OMA Principles and Recommendations: Models and Processes of Delivery for Specialty Care

October 2011
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Introduction

The project is designed to examine models of delivery for specialty care that will inform the OMA and provide a base of information about options for patients and specialty care that can be used as a resource in discussions with government. It is desirable to have delivery models that contribute to a quality system that is patient-centred, cost-effective, and beneficial for physicians.

To this end, alternatives to the solo practitioner model of delivery for specialists and their manner of compensation are examined and proposed. Such alternative models of delivery will involve contractual arrangements among physicians or professional medical corporations or practice plans, the OMA, the Ministry of Health and Long Term Care and, for some physicians, governance organizations such as hospitals or universities and organizations such as Cancer Care Ontario. In this document, specialists refer to physicians who are not in general/family practice, although it is acknowledged that general/family practice is a specialized area of medicine.

The goals are:

- to improve the coordination of specialty care to patients;
- to improve information exchange between specialists and general/family practitioners;
- to improve the quality of the specialist physician’s work experience;
- to improve the quality of patient care by specialists;
- to increase patient access to specialty care; and
- to increase the efficiency and cost-effectiveness of the system.

The paper is the result of a combination of research, information gathering and input from physicians and stakeholders. A reference panel of specialist physicians, the OMA Reference Panel on Models and Processes of Delivery for Specialty Care, was involved early in the process. Subsequently, there has been consultation with OMA Sections, physician groups, individual physicians, and other healthcare stakeholders.

At the outset, the project was designed to focus on models of delivery with processes of delivery as a peripheral concept. It became evident that processes play a large role in the delivery of care and that transformation of processes of delivery can have an important impact on delivery, particularly the processes that occur between specialists and general/family practitioners.

The paper is organized in five main sections: a set of principles, models of delivery, processes of delivery, physician payment mechanisms, and a set of recommendations about models and processes of delivery and their funding. The paper includes brief summaries of the models and processes considered and it highlights their unique aspects. For more detailed information about the models and processes, the reader is referred to the background paper, OMA Background Paper: Models and Processes of Delivery for Specialty Care\(^a\) which is available on the OMA web site.

**Principles**

1. Physicians should have choice about their model of delivery.
2. Physicians working in innovative models of delivery will be supported.
3. The best available evidence will be used to support our proposed models and best practices with a focus on patient outcomes.
4. To ensure that physicians are involved in managing the healthcare system and planning for the future, the OMA will collaborate with the Ministry of Health and Long Term Care and other health care system stakeholders.
5. Appropriate resources should be available to support all physicians who wish to work with other health professionals, regardless of their remuneration method.
6. To reduce the potential burden on physicians, the OMA will strive for new models and processes that are administratively simple.
7. Quality of care for the patient is a priority; system resources should be designed to meet quality patient care.
8. The lead in interprofessional teams should be taken by the person who assumes ongoing responsibility for the team and who is, for patient care, the most responsible healthcare provider. This would include maintaining the patient record. This will often, but not necessarily, be the physician.
9. Physicians should be compensated for their leadership and the indirect services they provide in interprofessional team settings.

**Models of Delivery**

A variety of models of delivery have been examined, from quite specific models intended for either a particular condition or a special population to those that provide the total continuum of care for the patient. The Collaborative and Interdisciplinary Team Models section describes selected models that use collaborative specialist teams and interdisciplinary teams led by specialists, including Ontario examples. The Specialty Clinics and Specialty Hospitals are designed for patients with particular conditions or for specific patient populations. Examples with differing features are described as well as the evidence of their effect on patient outcomes. The Comprehensive Integrated Systems section describes healthcare systems with a holistic, integrated approach to health care; they include care by both specialists and general/family practitioners across the healthcare spectrum. The final section, Physician Payment Mechanisms provides examples of delivery models that include specialists that are funded as alternative payment plans in Ontario, describes some American payment models, and discusses means of alleviating physician risk in capitated models.

The goals are addressed by different models. Models of delivery that include interdisciplinary care have the potential to improve coordination of specialty care, increase patient access, and improve system efficiency. Specialty clinics could improve access by reducing the demand on hospital operating room time and increasing patient options. They could increase efficiency and cost-effectiveness of the system, as has been demonstrated elsewhere. The option of working in
various models with differing funding mechanisms could improve the quality of the specialist physician’s work experience.

**Collaborative and Interdisciplinary Team Models**

Several of the large American systems use either multidisciplinary or collaborative models of care delivery. The Mayo Clinic approach of physicians from multiple specialties working together in collaborative teams has been part of the Mayo Clinic culture since its inception in the late nineteenth century. A coordinating physician directs the patient to specialists and discusses care with the patient when all evaluations are complete. The collaborative treatment team is comprised of physician specialists.

At the Cleveland Clinic, all patients have a multidisciplinary team. Similarly, Kaiser Permanente’s outpatient medical centres use a team-based, multi-specialty approach. Kaiser recruits physicians who choose to work in team models. Although some use the physician-nurse model, most surgical specialty hospitals and specialty clinics use multidisciplinary teams, although the composition usually varies depending on the service. The Alberta Bone & Joint Institute clinics, and, in Ontario, the LMC clinics for diabetes care, and the West Park Health Care facility for respiratory illnesses are clinic examples. Composition of teams in specialty hospitals tends to vary depending on the particular centre within the hospital. In those, they tend to use teams of physician specialists along with other health care professionals.

Ontario has a number of interdisciplinary models, generally directed toward specific conditions or illnesses, and on a smaller scale than American models. They are led by a specialist with members from related health care professions. In Ontario, the anesthesia care team (ACT) model includes an anesthesiologist as the team leader, an anesthesia assistant and other professional team members such as nurse practitioners - anesthesia\(^b\), registered nurses, respiratory therapists and operating room technicians.

Ontario Assertive Community Treatment Teams (ACTT) services are delivered to patients with serious mental illnesses who have major functional impairment 24 hours per day, 7 days a week, by an interdisciplinary mental health team, directed by a team coordinator and a psychiatrist. Required team members also include registered nurses, a social worker, occupational therapist, substance abuse specialist, vocational specialist, peer specialist, other clinical staff, and a program/administrative assistant. In urban centers there is 12.8 FTE staff per team. Program standards are set by the Ministry of Health and Long Term Care\(^c\).

Expanded training of health care professionals to assist specialists is ongoing. At the Holland Orthopedic and Arthritic Centre\(^d\), part of the Sunnybrook Health Sciences Centre musculoskeletal program, advanced practice physiotherapists screen patients prior to surgical consultation and conduct the postoperative patient reviews that, in the past, were conducted by surgeons\(^1\). The

\(^b\) This role is not regulated yet. Candidates are registered as nurse practitioner – adult or nurse practitioner – pediatrics.


Advanced Clinician Practitioner in Arthritis Care (ACPAC) program at St. Michael’s Hospital and the University of Toronto trains experienced physical and occupational therapists for extended practice roles in arthritis care. As of 2009, 30 practitioners had completed the program. Intake of trainees has been deferred pending evaluation of the program and trainees, which is now ongoing. In Ontario, a relatively new health care professional is the physician assistant. Physician assistants are now used in hospitals in emergency rooms, with general and orthopedic surgeons, in cardiology, and in internal medicine and they work with general/family practitioners in a variety of settings.

**Specialty Clinics and Specialty Hospitals**

Specialty care clinics and specialty hospitals vary in terms of their primary goal. Some focus mainly on a single disease or set of related diseases or disorders. In these types of specialty facilities, the intervention is usually a single surgical event. These include the Don Mills Surgical Unit, the Shouldice Hospital near Toronto, the Kensington Eye Institute in Toronto, the Aravind Eye Hospitals and specialty clinics in India, the Texas Heart Institute, the Holland Orthopedic and Arthritic Centre in Toronto, and the Coxa Hospital in Finland for hip and knee replacement. Of those, some provide only treatment whereas others provide both diagnosis and treatment.

Like the surgical specialty hospitals, the medical specialty clinics and hospitals focus on a single disease or related diseases. However, patients may require long-term treatment. Examples are the Centre for Addiction and Mental Health (CAMH), the American National Jewish Medical and Research Center, which focuses on adult and pediatric asthma, and the Cancer Treatment Centers of America. Some specialty hospitals focus on a particular population, providing a variety of services, both medical and surgical, for that population. The Hospital for Sick Children is an example.

Other clinics and hospitals offer a variety of services for a specific population. The Hospital for Sick Children, Holland Bloorview Kids Rehabilitation Hospital, and ErinoakKids Centre for Treatment and Development all serve children. Others focus on adults or senior adults who

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need long term care or treatment. Examples are Toronto Rehab®, Runnymede Chronic Care Hospital® and St. Peter's Hospital® in Hamilton.

For descriptive information about the above-mentioned and other specialty clinics and hospitals, see the background paper.

In Ontario, Independent Health Facilities (IHF) are legislated under the Independent Health Facilities Act, and they may include surgical services. Private hospitals are legislated separately; the Private Hospitals Act prohibits establishment of any new private hospitals.

The OMA Hospitals' Role and Funding Working Group extended the idea that acute care hospitals are not the most appropriate places to deliver services such as rehabilitation, long-term care, day hospitals services, clinics and day surgery.

**Outcomes: Specialty Hospitals and Clinics**

There are good outcome data for specialty surgical hospitals in heart disease and orthopedics and for the Shouldice system of hernia repair. There are also good data for pulmonary rehabilitation programs, although these are not necessarily in specialty facilities. There is evidence for cost-effectiveness of the Kensington Eye Institute.

For heart disease, a study examining mortality rates for thousands of patients with acute myocardial infarction and congestive heart failure in 15 American healthcare markets showed that patients had better outcomes at cardiac hospitals, although there was quite a lot of variability across facilities. For orthopedics, a study comparing specialized orthopaedic hospitals to general hospitals performing major joint replacement yielded similar results. It compared outcomes for tens of thousands of patients in either 38 specialty American orthopedic hospitals or 517 general American hospitals over a period of several years. Overall, there was about a 40% reduction in

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7 The outcome measure was death within 30 days of admission. Results showed mortality rates of 10.0% vs. 16.9% for AMI and 7.1% vs. 11.9% for CHF for cardiac and peer general hospitals respectively. There was more outcome variability among general hospitals.
adverse outcomes in specialty hospitals. In Canada, the Alberta Bone and Joint Health Institute’s evaluation results show reduced access time, reduced time to surgery, reduced length of hospital stay, decreased cost, and increased percentage of patients mobilized on the day of surgery. For hernia repair, Ontario’s Shouldice Hospital’s method is considered the gold standard and has been shown to result in fewer recurrences than other methods.

With regard to COPD, a recent comprehensive analysis of pulmonary rehabilitation programs around the world showed little effect of programs on lung function and symptoms, but significantly improved quality of life. In Edmonton, analysis was done to determine the cost-effectiveness of a community-based pulmonary rehabilitation program. Results showed a significant cost reduction from decreased health service use – emergency department visits and hospital days -- associated with their improved health status. Patients with mild and severe disease status decreased their health service use more than those with moderate disease. In Ontario, COPD has one of the highest rates of hospital readmission.

The Kensington Eye Institute, in Toronto, was established in 2006 by the provincial government as part of the wait times strategy to reduce waits for cataract surgery. In addition to providing new surgical opportunities, procedures were moved from four Toronto acute care hospitals – University Health Network, Mount Sinai Hospital, St. Michael’s Hospital, and Sunnybrook Hospital. It is a not-for-profit corporation licensed as an independent health facility by the Ministry of Health and Long Term Care which also provides annual operating funding. The Institute raised capital funds through its Kensington Foundation. It is a University of Toronto training site for ophthalmology residents.

Kensington performs about 6,700 cataract surgeries annually. At the time of licensing in 2006, their cost per case was less than hospitals and the number of surgeries performed annually has increased, with funding constant. Thus they are comparatively cost efficient.

**Comprehensive Integrated Systems**

Comprehensive integrated systems are a contrast with the Ontario system, which is organized in silos. In some instances, such as the Mayo Health System, the Cleveland Clinic, Kaiser Permanente and Geisinger Health Services, they include hospitals. Both the Mayo Health System and Kaiser Permanente have integrated systems of long standing. These are generally big systems. In 2008, the Cleveland Clinic recorded about 4.2 million visits through their system and 165,000 hospital admissions. The UK and France have recently experimented with systems to integrate primary and specialty care. Outcomes of both show problems. These systems, along with the revised German system, are described in the background paper. It is unclear whether the difficulty results from the conceptual design of the systems or from faulty implementation. The SW LHIN has a well-developed vision, which is described below, but it has not been implemented. Several of the well-established American systems are also described below.

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\(^u\) Outcome measures were sepsis, hemorrhage, pulmonary embolism, deep vein thrombosis, wound infection requiring readmission or death, occurring within 90 days of surgery.

\(^v\) For information, see the web site at [www.tkei.org/default.htm](http://www.tkei.org/default.htm). Accessed 2010 Nov 16.

\(^w\) Information provided by Bill Teatero, Independent Health Facilities Program, Ontario Ministry of Health and Long-Term Care, via email to Aura Hanna, 2010 Nov 16.
The Mayo Health System is a group of clinics, hospitals and health care facilities serving 70 communities in three US states\(^x\). All Mayo health system sites are physician led. The system owns outright 17 hospitals and 8 nursing homes. The Mayo Health System promotes its one-stop care. Many medical services a patient might need — physician visits, testing, surgery, and hospital care— are available “under one roof” at Mayo Clinic. The scheduling of these services is done in a coordinated and efficient way, so that what might take months to accomplish in a community setting can be done in a matter of days at Mayo. There is full integration of the clinic and the hospital and the use of a shared electronic medical record across inpatient and outpatient settings\(^8\). Outpatient clinics and inpatient services are integrated by budgets, patient services, clinical staff, and administrative leadership\(^9\).

Kaiser Permanente\(^y\) is composed of three entities: the Kaiser Foundation Health Plan, Kaiser Foundation Hospitals and the Permanente Medical groups. It is the largest managed care organization in the US with about 15,000 physicians. It has 35 hospitals and 454 medical offices. Kaiser Permanente services include hospital admission, ambulatory and preventative care, optometry, rehabilitation and home health care. In-house laboratory facilities are available to physicians. When necessary, patients are admitted to a Kaiser Permanente hospital. Rehabilitation is provided at nursing homes with which Kaiser Permanente contracts\(^10\). Kaiser Permanente is particularly known for its use of health information technology in both hospital inpatient and primary care settings. Patients who are members of the system have access to their personal health records and features such as online appointment scheduling and prescription refills\(^z\). The health IT system was deployed over a period of six years. It was expensive with an estimated cost of over one-half million dollars per physician\(^{aa}\).

Although these systems are large, comparatively Ontario has 154 public hospitals\(^{bb}\) and 623 long-term care homes\(^{cc}\). There are about 110 million patient visits to physicians per year\(^{dd}\), and about 1.1 million acute care hospital discharges\(^11\).

The Ontario SW LHIN proposes that the system of care will be integrated such that high-volume, low-complexity services are delivered close to home and there is an emphasis on chronic disease prevention and management, including patient self-management. Services will be delivered through collaboratives including virtual, mobile, and collocated settings and will encompass current primary care resources, including physicians in all the primary care models and the solo


\(^{dd}\) This represents data for 2010 for visits to specialists and primary care physicians. Email communication, Dr. Boris Kralj, OMA Economics to Aura Hanna 2011 Sept 22.
practitioners. The collaborative will provide education, screening, assessment, treatment, navigation, and support services. Other community-level services will include long-term care homes and emergency services. The system is intended to standardize evidence-based approaches to care delivery. For more complex services for targeted populations, there will be geographic clustering by community. Highly complex services will be delivered at the LHIN level and will include control of access through central coordination of resources. This would include surgical, medicine, critical care, and ambulatory services.

**Processes of Delivery**

Changing the processes of delivery can impact all of the stated goals. This section describes advantages of evidence-based treatment, methods to improve access to the system, alternatives that might increase integration of the system, means of improving communication among specialists and general/family practitioners, and ways of improving the appropriate use of diagnostics.

**Evidence-Based Treatment**

Strict adherence to clinical guidelines can be problematic for physicians when patients have comorbidities. The physician must determine which, if any, of the guidelines that relate to a patient should be followed and how to handle the difficulty of potential interacting pharmaceutical agents. Nevertheless, large systems have shown that adherence to guidelines improves outcomes for patients.

The Cleveland Clinic provides detailed online data for outcomes as well as indices of quality which show the percentage of patients that received all of the appropriate care according to guidelines. Kaiser Permanente uses its HealthConnect, a health information system that integrates an electronic health record with tools to support physicians in delivering evidence-based medicine. The Mayo Health System’s quality dashboard highlights five areas: prevention, outcomes/disease management, safety, service, and physician credentialing. The French share common guidelines between GPs and specialists for the main chronic diseases.

Geisinger Health Services Proven Care Program is based on best practices which Geisinger physicians are required to follow; it has resulted in increased adherence to guidelines and improved clinical outcomes. Geisinger has made the news with its ProvenCare program, known as surgery with a warranty, which provides that if a patient experiences an avoidable complication within 90 days of the procedure, Geisinger will cover the entire cost of any follow-up.

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**Footnotes:**

ee In addition, a system of checks and balances, built into the patient’s Electronic Health Record, holds various members of the surgical team responsible for elements of the patient’s care. A 40-point checklist of best surgical practices developed by the American College of Cardiology and the American Heart Association is hard-wired into the computer system and has to be checked off before a procedure begins or the surgery is cancelled.

care provided by one of its clinicians. Geisinger has ProvenCare programs in coronary artery bypass graft, hip replacement, cataract surgery, PCI/angioplasty, perinatal care, bariatrics, low back pain, and erythropoietin management. This concept is similar to that used by the Coxa Hospital in Finland.

Cancer Care Ontario purchases cancer care services from a variety of sources and coordinates cancer care. CCO has a comprehensive set of indicators to measure progress, which are reported annually online by LHIN, and categorized by prevention, access, outcomes, use of evidence-based guidelines, and measurement (i.e., completeness of laboratory reports)\(^9^9\). It is not a model of delivery; however, it was designed to implement provincial standards locally, to respond to local cancer issues and needs, and to improve wait times, access and quality.

**Improving Access**

The BC Medical Association has a practice support program that was initially launched for general/family practitioners in 2007\(^\mathrm{HH}\). With some modification, it is now being implemented for specialists on a voluntary basis. It includes three components, all of which might improve access for patients: group visits, office efficiency, and advanced access. The program is organized so that specialists enrol in the practice support program that includes all three management modules. Training and compensation is provided for both the specialist physicians and one medical office assistant per physician. Physicians are compensated at the sessional rate and medical office assistants at a rate of $20 per hour. They are compensated for participation in the learning sessions and are also given a budget to assist with compensation for the change period\(^i\). Physicians earn credits toward licensure. Practice support coordinators\(^j\) assigned to the various regions are available to assist with implementation of the changes. One of the practice support coordinators reports\(^k\) that it is useful to determine from physicians, at the outset, the needs of the practice, what the physicians want, and what they hope to achieve. Resolution of disparities among these three aspects before implementation ensures a smoother process.

**BC Advanced Access Program**

The Advanced Access program provides a way of scheduling patient appointments to give physicians more control over their practices, feel less hurried, eliminate backlog, and see more patients through the day. Typically this requires an analysis of supply and demand. Before a new system can be implemented, the backlog must be reduced. Specialists may have two or three

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\(^9^9\) For an example, see the Cancer Care website reporting performance on these variables for the Hamilton/Niagara/Haldimand/Brant LHIN at [www.cancercare.on.ca/cms/one.aspx?pageId=16660](www.cancercare.on.ca/cms/one.aspx?pageId=16660). Accessed 2009 Apr 15.

\(^\mathrm{HH}\) Some of this information is taken from the BC Medical Association, Specialist Services Committee website at [www.bcma.org/committee/specialist-services-committee-ssc](www.bcma.org/committee/specialist-services-committee-ssc). Other information is from a telephone conversation on this topic between Clayton Barber, Consultant, Specialist Services Committee, BC Medical Association and Aura Hanna, OMA Health Policy Department, 2010 Oct 20.

\(^i\) As BC has several years of experience with the program with general/family practitioners, they have measured the effect that implementation has on practices.

\(^j\) Practice support coordinators are paid employees of the health authority.

\(^k\) Telephone communication, 2010 Nov 10, Aura Hanna, OMA, and Terry Manzo, Coordinator, Regional Support Team, Vancouver Island Health Authority, on the subject of office efficiencies.
locations at which they see patients and only one, two, or three clinic days or part days which creates challenges for them and the practice support coordinators. According to the experience in BC, the result of implementing advanced access is often increased demand. Increased office efficiencies can assist with handling of increased demand. BC has a variety of online resources available that describe the program and its outcomes.

**BC Group Visits Program**

This program is apparently quite popular in BC for specialists and patients. It can improve access for patients, reduce costs, and reduce the need for physicians to repeat the same information and thus free up time for other patients. BC has fee codes for patient group visits on a sliding scale based on the number of patients in the group. BC reports that it is this aspect of the practice support program that physicians often find most appealing at the outset, but that they are enthusiastic about all three aspects, once they are implemented.

**BC Office Efficiencies Program**

Content of the office efficiencies program relates to the other two components of the practice support program – all are interlinked. One example of an office efficiency is the development of one-page standardized forms for referrals and the complimentary form reporting results of consultation to a general/family practitioner.

**Improving Communication among Specialists, General/Family Practitioners and Patients**

Communication between specialists and general/family practitioners could be improved to the benefit of both sets of physicians, improve the care of their patients, and reduce system costs.

**Electronic Communication**

In Ontario, with some exceptions, most of the electronic communication among specialists and GPs that includes patients is facilitated through the Ontario Telemedicine Network (OTN) or other telemonitoring services. There is strong evidence to support its use.

The OTN provides a huge number of services. In 2009/10, there were over 100,000 clinical events and another 20,000 or so educational and administrative events using the telemedicine program. Use has increased from 7,700 events in 2003-04 to 125,000 in 2009-10. Examination of areas of care show that over half (53%) were for mental health conditions. At the Hospital for Sick Children, telemedicine connects the health-care team with patients and health-care professionals provincially, nationally, and internationally. The service is used in 24 different clinical areas with over 1,000 clinical activities in the last fiscal year.

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III Email communication from Rob Williams, Chief Medical Officer, OTN, to Aura Hanna, OMA; 2010, Dec 5.

At the Ottawa Heart Institute, telehome monitoring and interactive voice response are used to transmit clinical information from home to the Heart Institute. Cardiac Telehealth has been successful in reducing hospital readmissions for heart failure patients by over 50%.

A telehomecare pilot program for congestive heart failure (CHF) and chronic obstructive pulmonary disease (COPD) was funded at the OTN for over 800 patients in eight Ontario family health teams in 2007. Evaluation showed reduced hospitalizations and emergency department use, decreased planned and unplanned visits to primary care providers and walk-in clinics, and increased patient satisfaction. Estimated cost avoidance was over $7,000 per patient. Continuation of the program has been funded by the Ministry of Health and Long Term Care for the original conditions, CHF and COPD, and for diabetes.

In the US, at the Fiqua Heart Failure Resource Center in Atlanta, for the most difficult patients, care includes telemonitoring via a system called RemoteNurse that monitors heart failure symptoms, weight, blood pressure, and heart rate and transmits them daily. Results show reduced readmission rates compared with a similar group of heart-failure patients.

An exception to the general practice of no email and telephone communication to patients is provided by the Assertive Community Treatment Team for severely disturbed psychiatric patients in Ottawa. It includes treatment by telephone and email. Those specialists are salaried, so the provision of fees for email and telephone communication with patients is not an issue for the psychiatrists. For most specialists, telephone and email communications with patients are not reimbursable through current OHIP fee codes.

Within the system now, there are some examples of effective use of email and telephone for communication between specialists and GPs. The Ontario Telemedicine Network (OTN) has an asynchronous store forward service that is essentially a multimedia secure email. With this service, a primary care provider accesses the store forward server via the internet completes patient information, which is stored securely for future use, and attaches clinical information via a template or free text. Digital images, video clips, diagnostic studies, and reports can be appended from the Electronic Medical Record. The server notifies the specialist that a consult is awaiting them and they respond at their convenience. The specialist can bill through OHIP using existing FFS codes under billing for telemedicine services, however, the primary care provider cannot bill for compiling the content. The OTN now uses store forward for dermatology and is expanding it to other clinical areas. Now, this service is available only through the Ontario Telemedicine Network to physicians registered with it.

The Champlain BASE (Building Access to Specialists through E-consultation) project is a collaborative pilot project between a University of Ottawa academic research team and the

pp Email communication from Rob Williams, Chief Medical Officer, OTN, to Aura Hanna, OMA; 2010, Dec 5.
qq Information about the Fiqua Heart Resource Centre is available online at www.innovativecaremodels.com/care_models/15/overview and on the Piedmont Hospital website at www.fuquaheartcenter.cardiologydomain.com/handler.cfm?event=practice.template&cpid=12080.
rr Electronic mail communications, 2010 Oct 12 between Aura Hanna, OMA and Dr. Rob Williams, Chief Medical Officer, Ontario Telemedicine Network.
Champlain LHIN; it is designed to enable primary care physicians to submit a question to a specialist, through a secure web-based service\textsuperscript{ss}, along with supplementary laboratory results, digital images, and/or health history. The consultation request is assigned to an appropriate specialist who is expected to respond within one week. Nineteen primary care practices and 16 specialists in cardiology, dermatology, endocrinology, general surgery, nephrology, neurology, diabetes education, and rheumatology participate. Preliminary results with 75 e-consults indicate that less than 10\% required a follow-up face-to-face meeting between patient and specialist\textsuperscript{tt}. This is one of the innovation projects funded through the Academic Health Science Centres Alternative Funding Plan.

**Specialists as Treatment Consultants to GPs**

In some cases, specialists may not actually see the patient. Rather, information may be provided to the specialist by email or telephone from the general/family practitioner, or through the OTN. In such cases, the general/family practitioner may be making a referral for consultation or the specialist may be acting as a mentor to their colleague. Specialists can be a useful treatment resource for general/family practitioners who are either responsible for ongoing care for patients who have been treated by specialists or who wish to increase their level of knowledge about different treatments available to their patients. This consultative process has been used successfully in the Hamilton Family Health Team Mental Health Program\textsuperscript{15}. Although specialists who consult with Family Health Teams may be reimbursed on a sessional basis and there is payment for specialist services provided via the OTN, for specialists who are paid on a fee-for-service basis, providing consultation and advice to general/family practitioners to assist in patient care is difficult because the system does not reimburse them for such activities.

The specialist and the general/family practitioner may communicate via telephone, email, or videoconference. Conferences via email and videoconference should be billable for both parties, as they are now for telephone conferences.

**Lack of Information/Poor Information about Patients referred for Consultation**

Specialists report\textsuperscript{uu} that the paucity of information contained in referrals from some general/family practitioners often results in patients -- some having waited months -- being seen inappropriately or not being optimally prioritized. This is wasteful of the specialist’s and patient’s time, and is an inefficient way to access the system. Moreover, in some instances, being seen by the appropriate specialist in a timely manner can affect patient outcomes.

Similarly, general/family practitioners report that some specialists do not provide adequate information about the outcome of the consultation and that information is not always received in a timely manner.

Both referring physicians and consultants need to ensure that information is comprehensive.

\textsuperscript{ss} A technology Threat Risk Assessment was conducted by a third party firm to ensure the security of the environment and infrastructure from which the e-consult is deployed.

\textsuperscript{tt} Email communications between Dr. Clare Liddy, Principal Investigator, University of Ottawa and Aura Hanna, OMA Health Policy Department 2011 May 18 & May 19 entitled “The Champlain BASE project”.

\textsuperscript{uu} OMA Reference Panel, Models of Delivery for Specialty Care, 2010, September.
Improving Appropriate Use of Diagnostics

Specialists indicate that patients have also often had expensive testing done that is either inappropriate or so dated as to be useless. This observation is in accord with more formal evaluations in the American system. An examination of high performing lower-cost regions in the United States showed the factors key to their success, and that included reducing unnecessary imaging\textsuperscript{16}. Studies going back as far as the 1980s indicate that the major reasons for variation in medical decision-making concern lack of agreement among physicians regarding the appropriate treatment or test for certain conditions. Where there is agreement, there is less variation. Physicians are usually unaware as to how their patterns of practice compare with those of their peers\textsuperscript{17}. Although there will be appropriate practice setting variability in the ordering of diagnostics between hospitals, clinics, and individual practices, it is expected that there will be unexplained variability within these settings.

Both the American College of Radiology and The Institute for Healthcare Improvement (IHI) have developed guidelines, standards, and process frameworks. Both systems recommend engagement of physicians in developing and implementing standards.

The American College of Radiology’s (ACR) practice guidelines and technical standards are provided online as an educational tool to assist practitioners in providing appropriate radiologic care for their patients; they are not clinical requirements\textsuperscript{vv}. Guidelines and standards are based on research, expert opinion, and open forum commentary. Draft guidelines or standards are posted to the ACR website; all members are invited by email to review and comment on them before they are finalized. Once members’ comments are integrated, the guideline or standard must be reviewed and approved by the collaborating societies.

Ways of reducing the overuse of clinical services and the actions that drive them have been examined by The Institute for Healthcare Improvement\textsuperscript{18}. The Institute provides a framework to change professional practice by involving physicians in developing and implementing practice standards that will work best in local circumstances. They found that areas where there is overuse often lack definitive evidence about the right level of use. The Institute recommends engagement of physicians both in the choice of topic areas for investigation and on testing whether standard development is feasible. As a means of engaging physicians in a positive enquiry process and to prioritize opportunities for change, they suggest the use of variation data to provide information about how individual physicians or physician groups compare to their peers. Data are needed that are robust enough to promote discussion among physicians.

Physician Payment Mechanisms

Some of the Ontario Alternative Payment Plans are described below along with information about physician risk in capitated plans, particularly as it relates to Ontario. A few examples of American payment plans, salaried or pay-for-performance, are described.

Ontario Alternative Payment Plans (APPs)

In Ontario, there is a variety of existing alternative payment mechanisms that are available to specialist physicians. Apart from fee-for-service, which is the main payment mechanism for specialists, these alternative plans are either fixed payment, or blends of fixed payment, fee-for-service, and incentives. The proportion among these elements varies from 0% OHIP fee-for-service to 110% OHIP fee-for-service. This incents different types of work.

The largest APP is the Academic Health Science Centres Alternative Funding Plan (AHSC AFP) that funds about 3,000 physicians. Most of these are specialists. The AHSC AFP was intended to recognize the unique contributions of academic physicians and increase integration of clinical and academic activities. It provides for accountability in the domains of clinical services, academic activities, leadership, and innovation. Participating physicians have an appointment at a university, have medical staff appointments at a hospital with hospital privileges, are members of a hospital department, and are AFP Practice Plan members. The governing agreements are among the Ministry, the physician organization, the university, the hospital, and the OMA. Academic multispecialty agreements are contracts that involve physicians from multiple specialties and would include locations such as the Hospital for Sick Children and the Southeastern Academic Medical Organization. There are also agreements for groups of single specialty physicians at academic centres such as geriatrics and neurosurgery. Arrangements vary as to the portion of physician income that is funded through the plan and the services physicians provide for that, and the portion that is paid as fee-for-service. For example, ophthalmologists at the Kensington Eye Institute are paid on a fee-for-service basis for the services they provide there but have other arrangements with University Health Network.

Other examples of special funding plans include Emergency Department Alternative Funding Agreements, anesthesia care teams, and Assertive Community Treatment Teams. Other alternative funding plans exist for medical oncology, radiation oncology, gynecological oncology, and laboratory medicine.

Most emergency department physicians are paid under Emergency Department Alternative Funding Agreements. Some physicians in the Assertive Community Treatment Team model are salaried; those who work part-time are paid by the hour out of the agency’s global budget or by sessional fees. Physicians include psychiatrists and general/family practitioners. Anesthesiologists in anesthesia care teams are paid on a fee-for-service basis. Pathologists are part of an APP, the Laboratory Medicine Framework Funding Agreement. Under this agreement, they are paid a uniform minimum level of compensation, which includes benefits. If they are paid less than the Agreement schedule by their hospital, their earnings are topped up to the scheduled amount.

There are some rural and northern contracts for specialty physicians to provide care where the volume of work would not provide needed access in a solely fee-for-service model.

American Payment Models

Cleveland Clinic has 2,000 salaried physicians and scientists on staff representing 120 specialties and subspecialties. There, all physicians are on one-year renewable contracts.
The Mayo Clinic employs 800 physicians who are salaried and 13,000 allied health staff. Mayo’s salary policy for physicians is that the salaries be level within groups who perform the same service. Thus, a newly-employed specialist will earn a salary in five years, with annual increases, that will be equal to that of the same specialist type who has been employed for 30 years. Salaries max out in five years. Physicians typically earn salaries that are considered competitive in the marketplace\(^2\)\(^1\).

Geisinger Health Services is a physician-led health care system with about 800 primary and specialty physicians who practice at Geisinger clinics as well as Geisinger and non-Geisinger hospitals. Physicians are incented based on specific performance metrics that measure outcomes\(^2\)\(^2\).

Permanente Medical Groups are for-profit partnerships or professional corporations owned by physicians. The Permanente Medical Groups are all headed by a physician executive who reports to a board of directors composed of physician owners of the medical group. Medical groups provide medical care for Kaiser health plan members; in turn, the health plan pays the medical group. Within each medical group, physicians are salaried\(^\text{ww}\).

**Physician Risk under Capitated Models**

Risk adjustment is the use of information to calculate the expected annual health care costs of individuals and to subsidize those costs. Risk adjustment models include demographic models based on characteristics such as age and sex, functional health models that measure ability to perform daily living tasks or that assess previous health care spending; and clinical indicator models that use diagnostic information from claims or encounter data. Generally, the inclusion of clinical measures in risk adjustment becomes more important as the patient group size decreases. For large populations such as found in broad geographic areas, demographic measures such as age and sex may be sufficient. Conversely, as the scope of services provided increases, financial risk increases.

Apart from risk adjustment, another strategy to reduce physician financial risk is to use what are called “carve-outs”. With this method, services, conditions or populations are carved out of the capitation payment and reimbursed on a fee-for-service basis\(^2\)\(^3\). *Case rates* for procedures that have predictable lengths of treatment or *episode of care rates* for services for a single episode for a patient are both types of carve outs.

Many American models have structural arrangements that include four or five layers of contracts from health maintenance organizations (HMOs) through physician-hospital organizations (PHOs), through individual practice association (IPAs) via a medical group to the physician, so it is difficult to determine how much risk is assumed by the individual physician\(^2\)\(^4\). Moreover, US models are not directly comparable to Ontario models as payments originate with for-profit organizations in competitive markets.

In Ontario, primary care capitated payment models use both risk adjustment and carve outs. Rates for physicians are risk adjusted for patient age and sex; extra fees, payments, incentives and bonuses are carved out for particular patient populations and for specific health care services.

**Recommendations**

The OMA is committed to exploring and developing innovative models of delivery of care by specialists, to developing alternative funding mechanisms, and to improving the processes used to deliver care by specialists and the communication among specialists and primary care physicians. Following are recommendations about models of delivery, processes of delivery and funding.

**Recommendations: Models of Delivery.**

Alternative models of delivery for specialists address several of the stated goals. All of the alternative models have the potential to improve the coordination of patient care. They also offer specialist physicians the opportunity to work and be funded in alternative practice arrangements, a factor in the quality of their work experience. As well as improving coordination of patient care, the comprehensive integrated model could improve information exchange between specialists and general/family practitioners. Specialty clinics could increase patient access, reduce excessive demand on hospital surgeries, and increase the efficiency and cost-effectiveness of the system. Similarly, increased use of physician extenders has the potential to increase patient access, system efficiency and cost-effectiveness. The recommendations for models of delivery are as follows.

1. That specialist physicians continue to be able to choose their model of delivery.
2. That two alternative models of delivery be available to specialist physicians. (Description of a recommended demonstration project model follows the two alternative models.)

   a. **The Collaborative Model.** That specialist physicians be funded to participate in collaborative models of delivery that are physician-based such that they would work with other specialist physicians and administrators. The particular groupings of physicians would be as appropriate to the particular specialty. For example, palliative medicine, chronic pain specialists, and oncologists might be an appropriate physician grouping. Alternatively, groups of single specialty physicians may choose to work together. Such physician groups may have contractual arrangements with hospitals and other organizations.

   b. **The Specialist Interdisciplinary Care Model.** That specialist physicians be funded to participate in interdisciplinary models of delivery with other physicians, physician extenders and other health care professionals, as appropriate to the particular specialty. The distinguishing feature of this model from the collaborative model is that it includes other health care professionals. For example, a specialist interdisciplinary model might include endocrinologists, dieticians and physician extenders. Physician extenders are currently used in arthritis and anesthesia, but could be extended to other specialty groups and so free physicians for more complex care. Complementary and alternative medicine practitioners may be part of interdisciplinary teams, particularly for pain management and chronic disease
management. Physician groups may have contractual arrangements with hospitals and other organizations.

3. That an additional model of delivery, the comprehensive integrated model, be funded on a demonstration basis.

This would be a comprehensive, integrated model of delivery that would include both specialty and primary care physicians and other health care professionals. The distinguishing feature of this model is that it includes primary care physicians as well as specialists, physician extenders, and other health care professionals. Its focus would be on the delivery of team care to the whole person.

- It would include an emphasis on chronic disease prevention and management.
- It would include the delivery of low complexity services close to home and for more complex services, geographic clustering;
- It would include case managers for patients with complex health needs and for those who need assistance with system navigation.
- Patient care would be evidence-based.
- It would be implemented in a defined geographic area of the province.
- It should be implemented on a graduated basis.
- It should be evaluated independently from the outset for both patient outcomes and cost effectiveness.

4. That the Ministry of Health and Long Term Care encourage the establishment of new specialty facilities and that it require the evaluation of patient outcomes and cost effectiveness in these new facilities. There is evidence of the cost effectiveness and quality of specialty clinics that focus on heart disease, orthopaedics, respiratory diseases, and cataract surgery.

a. Given that hospitalization rates for some diseases are appreciably higher in patients with low socioeconomic status than those with high status, that some disease facilities be targeted for low-income geographic areas of the province. There is evidence that rates for childhood asthma and for chronic obstructive pulmonary disease are 2-3 times as high in low income than in higher income populations.xx

5. That the use of physician extenders be expanded.

- If the results of the Ministry-funded evaluation are positive, that the Advanced Clinician Practitioner in Arthritis Care program that trains experienced physical and occupational therapists for extended practice roles in arthritis care be continued.

Recommendations: Processes of Delivery

Recommendations concerning the processes of delivery meet many of the project goals. The use of evidence-based guidelines can improve the quality of care for patients. Advanced access, group visits, and improved office efficiencies can increase access to specialty care for patients by decreasing wait times. Group visits may increase the efficiency and cost-effectiveness of the system as well as improving the ability of patients to self-manage their conditions. Such changes in physicians’ practices may also improve the quality of their work experience. Improving communication between specialists and general/family practitioners benefits all parties: patients get better care; specialists can better prioritize, general/family practitioners get the information they need to handle ongoing care of their patients. More options for communications with patients can increase access for others if fewer on-site visits are required.

6. That the Ministry of Health and Long Term Care, in concert with OMA, continue to promote the use of evidence-based clinical guidelines for physicians.

7. That a practice support program including advanced access, group visits, and office efficiencies be implemented in Ontario for specialists on a voluntary basis, and that it be modelled after the British Columbia program.

- That the components of the program be evaluated systematically by an independent body.

8. That utilization of modern technology be available to facilitate communication among specialists and general/family practitioners.

- That eHealth Ontario, through the Physician eHealth Council, incorporate accepted guidelines for appropriate use of diagnostic testing into the electronic medical record.

- That eHealth Ontario, through the Ontario eHealth Council, begin implementation of the use of diagnostic testing guidelines with a demonstration study of experienced EMR users.

9. That initiatives be undertaken to improve the effectiveness and cost efficiency of diagnostic testing.

a. That eHealth Ontario, through the Physician eHealth Council, incorporate accepted guidelines for appropriate use of diagnostic testing into the electronic medical record.

b. That eHealth Ontario, through the Ontario eHealth Council, begin implementation of the use of diagnostic testing guidelines with a demonstration study of experienced EMR users.
c. That broad implementation of guidelines for diagnostic testing should be based on independent evaluation of the demonstration study results to determine whether guidelines improve the appropriate ordering of diagnostic tests for patients.

d. That the Ministry of Health and Long Term Care and the OMA explore the feasibility of providing variation data to individual physicians about the how their use of imaging and other clinical tests compares with their peer group, with the intent to identify opportunities to reduce inappropriate use of diagnostic testing.

e. That implementation of this analysis begin as a demonstration with either physicians in a single specialty or physicians in a single select geographic area that includes both general/family practitioners and specialists and that it include local/regional meetings to provide support to physicians for interpreting and acting upon data.

Recommendations: Funding

10. That alternatives funding arrangements be available to specialist physicians. These arrangements can be modelled after the alternative payment plans that now exist in Ontario and should be available across the variety of models of delivery. They would include the following options.

a. A per annum rate for physicians that includes all services to be provided with no billing to the OHIP. It may be remunerated through the governance organization and may be prorated if the physician works in more than one hospital/facility.

b. Fee-for-service funding for clinical activities for physicians as provided by OHIP or fee-for-service funding paid through the governance organization with a portion to physicians and a portion to the governance organization.

c. Blended funding such that, in addition to the per annum base rate or in addition to fee-for-service funding, funding is provided that is designed to promote explicitly specified services and/or outcomes.

d. Funding for physicians or governance organizations for some or all of such activities as follows. These services may be included in the per annum base rate or remuneration may be a base rate in addition to fee-for-service clinical activities.

   o Academic activities including teaching, research and related administrative activities.

   o Innovation to support the development of new and innovative practices in health care delivery and leadership in the dissemination of knowledge across the health care system.

   o Recruitment funds for new physicians to join physician groupings in academic health science centres.

   o Indirect patient care including the coordination and facilitation of referrals of patients and expert clinical advice to patients, telephone consultations, videoconferencing, electronic communications, and the transmission of medical records.
Leadership and/or indirect services provided in collaborative and interdisciplinary team settings.

Clinical laboratory services -- interpretation of a variety of clinical tests.

On-call coverage according to hospital by-laws and medical staff rules and regulations.

e. Additional funding to provide for such positions as physician extenders, administrators, and other health care professionals for collaborative or interdisciplinary teams.

f. Additional funding to provide for such positions as clinical assistants, scientists, and fellows.

11. That, where appropriate, additional capital funding be made available for physical plant to support physicians to collocate to work in collaborative or interdisciplinary teams.

12. That the Ministry of Health and Long Term Care fund an independent evaluation of the existing specialty hospitals and clinics in Ontario that measures patient outcomes and cost effectiveness as compared to general hospitals.

13. With regard to the practice support program,

- That funding be provided for both physicians and their office assistants and for both the learning phase and for the transitional phase of implementing advanced access;
- That funding be provided to facilitate group visits.

14. To facilitate communication among specialists, general/family practitioners, and patients the following funding revisions are recommended. All communication among health care providers and with patients should be secure, in compliance with the College of Physicians and Surgeons of Ontario policies on Medical Records and Confidentiality of Personal Health Information.

a. That the OHIP schedule of benefits be revised to permit reimbursement to physician specialists and general/family practitioners for communications with patients that occur via telephone or electronic mail, including use of the Ontario Telemedicine Network store forward service by primary care providers (reimbursement for specialist use of the store forward services is now provided).

b. That the OHIP schedule of benefits be revised to permit reimbursement to both specialist and general/family practitioner for patient consultations that occur via email or videoconference (reimbursement for specified telephone consultations that are a minimum of 10 minutes in length is now provided in the new fee codes effective October 1, 2010).

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ZZ These may be arranged through CriticalCall; only physicians paid by fee-for-service for the telephone consultation are eligible.
c. That sessional compensation be available for all specialists who interact with general/family practitioners in all payment models. Such compensation is now provided for clinical and indirect services provided by specialists visiting family health teams but not to physicians paid under other models.

15. That the Ministry of Health and Long Term Care fund a demonstration project to provide variation data to individual physicians about their use of diagnostic testing, as described above, and that funding be included to facilitate local/regional meetings of physicians to interpret and act upon the data.
References

1 Robarts S, Kennedy D, MacLeod A, Findlay H, & Gollish J. A framework for the development and implementation of an advanced practice role for physiotherapists that improves access and quality of care for patients; 2008; Healthcare Quarterly, 11(2).


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