Transforming Cancer Services in Ontario: A Work in Progress

COMMENTARY

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ABSTRACT

Cancer Care Ontario (CCO) is the largest provincial cancer agency in Canada, with a long and rich history as a specialized service entity within a generic delivery system in Ontario. CCO's evolution has been well characterized by Hayter (1998), and described by us previously (Sullivan et al. 2003, 2004). Once criticized as a very inward-looking body with a mixed record in solving a series of radiation waiting-time crises, CCO has reinvented itself over the past three years in ways that are very similar to the transformation of the Veterans Health Administration.

A FUNDAMENTAL POLICY SHIFT changed Cancer Care Ontario from an organization operating largely as a manager of traditional cancer services within the confines of regional cancer centres to one driving quality, accountability and innovation throughout the cancer system. This was achieved through significant structural and organizational change, new models of resource allocation, explicit measurement reporting and accountability systems and development of a province-wide information strategy designed to support the needs of clinicians, administrators and policymakers. In the past two years we think it fair to say that there have been strides in cancer system planning, clinical practice guidelines, use of indicators and pay for performance strategies to drive improvements in quality. Although there are important differences in size and scope between the VHA and the CCO, the similarities in approach are striking.

In 2001, CCO as an agency of Ontario was in trouble. Public confidence had eroded as a result of serious concerns about access to radiotherapy and the public failure of re-referring patients to US border states for treatment. In response to this crisis, then Minister of Health and Long-Term Care Tony Clement commissioned an independent review of cancer services in Ontario. The review, led by Alan Hudson (2001), outlined problems related to quality, integration and ownership, and recommended a fundamental restructuring of cancer services in Ontario to better integrate radiotherapy provided by the regional cancer centres into a set of host hospital institutions. Prior to the review, CCO had largely focused on operating 11 regional cancer centres, providing outpatient cancer treatment; over half of cancer patients and most cancer surgery, 60% of systemic therapy and 25% of radiotherapy fell outside the core business of CCO. To remedy this situation, the review recommended the integration of the regional cancer centres with their host hospitals, creating Integrated Cancer Programs (ICPs) offering a more comprehensive set of cancer services, including surgical services formerly almost entirely outside of CCO's ambit, and a regional umbrella for cancer.

As a response to the review – albeit not a direct recommendation in it – CCO moved from a role as cancer service provider to one as purchaser of major components of the cancer system, acting as a champion of quality and performance while confirming its long-stated role of chief advisor to the Ministry on cancer matters.

Integration of Cancer Centres and Host Hospitals

The restructuring of the relationship between CCO and 11 regional cancer centres across the province was an important first step in the redesign of the cancer system. Beginning in 2002, the 11 host hospital CEOs came together as a group with Cancer Care Ontario to improve the delivery of cancer services in Ontario. From the start, the creation of ICPs was positioned as a joint initiative of CCO and the regional cancer centre host hospitals. Building on recommendations from the independent review and a collective desire to foster improved continuity and quality of care, the ICPs brought together hospital-based inpatient activity, regional cancer programs, and the regionally based Ontario Breast Screening Program activities under a single regional cancer leader-

ship. Regional vice-presidents (RVPs) for cancer services were appointed with accountability to both CCO and the host hospital for integrated care in the hospital and for the evolution of regional cancer services. The integration of these previously disparate pieces of the cancer experience and the devolution of responsibility for managing a full range of cancer services were mandated through a new contractual relationship between CCO and the regional ICP hospitals for service volumes and quality. These structural and organizational changes were a first step toward a broader system change agenda, a change designed to build regional cancer programs extending beyond the ICPs to the regional population. From January of 2004 with the transfer of employment arrangements, the legacy of cancer services was irrevocably changed. No longer was holding on to employment structure for a narrow slide of the cancer system more important than trying to improve a broader range of services.

The process of negotiating and managing this large integration of cancer services, the transferring of staff and assets, and the creation of new accountability systems was sketched out in a paper by Leslee Thompson and Murray Martin (Thompson and Martin 2004). This large voluntary integration of cancer services and host hospitals for cancer centres occurred in a one-year period, and in January 2004 all employees in regional cancer centres formally employed by CCO became employees of the host hospitals. CCO and the ICPs now worked within a comprehensive agreement outlining joint accountability for quality improvement in which annual performance requirements were set jointly for volume, cost and quality.

During this same period of time, arising from the recommendations of the independent review, the Cancer Quality Council of Ontario was struck with a mandate to monitor, assess and improve cancer system performance. The Council, chaired by Michael Decter, operates largely as an expert body, with a range of leaders in cancer services as members. It began to work in earnest in the fall of 2002 during the run-up to the integration of the regional cancer centres into their host hospitals. In its first year, the Council commissioned an initial evaluation of quality issues and cancer services (Sullivan et al. 2003) and launched an annual signature event focused on particular areas of improvement in cancer service quality.

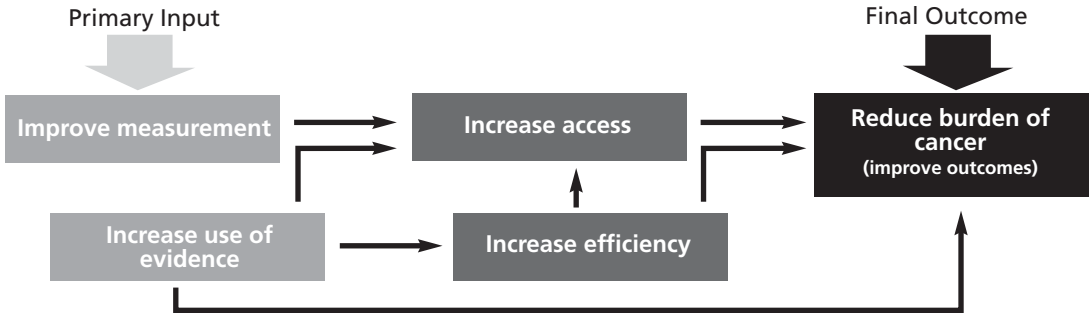
Indicators and Goals

In its first year, the Council launched a process to identify key indicators of system performance. In the fall of 2003, Cancer Care Ontario began what has become an annual retreat of cancer administrators, leading clinicians and planners across the province. A critical output from this retreat was the endorsement of an initial list of indicators linked to broad goals for the cancer system, which had been in preparation over the previous year (see *Figure 1*, which represents a simple strategy map of goals for the cancer system).

This entire process of indicator development is well documented (Greenberg et al. 2005) – and worthy of review, because it has become a model for other processes now in motion in Ontario and elsewhere.

In this same period of time, we engaged Ken Kizer as a consultant to the Cancer Quality Council of Ontario. He met with CCO executives and members of

Figure 1. Cancer System Goals



the Cancer Quality Council and provided a number of important suggestions to guide the transformation of the cancer system in Ontario. His first exhortation was to ensure that clear goals be established for the cancer system transformation, and that a range of indicators be linked to those goals to track progress. Second, he suggested looking carefully at the leaders across the cancer system to ensure their objectives were aligned with those of the reform. Third, he counselled the introduction of a set of prospective evaluation studies to document and characterize the change process as it unfolded, to ensure it was meeting objectives. Fourth, he suggested developing a clear accountability process for the transformation and a strong organizational focus on quality and accountability. We have followed all of this advice carefully, and we now hold two multiyear research grants supporting the prospective evaluation of this large system change, and indicators of change associated with these overall goals of the system sketched in Figure 1.

Evolution of a Provincial Cancer Control Plan

As all the logistics associated with integration were being finalized for implementation on January 1, 2004, CCO also launched a platform for its new system-wide leadership role. At the request of the Ministry of Health and Long-Term Care, CCO was asked to develop Ontario's first provincial cancer plan and to identify what resources would be required to address regional and provincial priorities. The provincial cancer plan became the catalyst for bringing together players from all parts of the cancer system (from prevention to palliation) at the regional level to address broader cancer system goals.

A subset of the indicators approved at the Fall 2003 retreat was provided to CCO's regional vice-presidents as input into the Ontario Cancer Plan. Throughout the spring and summer of 2004, each RVP led a regional planning process in each of CCO's 11 planning regions. A parallel planning activity within the provincial agency was also completed at the same time. The entire planning process, involving more than 3,000 stakeholders, took less than 12 months to complete. The outcomes of two processes were integrated in late summer, culminating in a provincial-scale summit on the Ontario Provincial Cancer Plan. Ken Kizer

attended as one of several international reviewers of this cancer plan, once again providing important counsel and advice to the evolution of the transformation. The Ontario Cancer Plan was subsequently finalized and released in November of 2004 in the presence of the Minister of Health and Long-Term Care, George Smitherman. The Plan identified six thematic priorities for the cancer system evolution over the next three years and 24 action plans and initiatives. Progress against each of the OCP priorities and action plans will be monitored and reported regularly (www.cancercare.on.ca/index_ontarioCancerplan.htm).

Alignment of CCO Quality and Funding Incentives with Wait-Time Reductions

CCO has implemented a new pay-for-performance model of accountability for cancer services. Starting first with the ICPs, CCO provides a set amount of funding in exchange for volumes, data and quality. Like all effective contracts in the health sector, the relationship between the parties is as much a partnership as a contract. CCO is on the hook for its part in helping to improve quality of cancer services and for providing provincial leadership in way that enables each of the ICPs to optimize their own performance. Our view is that by working together, we will be in much better position to yield real and sustainable improvements in quality, and transfer learnings from one part of the province to another.

As the Ontario Cancer Plan was being finalized, there emerged an unprecedented consensus from the September 2004 Meeting of all First Ministers and Health Ministers in Canada about the need to reduce wait time for key health services including cancer services, backed by a set of financial commitments to support the desired reductions. CCO is a key partner in this endeavour with the Government of Ontario, and the former head of the independent review and then head of CCO, Alan Hudson, is leading the overall provincial wait-time strategy in Ontario. In December 2004, at the request of the Ministry of Health and Long-Term Care, CCO initiated an expansion of cancer surgery in 25 hospitals across Ontario and is commissioning additional surgical volumes in 37 hospitals for cancer patients in 2005. Both efforts are intended to reduce wait times for surgery. In addition, CCO with the support of the Government of Ontario invested in additional radiotherapy capacity to reduce wait times. We extended the ICP model to the provincial wait-times strategy. CCO now has contracts for additional cancer surgery volumes with 37 hospitals, allowing us to penetrate previously uncharted territory for CCO. By requiring participating hospitals to improve stage capture, enhance the quality of their pathology reporting and participate in specific quality initiatives such as multidisciplinary tumour boards, we are working with willing partners to raise the standard of cancer care one hospital at a time.

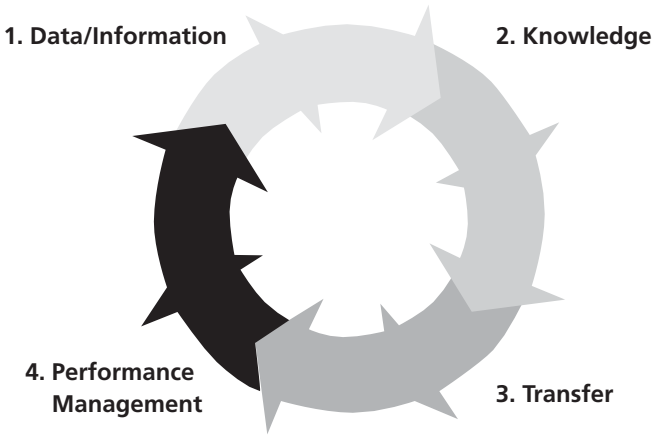
Clinical Accountability Culture

The culture of CCO has now changed from that of a provincially based organization with satellite clinics to one of a well-integrated provincial organization working to build a cycle of quality reporting and accountability between clinical leaders within the cancer system and between

CCO, the RVPs and regional cancer programs across Ontario. Drawing on the British experience in developing a model of clinical governance (Degeling et al. 2004), a new culture of clinical accountability is being fostered.

In April 2005, following the initial work associated with the indicator development, CCO, in conjunction with the Cancer Quality Council, released a Cancer System Quality Index made up of 25 measures of cancer system quality organized by the five system goals referred to earlier. This index (www.cancercare.on.ca/qualityindex) presents a starting point for an orderly cycle of performance measurement and management. The information will be used provincially and regionally to drive priority setting and business planning. While Ontario's cancer system is generally performing well, and in some cases is a leader, several of the indicators highlight modifiable regional variations in quality. For example, uptake of high-quality clinical guidelines varies importantly by region. Regions are able to assess their performance against the provincial average and those of other regions and are currently sharing this information with local stakeholders to develop priorities to improve quality in their regional cancer system. This completes the transformation cycle shown in *Figure 2*, illustrating how data production, knowledge development, knowledge transfer and performance management are linked in a quality improvement cycle. The cancer system in Ontario is at the beginning of a continuous cycle of improvement and public reporting on improvements.

Figure 2. From Data to Performance Management



Linking Planning, Quality and Performance

In this fashion, Ontario's cancer system has moved from a focus on the direct provision of some care to some patients to a focus on reporting comprehensively on the quality of care for all patients in Ontario, tied to the communities of practice closer to the point of care, region by region within Ontario. Organizationally, CCO has focused on leadership culture and a clinical quality culture in the transformation of the Ontario cancer system. The use of organizational and service contracts mirrors very clearly the kind of national performance contract described in the lead paper by Perlin and colleagues. The valued domains characterized in the VA system represent an important parallel to the overall five strategic goals of the provincial cancer system. CCO and the provincial cancer system are now well into the journey of moving firmly into a knowledge and performance-driven organization with accelerated use of electronic data in this process.

Information Management Investments to Support the Transformation

As the transformation of the cancer system was being contemplated, system leaders recognized the critical role information technology and information management could and should play in improving continuity and quality of care, rational service distribution and understanding of the performance of all players in the system. The organization, with its clinical, administrative, research and academic partners, embarked upon an ambitious multiyear information management strategy starting in 2003. Since that time, significant gains have been made to improve the scope, timeliness and quality of data; the provision of resources (technical and human) to improve the impact of the information by ensuring it is useful, available and understandable to multiple audiences involved in improving the cancer system (public, clinicians, administrators, planners, funders); and the development and implementation of clinical tools to support evidenced-based decision-making at the point of care.

In addition to the production of the first cancer system quality index (see above), two highlights of this information management strategy are worthy of note.

First, CCO has developed and implemented its own version of an industry-leading tool called Computerized Physician Order Entry (CPOE) that is currently implemented in eight ICPs and is in the process of being implemented at three other hospitals – including Princess Margaret Hospital in Toronto. Use of CPOE by physicians has been shown to significantly improve quality of care by reducing medical error and infusing adherence to best practice into the provision of care at the point of proscription (Tamblyn et al. 2003). However, CPOE tools have been notoriously difficult to implement, and have generally a history of very poor physician adoption, a challenge for our national health information strategy. CCO's product – OPIS – has had a 95% physician adoption rate, nearly unheard of in the health informatics world. It is expected that implementing this set of tools in most hospitals in Ontario will significantly improve the quality of systemic therapy in the province.

Second, Ontario has become the first large-scale jurisdictional cancer registry in North America to introduce electronic pathology reporting in real time directly from hospital information systems to the central Cancer Registry, which is CCO's cornerstone database for cancer incidence, mortality and service provision. Pathology reports are the starting point for most patients' cancer journey, and central to all future computation and analyses related to cancer encounters.

Prior to introduction of the Pathology Information Management System (PIMS), like most other North American registries, CCO collected in excess of 100,000 paper reports on cancer pathology across Ontario – much of which was at least six months old (or longer). In addition, it is estimated that there was a significant loss of relevant information as hospital sources applied varying rules prior to sending to CCO. Now, nearly 90% of this material is transmitted to CCO electronically in near–real time. This ensures availability of much more timely and accurate analysis of Ontario's cancer system and Ontarians' cancer experience. Like the VA, the "new" CCO considers information technology

Table 1. Overview of Ontario's Cancer System Performance

Access	Doing Well	Needs Improvement	Data in Development
Colorectal cancer screening (FOBT)		•	
Breast cancer screening		•	
(mammography) participation			
Breast cancer assessment waiting times		•	
Waiting times for cancer surgery		•	
Waiting times for chemotherapy		•	
Use of radiation therapy in Ontario		•	
Waiting times for radiation therapy		•	
Patterns of end-of-life care		•	
Hospital resources used during			•
each phase of cancer care			
Length of hospital stay for cancer surgery			
Evidence			
Use of clinical practice guidelines	•		
Use of best-practice technology for		•	
prescribing cancer drugs			
Cancer patient participation in			•
clinical trials			
Outcomes			
Obesity rates		•	
Smoking rates		•	
Deaths following cancer surgery		•	
Patient satisfaction with	•		
outpatient cancer care			
Patient satisfaction with	•		
pain management			
Newly diagnosed cancers		•	
Surviving cancer		•	
Deaths from cancer		•	
Measurement			
Province-wide cancer data		•	
available at CCO			
Electronic pathology reporting	•		
Completeness of pathology reporting		•	
Tracking of cancer stage at diagnosis		•	

and management to be a critical component of its transformation strategy, and has committed significant resources to invest further in these tools.

Lessons from the VA and CCO

Ontario's reform of the cancer service system has been driven in a fashion parallel to the VA experience, with quality and clear organizational goals in mind. The VA is certainly a more complex, multi-site organization with extensive federal and state engagement on the organization of efforts. CCO is a smaller-scale, provincial operating agency with extensive provincial and regional engagement and a provincially appointed board.

The new CCO has made great strides in a short period of time; however, there is still much to do. We have begun to use a range of system-level and clinical indicators for improvements and public reporting on quality of care, and we have taken steps in the application of key dimensions of quality in master contracts with major hospitals and other service providers across Ontario. In the release of our first Cancer Quality Index Report in Ontario, we have set the stage for future marking of progress against this base. We begin from strength in a small number of areas, including use of guidelines, electronic pathology reporting and improved survival, but there remain a number of key areas for improvement.

Table 1 summarizes our first assessment of our performance in Ontario on these 25 specific cancer service quality indicators. We have embedded these indicators in this year's planning and performance management cycle to drive priorities and to produce visible evidence that the objectives of CCO and its partners are being achieved. We are committed to the task of driving quality accountability and innovation in Ontario's cancer system, and we believe we are well on our way. We have been helped enormously by the example of the VA experience, which shows that it can be done and done well.

References

Degeling, P.J., S. Maxwell, R. Iedema and D.J. Hunter. 2004. "Making Clinical Governance Work." *British Medical Journal* 329: 679–681.

Greenberg, A., H. Angus, T. Sullivan and A.D. Brown. 2005. "Development of a Set of Strategy-Based System-Level Cancer Care Performance Indicators in Ontario, Canada." *International Journal for Quality in Health Care* 17: 107–114. Retrieved May 10, 2005. <www.cancercare.on.ca/index_ontarioCancerplan.htm>.

Hayter, C.R.R. 1998. "Historical Origins of Current Problems in Cancer Control." *Canadian Medical Association Journal* 158 (June 30): 1735–1740.

Hudson, A. 2001. "Report of the Cancer Services Implementation Committee." December. Retrieved May 10, 2005. <www.health.gov.on.ca/english/public/pub/ministry_reports/hudson/hudson.pdf>.

Sullivan, T., M. Dobrow, L. Thompson and A. Hudson. 2004. "Reconstructing Cancer Services in Ontario." *HealthcarePapers* 5: 69–80.

Sullivan, T., W. Evans, H. Angus and A. Hudson. (Eds.) 2003. *Strengthening the Quality of Cancer Services in Ontario* (Ottawa: CHA Press).

Tamblyn, R., A. Huang, R. Perreault, A. Jacques, D. Roy, J. Hanley, P. McLeod and R. Laprise. 2003. "The Medical Office of the 21st Century (MOXXI): Effectiveness of Computerized Decision-Making Support in Reducing Inappropriate Prescribing in Primary Care." *Canadian Medical Association Journal* 169: 549–556.

Thompson, L., and M. Martin. 2004. "Integration of Cancer Services in Ontario: The Story of Getting it Done." *Healthcare Quarterly* 7: 42–48.