Expert Panel on Appropriate Utilization of Diagnostic and Imaging Studies: Interim Recommendations

I. Mandate of the Expert Panel

The Expert Panel on Appropriate Utilization of Diagnostic & Imaging Studies has been tasked with providing expert advice to the Ministry of Health and Long-Term Care that will ensure appropriate utilization of diagnostic and imaging studies in Ontario. The goal of the panel is to ensure that patients have appropriate, timely access to high quality diagnostic and imaging studies, while respecting the judgment of the physicians that care for these patients.

II. Amendments to the OHIP Fee Schedule (“the Amendments”).

In response to available evidence and precedents in other jurisdictions, on May 7, 2012, the Ministry of Health and Long-Term Care (“the Ministry”) announced Amendments to the OHIP Schedule of Benefits, effective April 1, 2012, which would reduce fees for certain diagnostic services by 50% where:

“The referring physician (i.e., the physician ordering the diagnostic service) and the physician rendering any component of the diagnostic service are the same physician; and

where the referring physician and the physician rendering any component of the diagnostic service are members of the same physicians group or physicians hospital group.”

Due to the complexity associated with implementation of the Amendments, the Ministry proposed that an Expert Panel be established to further examine and provide advice to support timely and accessible delivery of high quality diagnostic and imaging services in Ontario.

III. Expert Panel Progress and Focus to Date.

The Expert Panel has met three times; June 29, July 13 and July 27, 2012, since being formed in June 2012. To date, consensus has been reached on multiple recommendations for the Ministry’s consideration, which are divided into general recommendation to the Ministry that relate to the appropriate utilization of diagnostic and imaging studies, and specific recommendations to the Ministry that relate to the utilization of echocardiography services, the first diagnostic or imaging study considered by the Expert Panel.

IV. General Recommendations to the Ministry.

Recommendation #1: Mandate the use of guidelines that identify appropriate indications for diagnostic and imaging studies, accreditation of imaging facilities and completion of appropriate training for individuals that perform and interpret diagnostic and imaging studies.

Expert Panel members share the view that: i) defining appropriate indications for diagnostic and imaging studies; ii) requiring that facilities that perform diagnostic and imaging studies be independently accredited; and iii) requiring that health care providers are appropriately trained to perform and interpret diagnostic and imaging studies would result in appropriate utilization and increased quality of diagnostic and imaging studies in Ontario. Eliminating diagnostic and imaging studies that are done for inappropriate indications could result in a decrease in the wait time for such studies.
In the view of the Expert Panel, the appropriateness of a referral for diagnostic or imaging studies should not be adjudicated based on diagnostic laboratory ownership, the status of the relationship between the referring physician and the diagnostic laboratory, or other non-clinical factors.

**Recommendation #2: Delay implementing the Amendments, and assess potentially unintended consequences the Amendments could have on access to care.**

The Amendments to the OHIP fee schedule are now in place, but have not been implemented. The Expert Panel identified multiple potential problems implementing the Amendments, and identifying potential exemptions to the Amendments, including:

- Requiring patients to go back to their primary care physician or other specialist to order a diagnostic or imaging study may delay access to care, and may lead to unnecessary inefficiencies and stress on the health care system.
- Timely and appropriate access to diagnostic and imaging studies in smaller or more remote communities, and in the emergency room and other clinical settings could be negatively impacted.
- The broad range and complexity of physician practice groups, referral patterns and laboratory ownership in Ontario may make determination of what constitutes an appropriate referral for a diagnostic or imaging study difficult. For example, how would it be determined if referral for a diagnostic or imaging study between physicians that practice in a large group setting within a hospital, or in association with a private laboratory in the community, is appropriate? The same complexities would likely pertain to any attempt to define exemptions to the Amendments.
- Due to the current lack of standardization regarding the conduct and reporting of the majority of diagnostic and imaging studies, it is difficult to envision how exemptions to the Amendments that would apply to these studies could be fairly identified and enacted. In addition, implementing exemptions to the Amendments may carry the same potential for a negative patient impact and misplaced intent as implementing the Amendments themselves.

Currently, there is significant variability in service provision and practice patterns between and across medical specialties that provide diagnostic and imaging studies in Ontario, and detailed data regarding the utilization of diagnostic and imaging studies is lacking. A wide range of diagnostic and imaging services would be impacted if the Amendments were implemented. In consideration of these facts, and the potential problems implementing the Amendments identified herein, The Expert Panel is of the opinion that it would not be possible to provide rational, fact based recommendations regarding exemptions to the Amendments that would result in appropriate utilization of diagnostic and imaging studies in Ontario.

After careful consideration of these issues, the Expert Panel has elected to focus on: i) the identification or development of guidelines for the appropriate use of diagnostic and imaging studies, ii) accreditation of facilities that perform diagnostic and imaging studies, and iii) training of health care personnel that carry out and interpret diagnostic and imaging studies. The Expert Panel is of the opinion that this strategy will ensure that patients have timely access to appropriate, high quality diagnostic and imaging studies in Ontario. Panel members are encouraged that the Ministry has expressed initial support for this approach. From both a patient and system perspective, Panel Members agree that the focus should be on ensuring that all diagnostic and imaging studies are being provided for the right reason, in the appropriate environment, by appropriately trained providers.
Recommendation #3: Determination of what constitutes appropriate use of diagnostic and imaging studies should be based on objective, consensus standards that are supported by available trial evidence.

There is a lack of data regarding the indication, type and volume of diagnostic and imaging studies that are being performed in Ontario. In addition, the level of training and accreditation status of individuals and facilities that are providing these services, respectively, is not well characterized. The Ministry, Expert Panel and other interested parties require this data to understand and anticipate the impact that the Amendments could have on the use of diagnostic and imaging studies, and on access to diagnostic and imaging studies in Ontario.

The Institute for Clinical and Evaluative Sciences (ICES) and other groups have conducted informative studies that identify the rates of utilization and geographic distribution of some diagnostic and imaging studies in Ontario. However, this information is not sufficient to explain the precise reasons for the growth rates that are being observed in many areas of diagnostic testing – data that explains the reasons for these changes in growth rates is required. Based on the Expert Panel’s initial investigations to date, in many cases even the most basic data regarding the utilization of diagnostic and imaging studies in Ontario is currently lacking.

V. Recommendations to the Ministry Concerning Echocardiography.

The Expert Panel chose an initial focus on echocardiography because: i) echocardiography is a significant test in terms of volume and application in Ontario; ii) an appropriateness structure is lacking in Ontario for the utilization of this test; and iii) the timeliness of the just-released Cardiac Care Network (CCN) Echocardiography Working Group report that identifies recommended standards for the provision of echocardiography in Ontario.

The CCN Echocardiography Working Group report sets out:

a. Standards with respect to the conduct of echocardiographic examinations.
b. Standards for echocardiographic equipment, facilities and procedures.
c. Standards regarding the reporting of echocardiographic studies.
d. Standards that identify the training requirements for personnel that carry out and that interpret echocardiographic examinations.
e. Appropriate indications for echocardiographic examinations.
f. Continuing quality assurance for echocardiographic examination and echocardiography laboratories.
g. A framework for the accreditation of echocardiographic facilities.

The Expert Panel reviewed the CCN Echocardiography Working Group report in detail, as well as other reports and regulatory frameworks related to echocardiography in other jurisdictions (please refer to the appended summary of references as well as presentations that were made to the Expert Panel).

Regarding the conduct of echocardiographic examinations in Ontario, the Expert Panel recommends the following to the Ministry:
**Recommendation #4:** Ensure that appropriate indications for echocardiography are clearly set out in the OHIP fee schedule, and that echocardiographic studies carried out for inappropriate indications are not paid by the Ministry.

There are well-accepted indications for appropriate echocardiography provision, as well as clinical settings where the use of echocardiography is inappropriate – both have been identified in the 2011 ACCF/ASE/AHA/ASNC/HFSA/HRS/SCAI/SCCM/SCCT/SCMR Appropriate Use Criteria for Echocardiography document.\(^1\) A significant amount of work by multiple clinical expert groups, including the CCN Echocardiography Working Group, has contributed to the development of appropriate indications for echocardiography assessment. After reviewing the guidelines identified in the 2011 ACCF/ASE/AHA/ASNC/HFSA/HRS/SCAI/SCCM/SCCT/SCMR Appropriate Use Criteria for Echocardiography document and the CCN Echocardiography Working Group report, Expert Panel members agreed that, given the availability of these guidelines, there was no need for the Expert Panel to independently develop guidelines for echocardiography assessment in Ontario. As indications for the use of diagnostic and imaging services like echocardiography may change, the Expert Panel recommends that the list of appropriate indications for echocardiography be reviewed from time to time, and at a minimum every three years.

**Recommendation #5:** Implement the CCN Echocardiography Working Group report on standards for the provision of echocardiography in Ontario in its entirety, in a timely fashion.

Expert Panel members agree that the appropriate indications for echocardiographic assessment, as identified by the CCN Echocardiography Working Group, and the clinical settings where echocardiography is not indicated should be rapidly disseminated to practitioners of echocardiography in Ontario.

**Recommendation #6:** Consult, at a minimum, with CCN, the College of Physicians and Surgeons of Ontario and the Intersocietal Accreditation Commission to consider the most effective and appropriate accreditation program for the provision of echocardiography services in Ontario.

Ontario is one of the few provinces in Canada lacking a regulatory framework to support echocardiography, including mandatory accreditation of laboratories. Mandatory accreditation of laboratories is present in at least two provinces, with other forms of regulation in place in the remaining provinces (with the exception of Quebec). It will be important to understand the experiences of the other provinces and to consult with national and international experts on accreditation programs for echocardiography laboratories. The Expert Panel is of the opinion that mandatory accreditation of echocardiography laboratories will increase the quality of echocardiography services provided in Ontario, and that the requirement for accreditation will have a direct, sustained and positive impact on the care of patients with cardiac disease.

**Recommendation #7:** Implement mandatory accreditation of all echocardiography facilities in Ontario, using a phased approach, as recommended by the CCN Echocardiography Working Group.

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Expert Panel members recognize that implementing accreditation standards will take time, and that a phased approach to accreditation of facilities providing echocardiography services will be necessary before accreditation becomes mandatory in Ontario. The CCN Working Group proposed the following phases to implement accreditation standards for echocardiography in Ontario:

a. **Phase I**: Education and period of self review to facilitate necessary modifications to meet standards and optimize care.
b. **Phase II**: Voluntary external review where laboratories can receive external feedback and recommendations to achieve full compliance.
c. **Phase III**: Mandatory external review requiring external accreditation of all facilities providing echocardiography.

The Expert Panel supports this phased approach and recommends a period of two years between the launch of Phase I and the completion of Phase III, wherein confirmation of accreditation will be required in order for the Ministry to approve requests for payment for echocardiography services. Expert Panel members acknowledge the potentially significant logistic challenges and costs that may be associated with accrediting all facilities that provide echocardiography services in Ontario, and accept that these issues may impact on the ability to meet the timelines for accreditation proposed herein.

**Recommendation #8: Implement the training requirements identified by the CCN Echocardiography Working Group for individuals that carry out and interpret echocardiographic examinations in Ontario.**

Expert Panel members recognize that mandating appropriate training requirements for personnel that carry out and interpret echocardiographic examinations will take time and that a phased approach to the acquisition of such training will be necessary before this recommendation become mandatory in Ontario. The Expert Panel is of the opinion that a requirement for standardized training guidelines for health care providers that carry out and interpret echocardiographic examinations will increase the quality of echocardiography services provided in Ontario, and that this requirement will have a direct, sustained and positive impact on the care of patients with cardiac disease.

Expert Panel members agree that it may be onerous to mandate additional formal training in echocardiography in some circumstances, because this could compromise access to echocardiography services in some areas of the Province, and because such a requirement for individuals that have accumulated a large experience in the conduct and assessment of echocardiographic examinations may be unnecessary. To address this issue, the Expert Panel recommends that applications for new licenses for the provision for echocardiography services only be approved where echocardiography laboratories retain individuals that have the appropriate training to perform and interpret echocardiographic examinations, as defined in the CCN Echocardiography Working Group report. The Expert Panel recommends that individuals that do not possess such training be subjected to a rigorous audit of the echocardiographic examinations that they have provided, to ensure that these examinations are consistent with established quality standards. Failure to demonstrate appropriate training or adherence to quality standards, as determined by audit of the echocardiography providers service should result in an inability to bill OHIP for the provision of echocardiography services until such deficiencies are rectified.
Recommendation #9: Develop a standardized referral process and standardized reporting requirements for echocardiography examinations, under the clinical leadership of CCN.

The Expert Panel recommends that a standardized, preferably electronic form to request echocardiographic examinations be developed that identifies appropriate indications for echocardiography, taken directly from the CCN Echocardiography Working Group report. The use of such a form would ensure that echocardiographic examinations are being requested for appropriate clinical indications, and would enable accurate tracking of the indications for this test in Ontario.

The Expert Panel also recommends that a standardized, preferably electronic form be developed to report echocardiographic examinations. However, Expert Panel members noted that development of a standard reporting form may be challenging, given that providers use different vendor software to report echocardiography studies that may be difficult to modify. If development of a standard reporting form is not viable, the Ministry should mandate that forms used to report echocardiographic examinations have specific common elements that constitute minimum reporting requirements. From a quality of care perspective, the use of a standardized reporting form for echocardiographic examinations would ensure that physicians have all the information necessary to develop appropriate treatment plans for their patients. A provincial centralized repository or regional centralized repositories of echocardiographic examinations would ensure that physicians could access all echocardiographic examinations, and would also enable implementation of a quality assurance program through random audits of echocardiographic data and reports.

Recommendation #10: Require the development of contractual linkages between private facilities and regional hospitals that provide echocardiography services, to ensure seamless and continuous availability of echocardiography services in smaller communities where echocardiography services may be provided outside of the community hospital.

Panel Members share the concern that access to echocardiography services in rural and remote communities not be negatively impacted by these recommendations, for example through a potential impact on hospital staffing and the number and/or location of echocardiography facilities in these communities. The Expert Panel supports current directions in the hospital sector to establish formal linkages between smaller and larger health care facilities, to ensure the continuous availability of high quality diagnostic and imaging services, including echocardiography.

This recommendation is designed to ensure that patients, especially in rural communities, have access to echocardiography services, and to ensure that the facilities that provide echocardiography services in these communities retain the technologists and physicians required to provide this service.

Recommendation #11: Establish a provincial Audit and Review Committee for echocardiography services.

This committee would randomly audit echocardiography reports and source images, to ensure that laboratories providing echocardiography services are performing echocardiographic examinations for appropriate indications and that these laboratories are meeting minimum reporting standards. Independent review of source images and cine-loops of echocardiography studies would help ensure that echocardiography assessments are being carried out in a manner consistent with CCN.
Echocardiography Working Group guidelines, and that echocardiography studies are being accurately reported.

**Recommendation #12: Carry out an objective evaluation of the effect of implementing recommendations related to the conduct of echocardiographic examinations in Ontario.**

It is difficult to predict the precise impact of these recommendations on the provision of echocardiography services in Ontario. Data that identifies the location of echocardiography laboratories, the level of training of providers of echocardiography, the accreditation status of each echocardiography facility, the indications for echocardiography and the volume of echocardiographic examinations should be collected and maintained by the province. This data should be reviewed by the CCN Echocardiography Working Group from time to time, and no less than every two years.

**VI. Other Diagnostic and Imaging Studies.**

The Expert Panel will now turn its attention to the evaluation of other diagnostic and imaging studies in Ontario. This will include, but may not be limited to, consideration of:

a. Electromyographic and electroencephalographic examinations.
b. Ultrasound examinations carried out in the emergency room.
c. Nuclear cardiology studies.
d. CT and MR angiography.
e. Sleep studies.
f. Peripheral Vascular Laboratory studies.
g. Prenatal ultrasound examinations.

As part of its work, the Expert Panel will determine which diagnostic and imaging studies require guideline development, which diagnostic and imaging studies have guidelines that currently exist and should be implemented, and which guidelines for diagnostic and imaging studies require updating.

The membership of the Expert Panel, terms of reference for the Expert Panel, agenda for Panel meetings and a summary of each Panel meeting to date have been posted on a Ministry web page accessible to the public ([http://www.health.gov.on.ca/en/news/bulletin/2012/hb_20120727_1.aspx](http://www.health.gov.on.ca/en/news/bulletin/2012/hb_20120727_1.aspx)), consistent with the Expert Panel’s transparent approach to its work. Input to the Panel’s deliberations will be welcomed at all stages.

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