's impact on health outcomes or in LTC specifically, this study represents a novel contribution to the literature that can help inform and improve accreditation programs.

A second area of interest is whether the characteristics of an LTC home influence whether that organization pursues accreditation. Examination of these factors is important, as it could reveal disparities in LTC homes' desire or ability to pursue

accreditation. Indeed, literature reviews suggest that significant challenges to attaining accreditation may exist for organizations that could benefit most from the process (Mays 2004).

Out of five safety areas examined, accreditation was only associated with a lower occurrence of falls. Overall, three of four organizational characteristics examined (facility ownership, chain membership and location) were significant predictors of LTC home accreditation. For-profit facility ownership was predictive of accreditation, as was belonging to a chain and being located in an urban area.

Background

Ontario spends approximately \$3.4 billion annually on care for close to 80,000 LTC home residents, accounting for 7.5% of the provincial health budget (LTC Innovation Expert Panel 2012). LTC homes also represent the single largest category of institution undergoing accreditation through Accreditation Canada (Accreditation Canada 2010a). As an incentive to participate in the process, Ontario homes that acquire accreditation status are reimbursed at a higher rate (per bed day) by the provincial Ministry of Health and Long-Term Care (Ontario Ministry of Health 2007). There are presently 634 LTC homes operating in the province of Ontario. These facilities provide services to individuals who require high levels of assistance with personal care, 24-hour nursing care and supervision in a secure environment (Ontario Ministry of Health 2012). Services provided include restorative and palliative care, dementia care and behavioural supports.

Compared to acute care settings, safety risks are potentially

greater in LTC homes, where residents with impaired cognition and self-care abilities are less able to independently control their own safety (Institute of Medicine 2004; Handler et al. 2006). Among the primary barriers to success of quality and safety initiatives is the perceived lack of a consistent external force or driver for continuous improvement (Ferlie and Shortell 2001). This study assesses whether voluntary accreditation through Accreditation Canada may represent this needed stimulus for improvement.

Accreditation Canada sets specific patient safety goals that all accredited organizations are intended to meet. These goals include the cultivation of a culture of safety within organizations, improvement of the effectiveness and coordination of communication among providers and reducing the risk of healthcare-acquired infections (Accreditation Canada 2012a). As part of their strong focus on patient safety, Accreditation Canada has included a number of patient safety areas in its “Required Organizational Practices” (ROPs), where compliance with these ROPs is intended to have a direct impact on whether a facility is granted accreditation status. There are specific ROPs aimed at the prevention of falls, infections and pressure ulcers.

Resident Safety in LTC

Safety-related outcomes in LTC are generally those considered to be largely preventable through close monitoring of risk factors at critical points during care (Scott-Cawiezell and Vogelsmeier 2006; Wagner and Rust 2008). Five areas of care felt to be amenable to such risk reduction in LTC include: (1) falls, (2) physical restraints, (3) urinary catheters, (4) pressure ulcers and (5) infections.

Falls may lead to injuries, fractures or death and are the most frequent reason for emergency department visits in Ontario LTC home residents (Gruneir et al. 2010). Viewed as the result of multiple potentially modifiable risk factors, falls are an important measure of resident safety (Morse 2006; American Geriatrics Society 2011). Another frequent safety concern in LTC is the routine use of physical restraints. Although restraints have been used for many decades in LTC homes, it has been known for some time that these devices are associated with substantial risks, including death (RNAO 2012).

Infections represent an important safety indicator, as they are a major cause of illness and death in LTC (Castle 2000; Strausbaugh and Joseph 2000; Loeb et al. 2006). Medical care for infections in older adults can be fairly resource-intensive, with pneumonia and urinary tract infections representing the most frequent preventable reasons for LTC home resident visits to emergency departments in Ontario (Gruneir et al. 2010). Indwelling urinary catheters are the greatest risk factor for urinary tract infections in institutionalized older adults (Nicolle

2009; Jaggi and Sissodia 2012; Smith, et al. 2008); thus, institutional catheterization rates are reflective of resident safety practices.

Purpose

To make empirical resident safety comparisons between accredited and non-accredited LTC homes, this research operationalized resident safety as five Resident Assessment Instrument – Minimum Data Set (RAI-MDS)-based quality indicators (QIs). The objectives of this study were as follows:

1. To examine whether voluntary accreditation (through Accreditation Canada) is associated with more favourable resident safety in Ontario LTC homes, represented by five QIs: prevalence of falls, restraints, urinary catheters, pressure ulcers and infections.
2. To examine whether organizational characteristics of interest (facility ownership, chain membership, location and size) are predictors of LTC home accreditation in Ontario.

Methods

This study used a cross-sectional design with the LTC home as the unit of analysis. Ontario LTC home records for 587 homes from 2010 were examined. See Table A1 in the Appendix for a description of the characteristics of the study LTC homes (see this and all other tables at www.longwood.com/content/24214).

To examine whether accreditation was associated with superior resident safety, safety was operationalized as five RAI-MDS-based QIs (prevalence of falls, restraints, catheters, pressure ulcers and infections). For the study’s secondary objective, logistic regression was used to determine which organizational characteristics were predictive of accreditation.

Findings

Of the five patient safety areas examined, only one (falls) was significantly associated with accreditation. After adjusting for confounders, accredited homes were estimated to have fall rates that were 8% lower than in non-accredited homes (Relative Risk = 0.929; confidence interval [CI] = 0.88–0.99) (Table A2). There were statistically significant differences in organizational characteristics between the accredited and non-accredited group of LTC homes. Accredited LTC homes were more likely to be located in an urban area, to be owned by a for-profit corporation and to belong to a chain. The odds of accreditation were approximately six times smaller for municipal (odds ratio [OR] = 0.16; CI = 0.09–0.30) and non-profit (OR = 0.17; CI = 0.10–0.29) facilities relative to for-profits, three times greater for chains relative to non-chains (OR = 2.77; CI = 1.76–4.36).

and nearly twice as large for urban relative to rural facilities (OR = 1.72; CI = 1.03–2.86) (Table A3).

Discussion

Out of five safety areas examined, accreditation was only associated with a lower occurrence of falls. Three of the four organizational characteristics examined (ownership, chain membership and location) were significant predictors of accreditation. For-profit facility ownership was predictive of accreditation, as was belonging to a chain and being located in an urban area.

There was a statistically significant association between accreditation and lower fall prevalence, while results for the remaining four QIs (pressure ulcers, infections, restraints and catheters) were not statistically significant. These findings are consistent with Greenfield and Braithwaite's 2008 conclusion that accreditation was sometimes but not always associated with superior patient outcomes. However, in contrast, two more recent US studies, examining accreditation in the LTC setting specifically, noted more favourable relationships between facility accreditation and health outcomes (Kang et al. 2011; Wagner et al. 2012a, 2012b, 2012c, 2013). These inconsistencies in results between studies and the array of differences in accreditation programs between jurisdictions (Flodgren et al. 2011) suggest that accreditation is best studied in region-specific contexts.

LTC home accreditation may have had an effect on falls without affecting the other QIs examined because falls represent the most common, and among the most serious adverse event in LTC, often having deleterious consequences on resident functioning (Kannus et al. 2005; Stolee et al. 2009). Accreditation Canada standards advise organizations to prioritize areas for improvement based on which types of events have the highest frequency of occurrence and represent the highest degree of risk (Accreditation Canada 2012b) – thus fall prevention is likely to be considered a high priority in accredited LTC homes. Accreditation Canada standards for falls direct institutions to apply resident-specific fall reduction interventions (Accreditation Canada 2010b, 2011). Recently, Accreditation Canada, the Canadian Institute for Health Information (CIHI) and the Canadian Patient Safety Institute (2014) have teamed up to provide a more comprehensive picture on the impact of falls in LTC as well as strategies to prevent and reduce harm from falls.

Yet, the success of accreditation programs within each institution is likely dependent on the program's appropriate implementation and execution. An intervention that may be effective in itself may not produce results if it is poorly complied with or encounters obstacles in daily practice (Neyens et al. 2011). Tracking of infection rates over time is an important tool to inform a facility's infection prevention and control strategy (Jarvis 2003; Gill et al. 2011). Performance measurement and reporting is often necessary to motivate action in healthcare

institutions, where workers may see quality improvement as futile and a potential waste of resources (Dixon-Woods et al. 2011).

The absence of an observed relationship between accreditation and some of the safety areas examined may also warrant some consideration of the potential for refinement in accreditation standards. Although Accreditation Canada standards require that institutions enact policies governing restraint use, there is no explicit requirement that least restraint approaches be applied. Ontario's Long-Term Care Homes Act does encourage such approaches, however (Long-Term Care Homes Act 2007). Similarly, the Accreditation Canada standards for infection prevention and control are directed primarily at preventative activities for respiratory and food-borne infectious agents rather than prevention of urinary tract infections (which are among the most common types of infections in LTC homes).

The observed differences in organizational characteristics between the accredited and non-accredited group of homes suggest that accreditation may be less attainable for some types of institutions. Chain member homes were nearly three times more likely to attain accreditation than non-chains. The absence of any relationship between accreditation and facility size suggests that this effect was not necessarily mediated through increased economies of scale in chains. More likely, these results support the contention that chain networks facilitate the sharing of practices between institutions and promote conformity to industry norms (Pfeffer and Salancik 1978; DiMaggio and Powell 1983). Chain members may also have access to specialized expertise from the parent organization that makes achieving accreditation easier and less resource-intensive. Indeed, partnerships involving the sharing of staff and equipment have been previously noted in Ontario LTC organizations (Skinner and Rosenberg 2006).

With respect to LTC home location, urban homes were nearly two times more likely to be accredited than rural homes. These results are consistent with previous US studies on accreditation (Lutfiyya et al. 2009; Brasure et al. 2000; Kang et al. 2011). It has been noted that residents in rural communities are less likely to make use of private user-pay LTC services, and the fundraising base in rural communities is substantially smaller than in urban areas (Skinner and Rosenberg 2006). Many Ontario LTC homes rely on such funds as supplemental revenue sources (Hillmer 2008). Furthermore, as youth continue to migrate out of rural areas and immigrants remain attracted to large urban centres, rural communities struggle to retain licensed health professionals (CIHI 2002; Tepper et al. 2006; Caldwell and Temple 2010). As preparation for accreditation surveys is an intensive process that likely requires the involvement of staff with a high level of training or experience in accreditation, rural facilities that are unable to recruit such personnel may be less able to pursue accreditation.

Previous studies examining the LTC sector have established that the burden of paperwork associated with managerial innovations can shape institutional responses, where reactions are often based on an intervention's perceived "costliness" in terms of human or financial resources (Savishinsky 1991; Foner 1994; Hennessy et al. 1997; Grenade 2003). Homes that perceive their human resources as insufficient to comply with accreditation standards may thus choose to avoid accreditation. Indeed, some under-resourced institutions have reported that the accreditation process takes time and resources away from patient care and non-accreditation-related quality improvement (Lemieux-Charles et al. 2003). Given these considerations, the current Ontario policy of providing small financial incentives for accreditation (Ontario Ministry of Health 2007) may not, in the absence of other supports, permit all homes to pursue accreditation. Ontario could also make accreditation a more viable option for under-resourced LTC homes by reducing some redundancies between the accreditation standards and existing legislation. There is some potential for duplication between the Accreditation Canada standards and the Long-Term Care Homes Act, which includes some requirements similar to the ROPs (Long-Term Care Home Act 2007; Accreditation Canada 2011).

A major limitation of this study was the inability to control for facility participation in other quality improvement programs such as "Residents First" and "Safer Healthcare Now!" Such programs could have improved QI rates in non-accredited homes to the extent that there were no detectable differences between accredited and non-accredited facilities. Alternatively, the observed results for falls (attributed to accreditation) may have resulted from other fall prevention programs that accredited facilities were more apt to participate in. Accreditation Canada alone was the focus of this research, thus the impact of the Commission on Accreditation of Rehabilitation Facilities (CARF) was not assessed (CARF accreditation was controlled for as a potential confounder).

Conclusions

To prevent inequalities in organizations' capabilities of pursuing accreditation, policymakers may need to consider new initiatives that reduce barriers for facilities that lack sufficient resources. As environmental factors such as culture, incentives and regulations can greatly affect the success or failure of accreditation programs (Al Tehewy et al. 2009), future research should examine accreditation outcomes in other Canadian provinces and healthcare settings. Further research on accreditation can inform policy and facilitate the refinement of accreditation standards over time. **HQ**

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Implementation of an Advanced Access Scheduling System in Primary Healthcare: One Clinic's Experience

Jennifer Fournier, Amanda Rainville, Jason Ingram and Roberta Heale

Abstract

Advanced access scheduling is a system designed to allow patients to be seen same day or next day or in the future according to their preference. The scheduling system has been associated with patients being seen earlier in the course of illness and patients being hospitalized less often. The advanced access system focuses on timely access to primary healthcare, ideally within 48 hours. A group of Ontario primary healthcare nurse practitioners recently implemented the system at a newly established nurse practitioner-led clinic. The team's experiences with the implementation of the advanced access scheduling system are reviewed. The team's experiences are then compared and contrasted with what has been published on the scheduling system to date. The article approaches the subject matter from the perspectives of primary healthcare providers, clerical staff and administrators. Advanced access has become a timely subject in primary care, given the chronic shortages of service and funding constraints and the need for enhanced effectiveness.

Introduction

In this time of fiscal restraint and a simultaneous focus on quality, formalized processes that increase efficiency and improve patient experience and outcomes become the focus (Health Quality Ontario 2013). A key characteristic of a strong primary care system is access to care (World Health Organization 1978). Advanced access scheduling is one approach to primary care client management that addresses efficiency, experiences and outcomes (Health Quality Ontario 2013). In applying an

advanced access scheduling system, efforts targeted at reducing wait times for primary healthcare should be focused on enhancing efficiency while making better use of existing system resources (Heale 2011). Advanced access is one of the few recent primary care innovations that does not require a large financial commitment.

Primary care access has been identified as one of the preliminary success indicators for Ontario's Health Links and other funded models of care (Ontario Ministry of Health and Long-Term Care 2013). The account of our experience in the implementation of advanced access could serve to inform other organizations, including Health Links, about the benefits and challenges of using this system to reduce wait times.

Setting

The following is a review of the implementation of advanced access scheduling in a nurse practitioner-led clinic (NPLC) in northern Ontario. The primary healthcare providers at the NPLC are nurse practitioners (NPs). They work with an inter-professional team that includes registered nurses, registered practical nurses, a social worker, clerical staff and physicians who see patients on a part-time basis. The clinic opened in 2011 and advanced access scheduling was implemented from the outset. Staff had experience with other forms of scheduling in their past practices, so there was a period of adjustment for everyone. This review will explore the experience of the members of the interprofessional primary healthcare team with advanced access scheduling and will offer a comparison to what is currently known about the benefits and pitfalls of this form of scheduling.

What Is Advanced Access?

Advanced access is a patient appointment scheduling system that allows patients to book an appointment the day they call or the next day routinely (Hudec et al. 2010). Practices monitor the demand for patient appointments and make efforts to ensure that appointment supply meets demand (Murray and Tantau 1999). When patients call for an appointment, they are initially offered an appointment “today” or “tomorrow.” While appointments are usually offered the same day, patients always have the option to book into the future if this meets their needs (Murray and Tantau 1999).

While some practices leave a small quantity of appointments daily for people with minor illnesses or urgent needs, in an advanced access system, patients can book a same-day appointment for any reason (Brodeneimer 2003). This system can accommodate those with restrictive working arrangements, transportation challenges and other factors that might impede them from accessing regular primary healthcare. Advanced access scheduling has been endorsed by the College of Physicians of Canada and the Institute for Healthcare Improvement (Cameron et al. 2010).

Why did We Choose Advanced Access?

One of the greatest benefits of the advanced access system is its ability to accommodate patients with urgent healthcare needs (Green et al. 2007). Patients can be seen earlier in the course of illness, oftentimes preventing the need for emergency department services or hospitalization (Knight et al. 2005). Patients who would otherwise visit a walk-in clinic for a minor illness are likely to seek care with their regular provider where advanced access is offered (Hudec et al. 2010). This enhances continuity of care and improves client safety by ensuring all client information is available to the treating provider. Furthermore, the advanced access scheduling system has been associated with increased provider satisfaction (Aiello 2005; Bundy et al. 2005).

Primary Healthcare Providers and Advanced Access

Use of the advanced access system is associated with increased morale among professionals (Knight et al. 2005). This may be related to the prevention of backlog of appointments, and the resulting increase in patient satisfaction. The NPs at our clinic have found that completing today's work today has benefitted them in terms of decreased pressure related to the continuing build up of forms and paperwork.

Consistent with the findings of Aiello (2005) and Murray (2005), our clinic NPs associated advanced access with enhanced quality of documentation, given work is done closer to the time patient assessment or service is provided. Finishing today's work today has also facilitated enhanced patient safety where part-time workers are concerned. For example, we have

had part-time NPs and MDs in our facility. Where other team members have done follow-ups in their absence, records have been available as a guide and basis for reassessment. Thus, both the efficiency and quality of documentation can be improved by applying the principles of advanced access. Enhanced patient safety is a related benefit.

With advanced access our team has noted fewer missed patient appointments than with scheduling models. While patient no shows decrease the volume of services rendered, some providers welcome this time to complete other tasks, return phone calls, etc. Otherwise, the bulk of such activities are addressed during regularly scheduled daily administrative time.

While there are fewer missed appointments, the NPs have noted that some of the same-day booked appointments are for illnesses that are self-limiting and some patients present after the minor issue has resolved, given the ease with which appointments can be obtained. This easy access combined with the fact that the clients live close to the facility can lead to a mismatch between supply and demand of available appointments, similar to those described by Ahluwalia and Offredy (2005). Our experience has suggested that the volume of same-day episodic visits could be related to the distance patients must travel to seek care.

Advanced access may provide healthcare providers with increased control over their workday (Knight et al. 2005). NPs at our NPLC identify that this is especially true where a provider requires a day off on short notice. Because appointments are not booked far into the future, short notice absences can be arranged with minimal rescheduling. Furthermore, in instances where a primary care provider must be off due to illness or other unforeseen circumstances, there is no need to reschedule a large volume of appointments. This enhances client safety. Rescheduling a full clinician schedule without details about the acuity of patients and other details can be challenging and lead to errors affecting client safety and care. Advanced access allows individual providers to determine when they will perform administrative duties. Some prefer to start the day, while others wish to have small segments of charting and paperwork time throughout the day. Advanced access allows for consistent volumes of available appointments while allowing for individual provider preferences.

Clerical Staff and Advanced Access

The experiences of our clerical staff generally support what has already been written about the benefits of advanced access. These include reduced confrontation with clients, an improved sense of control over the work day and greater job satisfaction (Ahluwalia and Offredy 2005). In addition, our clerical staff report an enhanced sense of efficacy related to being able to meet clients' needs for appointments more readily than they would in other systems.

While it has not been mentioned in the literature, our clerical staff have noted that the volume of phone calls is quite high in the morning mostly owing to requests to be seen same day or next day for episodic health concerns. In knowing this, secretarial staff are able to plan their work time effectively, leaving more complex tasks for the afternoon, when call volume is at a minimum. Our clerical staff report that this predictability has supported productivity in other areas of their role.

Research has suggested that the advanced access system decreases the need for clerical staff to triage clinical cases as calls are received (Ahluwalia and Offredy 2005). While our clerical staff agree that triage occurs infrequently, they have been required to seek the opinion of clinical team members in situations where appointment supply could not meet demand and calls for urgent sounding conditions continued to come in. The risk of liability related to error is reduced when patients can be seen by a professional to determine the nature and severity of their illness rather than having clerical staff attempt to determine urgency over the phone. Thus, the match between appointment supply and demand is an essential function of the system.

While our clerical staff have a decreased need to explain delays in securing appointments, when they are required to do this, it is sometimes met with greater resistance and questioning from clients. It seems that accommodating requests for appointments on the same day most of the time has led to clients expecting this level of service. On the rare occasion that appointment supply does not meet demand, clients can become quite angry and insistent about being seen expediently. While the system works well most of the time, on occasions where supply and demand must be adjusted, clerical staff bear the burden of unmet client expectations.

Nursing Staff and Advanced Access

Hudec et al. (2010) identified that family practice nurses found advanced access to be of benefit, as it shifted the time from booking appointments and telephone calls to spending more time providing direct nursing care. In the early months of implementation at our clinic, phone calls were frequently directed to nursing for triage. This occurred in part due to clerical staff's past experiences where urgent sounding calls were triaged for acuity and booking. Over time it was reinforced that this would not be part of our routine and that if appointment supply was becoming insufficient, steps would be taken to increase same-day appointment supply rather than engaging in telephone triage.

However, we came to understand that there were a few types of phone calls that should be deferred during initial contact in light of their urgent nature. These included things like sending patients with chest pain to the local emergency department rather than being seen later in the day. Patients with concerns related to bleeding are also automatically deferred. In addition,

patients calling with acute psychiatric-type complaints are also automatically deferred to 24-hour crisis services in our area. Thus, using an advanced access system has markedly decreased triage required of both nursing and clerical staff. However, it is not possible to completely remove this action from any office scheduling system. Therefore, practices planning to implement an advanced access system should provide some training to clerical staff about the types of chief complaints warranting more expedient assessment than this system is able to provide.

Working in an advanced access system in an interdisciplinary team requires some coordination of the client journey within the facility. Nursing staff take histories, prepare patients for physical examinations and perform other routine duties. However, alongside these rather predictable duties, nursing staff are often called upon to do additional treatments, immunizations, etc., for patients presenting on short notice in same-day bookings. This unpredictable demand for their services has led to increased job stress and less control over the working day. To address this issue, staffing patterns may need to be adjusted. Administrators introducing this system into their facilities should be mindful to maintain open dialogue with staff and to consider increased staffing if it is required to maintain the key principles of the advanced access system.

Patient Response to Advanced Access

This project started using the advanced access system immediately upon opening. While the concept and processes were explained to patients at initial visits, many were surprised when they were actually able to secure an appointment fairly quickly. Some expected as the clinic became busier that appointment access would become more challenging and were surprised to discover this wasn't the case. In addition, some were insistent on booking appointments ahead into the future, in case we "ran out." It took a considerable amount of time for clinic patients to accept that appointments could be secured rather quickly at any time. A quality assurance survey done to assess client access to same-day or next-day appointments identified clients were able to secure a same-day or next-day appointment more than 85% of the time (Capreol NPLC Satisfaction Survey 2013). Our NPs and clerical staff have indicated they regularly receive positive feedback from clinic clients who are able to secure appointments rather quickly.

Operational Experiences with Advanced Access

Although advanced access benefits clients by allowing them to be seen the same day or next day, there is the potential for the approach to have a negative impact on basic practice statistics, depending which metrics are applied. Where there is a perfect match between appointment supply and demand, all of the day's appointments are used and statistically, provider availability is saturated. However, on days where demand does not meet

supply, the number of patient visits logged will not equal the facility's capacity for delivering service. In assessing this feature, one must determine whether accessibility or efficiency is the focus. Having the occasional appointment left unused indicates that all those wanting service have been seen. However, in using another lens, one could then determine that unused appointments indicate that clinical service volumes are not maximized.

When hiring employees to work in the advanced access system, administrators must assess flexibility, especially in the case of regulated health providers such as NPs and nurses. The advanced access system will sometimes lead to patients being seen by a provider other than their assigned NP. Our application of the system favoured access over continuity (though both are understood to be important). Therefore, patients could be booked in the next available appointment, especially if presenting for an episodic complaint. All team providers must be willing to accept that they will be called upon to see patients with whom they are unfamiliar. Some clinicians will find this to be challenging, given the need to review the history and to engage in more questioning and clarification during the client encounter.

In opening a new clinical site, administrators must be mindful of the rate at which new clients are enrolled. If too many acute- or high-needs clients are enrolled at once, the system may not be able to keep up with their needs for service. We experienced this where more than half of the clients we took in the early years were over the age of 70 (Capreol Client Satisfaction Survey) and more than 15% were admitted to hospital in the year the survey was taken. These kinds of populations can be expected to make more frequent follow-up visits, and a large influx at once may impede a facility's ability to keep up with demand. While not always possible, a paced enrolment of a mixed client population would be optimal for maintaining a good standard of access at any appointment-based healthcare facility.

Many good reasons for using the advanced access system have been identified in terms of benefits to our own organization and clients; however, advanced access should also be recognized for its ability to save money for healthcare systems. Any primary healthcare approach that is successful at intervening early in chronic destabilization and minor emergencies is likely to prevent the need for services in other venues such as walk-in clinics, the emergency department and even inpatient units. Furthermore, our team has identified a greater sense of partnership among providers and patients where patients are more satisfied with service and providers are able to intervene in a timely fashion, thus improving outcomes.

In Conclusion

This discussion has explored the implementation of an advanced access scheduling system in one primary healthcare NP practice.

Most of the published benefits of advanced access were realized at our facility. For example, NPs have a fair amount of control over their work day, and patients are satisfied with being seen sooner in the course of illness. Broader system benefits have included less emergency department and walk-in clinic visits and enhanced client safety in terms of good record-keeping. However, clinical teams must be prepared for some additional challenges that have not been explored to date in the literature. These include such things as unmet client expectations when appointment supply does not meet demand, the continued occasional need to triage calls and associated skill building, as well as the flexibility required of all team members involved in the implementation and operational processes associated with the advanced access scheduling system. Overall, our experience has been positive and we will continue to reflect on ways the system contributes to organization, client and system outcomes as a whole. **HQ**

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The Canadian Institute for Health Information (CIHI) has taken a lead role in developing and implementing case mix methodologies.

- These group patients together in statistically and clinically meaningful ways based on clinical and administrative data, together with financial data.
- They assign a measure of cost to each category.
 - > This may be the average cost of an episode within the given case mix group; however it is more common for case mix systems to represent cost using a relative cost weight.
- In cases like this, the average cost of all episodes across all case mix groups is set as the anchor point, and the cost weight for each episode is set relative to that anchor point.

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- Each case mix category has a predetermined ABF payment price.
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 - > Hospitals are paid more if their patients required more care and less if they required less care.

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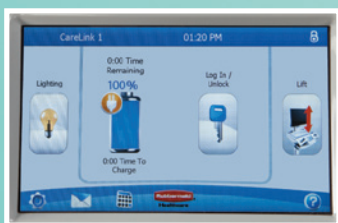
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