Technical paper 2

# QUALITY OF CARE

## An approach to reward best practice

Expert Panel
for Patient-Based
Funding

Québec

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QUALITY OF CARE – An approach to rewardbest practice
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# INTRODUCTION

To ensure the sustainability of Québec's health care system, the value of care must be increased, in particular through quality improvement.

This paper is a complement to the report of the Expert Panel for Patient-Based Funding, which provides a more detailed description of how financial incentives should be implemented in order to improve quality in health care services. This paper provides a conceptual framework for understanding the different payment models and their objectives, with a particular focus on best practice tariffs,[1] which is the main subject of the paper.

The objective of best practice tariffs (also called quality-based payments) is to improve health outcomes by introducing incentives to adopt clinical best practices, namely, an adequate reimbursement for high-quality health care. The goal of linking a financial reward, quality and health care delivery is to promote clinically effective and financially efficient health care in order to universalize best practices.

During its work, the Expert Panel for Patient-Based Funding studied several initiatives in the field that have been undertaken with similar objectives, that is, to increase the value of health care by standardizing and spreading best practices. The positive results of these experiences in Québec, as well as in other jurisdictions, convinced the Expert Panel of the benefits of implementing best practice funding and the need to do so using a more planned and systematic approach, in sectors that offer the greatest potential for achieving better health outcomes at a better cost.

Section 1 defines quality of care, explains why it is important for increasing the value of health care services and the different ways payment models can be designed to enhance the different dimensions of quality or encourage their application.

Section 2 describes the Expert Panel's proposals for the gradual implementation of a best practice funding program in Québec's health care system.

Section 3 provides an example of this approach applied to colonoscopy, while Section 4 addresses how the risks and the change should be managed.

The paper concludes with a summary of the recommendations.

[1] For the purposes of the document, best practices refer to evidence-based, scientific practices.

# 1. WHY IS QUALITY IMPORTANT?

A growing body of evidence suggests that increasing the value of health care outcomes and ensuring the sustainability of the health care system can only be achieved by improving the quality of services.[2,3,4] Research shows that in the health care systems that are often cited as an example, governments make it clear that quality improvement is a cornerstone of their core strategy.[5] Governments also use quality improvement to counter the escalating costs of health care and to find ways that allow savings to be reinvested in the network.[6]

For these reasons, the Expert Panel recommends making quality improvement a clear priority for Québec's health care system and developing payment mechanisms that promote quality improvement.

**A definition of quality**

Quality in health care refers to the way the health care services provided to patients and populations improve their health outcomes by delivering care that is based on scientific knowledge, reflected in technical dimensions. A number of organizations, including Accreditation Canada, the Canadian Institute for Health Information and the Canadian Foundation for Healthcare Improvement, have defined the dimensions of quality.

- Effectiveness: health care services should be based, as far as possible, on rigorous scientific or research evidence.
- Access: health care services should be provided in a timely manner in an appropriate setting.
- Capacity: the health care system should have the necessary resources to provide appropriate services.
- Safety: the patient should not be harmed by the care received or exposed to unnecessary risks.
- Patient-centredness: health care services should be based on a partnership between practitioners and the patient; health care should be delivered with compassion, empathy and responsiveness to the patient's needs, values and preferences.
- Equity: health care services should be provided on the basis of clinical need, regardless of personal characteristics such as age, gender, race, ethnicity, language, socioeconomic status or geographic location, such that health care contributes to reduced differences in health status and outcomes across various subgroups.

Sources:

1. INSTITUTE OF MEDICINE, Committee on the Quality of Health Care in America, *Crossing the Quality Chasm: A New Health System for the 21st Century, in Brief*, Washington, National Academy Press, 2001.
2. ACCREDITATION CANADA, *Accreditation Canada International: Driving Quality Health Services*, Ottawa, Accreditation Canada, 2008.
3. CANADIAN INSTITUTE FOR HEALTH INFORMATION, *A Performance Measurement Framework for the Canadian Health System*, Ottawa, CIHI, 2012.
4. S. LEATHERMAN and K. SUTHERLAND, *Quality of Healthcare in Canada: A Chartbook*, Ottawa, Canadian Foundation for Healthcare Improvement, 2010.

[2] COMMISSION ON THE REFORM OF ONTARIO'S PUBLIC SERVICES, chaired by D. Drummond, *Public Services for Ontarians: A Path to Sustainability and Excellence*, 2012, 562 p.

[3] HEALTH COUNCIL OF CANADA, *Which Way for Quality? Key Perspectives on Quality for Canadian Healthcare Systems*, 2013, [Online] http://healthcouncilcanada.ca/rpt_det.php?id=455.

[4] H. MILLER, The Commonwealth Institute, *Creating Payment Systems to Accelerate Value-Driven Healthcare*, London, 2007.

[5] G. R. BAKER and J. L. DENIS, Canadian Health Services Research Foundation, *A Comparative Study of Three Transformative Healthcare Systems: Lessons for Canada*, Ottawa, 2011.

[6] HEALTH COUNCIL OF CANADA, *Health Care Renewal in Canada: Progress Report 2013*, 2013, [Online] http://www.healthcouncilcanada.ca/rpt_det.php?id=481.

Given their importance, quality and payment mechanisms that promote quality are central to strategies to improve health care systems and operational efficiency.

## ❑ The link between quality and payments

The Expert Panel's report illustrates how financial mechanisms have become critical elements in health policy management. Interest in them has risen as health care systems worldwide have tried to control rising expenditure and costs, improve quality and make optimal use of available resources.

Importantly, the use of payment systems to promote certain behaviours has increasingly been part of a general desire to decentralize decision making, while ensuring that overall policy goals are met (for example, clinical and financial efficiency). Top-down command and control have been replaced by local, bottom-up decisions, shaped by payment systems responsive to patient needs and preferences.[7]

Prospective activity-based payment systems, which are the main focus of our work, can play an important role in making changes to the system. However, they are not without their problems. There are potential risks that incentivizing activity may have a detrimental effect on quality as care providers seek to maximize their remuneration. To be able to manage these risks, they must first be acknowledged. Care providers may also try to shift costs onto other sectors of the health care system or onto patients.

Interest has therefore developed in payment systems that promote both efficiency and quality. Efforts to reconcile these two objectives have led to payment systems that "pay for performance" by linking some portion of the activity-based payment to the outcomes achieved or, where outcomes are hard to measure or no data is available, payments are linked to the following of processes (or care protocols) associated with better outcomes.

The primary objective of these payment systems is to improve quality of care by aligning financial rewards with quality and measures of performance.

[7] J. APPLEBY, T. HARRISON, L. HAWKINS and A. DIXON, *Payment by Results: How Can Payment Systems Deliver Better Health Care?*, London, King's Fund, 2012, p. 2.

## 1.1 Different approaches to incentivize quality through funding

A number of different models have been designed to improve quality of care using financial levers. Varied terminologies have been adopted by different administrations to describe policies that are, nonetheless, similar. The Expert Panel recommends making the adoption of best practice tariffs[8] one of three priority areas in a stage-wise strategy to implement patient-based funding. Before making a proposal for the implementation of best practice tariffs, the following section compares this approach with other quality-based payment models so that everyone can understand the proposal in the light of international experiences.

### 1.1.1 Best practice funding

In most activity-based funding models, tariffs are based on national average costs. To introduce financial levers, a number of administrations have introduced normative tariffs to encourage the adoption of best practices, reduce undesirable variations, improve patient health outcomes and lower costs. These methods have various names and different characteristics depending on the context, for example “best practice tariffs” or “quality-based payments.” The Expert Panel decided to use the term “best practice funding.”

Best practice funding has often been approved by practitioners where it has been implemented, for the approach is primarily evidence-based and is considered a fairer payment system.

The goal is to structure and price best practice tariffs to adequately reimburse care that is high quality and cost effective, while linking the tariff to compliance with protocols. Best practice funding can meet different objectives:

- encourage the use of a less invasive approach (for example, day surgery instead of hospitalization);
- streamline the care pathway (for example, by reducing the number of appointments after surgery or improving coordination);
- increase the provision of high-quality care based on the evidence available (for example, by encouraging care providers to use recommended clinical interventions when treating patients in order to ensure appropriate patient selection and increased diagnostic efficiency). On this subject, see Section 3 on the Québec Colorectal Cancer Screening Program.

[8] The tariff refers to an indicator of the payment paid by the government in return for care provided to a patient.

Best practice funding must reflect the actual cost of providing care. Therefore, the financial incentive depends not only on how the tariff relates to the actual cost incurred by the care provider (which varies), but also on the consequences of producing services at a cost that is different from the best practice tariff. Viewed from this perspective, four different models can be identified:

- differential tariffs – where the best practice tariff is higher than the base tariff and usually (but not always) lower than the standard tariff;
- additional payments – where the best practice tariff is higher than the standard tariff, but more appropriate service utilization means that the budget is respected;
- withhold payments – where the best practice tariff forms a conditional part of the standard tariff;
- bundled tariffs – where the best practice tariff is the sum of the tariffs for a specific number of interventions in the care pathway.

When the tariff is used to influence health care delivery, it is determined prospectively. The goal is to encourage the delivery of health care that is defined as desirable and to discourage the delivery of inappropriate services. Best practice tariffs can also be used to encourage the delivery of health care in alternate technical platforms such as outpatient clinics and home care. In practice, normative tariffs can only be used when there is consensus as to what constitutes desirable and undesirable care.

A review of the literature conducted by researchers at an Australian university provides evidence that a range of factors need to be considered in the implementation of any pilot program or field trial.[9] They are summarized here:

- incentives need to be substantial if the model is to have any effect;
- incentives need to be delivered to the level of the clinical department to have any effect;
- the impact of any proposed model needs to be modelled and carefully evaluated both prior to and at regular intervals during implementation;
- the impact analysis should include consideration of the potential for regional disparities, as there is some evidence in the literature that some payment for performance models have disadvantaged rural hospitals;
- incentive structures need to focus on engendering improvement across all hospitals rather than just rewarding hospitals/services that are already performing well;
- potential perverse incentives need to be carefully considered;
- methodologies for risk adjustment need to be developed and incorporated.

The Expert Panel took these factors into account in developing its recommendations for the implementation of a best practice funding program in Québec.

[9] K. EAGAR, J. SANSONI, C. LOGGIE et al., *A Literature Review on Integrating Quality and Safety into Hospital Pricing Systems*, Centre for Health Service Development, University of Wollongong, 2013, p. 3.

## Examples of best practice funding

**1) Best practice tariffs in England**

On April 1, 2010, England's National Health Service (NHS) replaced the average cost with an optimal cost in its funding system. The optimal cost is calculated based on medical best practices for certain health problems and types of care (including cataracts, hip fractures, stroke, renal dialysis and cholecystectomy). This tariff is based on the cost of the most efficient practice. According to the NHS, this best practice tariff can be higher or lower than the average cost and depend on certain requirements.

There is no single calculation method. Tariffs are calculated based on the specific characteristics of each intervention, recognized best practices and the availability of data on quality.

The criteria for selecting interventions are based on:

- a high incidence, that is, a high volume, large variations in practices and a significant impact on health outcomes;
- the availability of evidence on what constitutes best practice;
- broad expert consensus on the characteristics of best practice.

As a rule, the tariff should apply not only to the surgical procedure, but also to stages of management "upstream" and "downstream", from diagnosis to postoperative follow-up. For example, in cataract treatment, the best practice is to carry out all preoperative assessments at the same time, treat in day surgery and carry out all follow-up assessments on the same day, two weeks after the procedure.

**2) Quality-based procedures in Ontario**

In Ontario, "quality-based procedures" reimburse care providers for the types and quantities of patients institutions treat using evidence-informed tariffs that are adjusted for case weight and quality of care.

Experts develop best practice clinical pathways for each "quality-based procedure" and must set a tariff based on the actual costs of each intervention. To support the identification and prioritization of quality-based procedures, an evidence-based quality initiatives framework with the following four principles was developed: practice variation, availability of clinical data, feasibility of change and infrastructure for change.

For 2012-2013, the tariff for quality-based procedures was the 40th centile of costs incurred on average over a three-year period by participating institutions. Over time, this tariff will be replaced with a "best practice tariff" which will more explicitly reflect quality of care considerations.

Tariffs must fund the entire care pathway. If we take the example of a total knee replacement, the patient will need surgery and rehabilitation. Quality-based procedures specify the payment each health care provider will receive for his contribution to the patient's care pathway.

At present, the ten procedures are hip replacement, knee replacement, cataract surgery, chronic kidney disease services, gastrointestinal endoscopy, chemotherapy – systemic treatment, stroke management, congestive heart failure management, the treatment of chronic obstructive pulmonary disease and vascular procedures (non cardiac). Over the next three years, other procedures will be added.

Sources:

1. For a more detailed evaluation of outcomes, see: R. MACDONALD, S. ZAID, S. TODD, F. KONTEHH, K. HUSSAIN, J. ROE, T. ALLEN, E. FICHERA and M. SUTTON, *A Qualitative and Quantitative Evaluation of the Introduction of Best Practice Tariffs*, London, U.K., Department of Health, 2012, 81 p.
2. SOUTH EAST LOCAL HEALTH INTEGRATION NETWORK, *Patient-Based Funding, Quality-Based Procedures*, 2012, [Online], http://www.southeastlhin.on.ca/uploadedFiles/Public_Community/Health_System_Funding_Reform/HSFR%20QBP%20presentation%20for%20HPAC%20-%2012Oct%2010%20(3).pdf.
3. MINISTRY OF HEALTH AND LONG-TERM CARE, *2013-2014 Quality Improvement Plan: Guidance Document for Ontario's Health Care Organizations*, *Annexe D, Harmonisation de la qualité et de la Réforme du financement du système de santé* (RFSS), 2012. MINISTRY OF HEALTH AND LONG-TERM CARE, *Health System Funding Reform. Quality-Based Procedures,* [Online], http://www.health.gov.on.ca/en/pro/programs/ecfa/funding/hs_funding_qbp.aspx.

### 1.1.2 **Pay for performance to institutions**

Payment for performance is probably the most widely known concept when it comes to financial incentives to improve quality. In this approach, incentives or disincentives are applied conditional upon the achievement of specific outcomes in order to encourage quality and safety. This model creates a direct link between funding on the one hand and quality and safety on the other. The tariff is usually adjusted retrospectively depending on the outcomes achieved for specific indicators. Good performance can be rewarded by supplementing a base tariff, or poor quality health care penalized by withholding payment.[10]

The payment structure can take various forms. Performance indicators can be based on clinical quality, patient experience, compliance with procedures, etc. Indicators can reward the achievement of a predetermined performance target or improvement relative to a baseline measurement, another institution or previous outcomes.

The successful development and implementation of a payment for performance policy depend on a number of criteria. Accurate, reliable data from appropriate clinical and financial information systems is required. This data must be transparent and evaluated independently to ensure confidence in the incentives system and discourage any form of manipulation. Decisions will also have to be made regarding the value of the reward. Irrespective of whether achieving or failing to achieve targets leads to additional payments or penalties, they must be substantial enough to act as a real incentive.

In the most draconian examples, a list of events that should never occur (never events) is drawn up. For example, payments are not made for surgery performed on the wrong patient or the wrong part of the body, based on the argument that care that causes harm should not be funded. While such a policy is attractive, implementing this approach would mean harmonizing funding for institutions with physician remuneration. In systems where institutions and physicians are reimbursed from separate envelopes, such as fee-for-service remuneration for physicians in Québec, a way to apply this approach to both envelopes would have to be found. Since the issue of physician remuneration is not part of the Expert Panel's mandate, the possibility of not paying the person responsible for the event will not be discussed further.

In short, when funding mechanisms are introduced to promote and improve quality, five factors[11] must be taken into consideration, namely, the type of indicators, what to reward, the accuracy of data, who receives the financial incentive and the value of the financial incentive.

This type of results-based payment is proposed in part in the paper on the Access to Surgery Program, the first priority area recommended in the Expert Panel's report. The advantage of payment for performance is that it can be implemented for a wide range of surgical interventions using a general set of quality indicators. Once the data needed to monitor the indicators is available and accessible to clinicians, managers and patients, it will be possible to link payments to outcomes.

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10 DEEBLE INSTITUTE, *Is It Possible to Incorporate Quality into Hospital Pricing Systems?* No. 11, Australian Healthcare and Hospital Association, 2013, [Online], http://ahha.asn.au/deeble-institute.

11 ANITA CHARLESWORTH et al., *Reforming Payment for Health Care in Europe to Achieve Better Value*, London, Nuffield Trust, 2012, pp. 18-19.

**Examples of payment for performance to institutions**

**1) Emergency department decongestion in British Columbia**

Under this program, hospitals are awarded an incentive of an additional $100-$600 per patient who was treated or admitted when predetermined targets for emergency department transit times are met. To qualify for the program, a hospital must treat or admit a minimum number of patients to the emergency department. This minimum threshold for visits is determined by expert opinion based on data observed the previous year.

The targets and resulting payments for performance are:

- lower acuity patients discharged from the emergency department in two hours or less result in a payment to the department of $100;
- higher acuity patients discharged from the emergency department in four hours or less result in a payment of $100;
- an emergency department patient who requires hospital admission and who receives a bed within 10 hours from time of arrival results in a payment of $600.

The program is currently undergoing evaluation; it is still too early to draw conclusions. However, the results of experiences indicate that the emergency departments that participated in these two pilot projects reported cumulative improvements in the number of patients (of all types) being seen within the targeted transit times, despite overall increases in volumes and acuity.

**2) The Value-Based Purchasing Program in hospitals**

Linked to the United States' *Patient Protection and Affordable Care Act*, Value-Based Purchasing (VBP) Program payments are determined by how hospitals score on quality measures. The program is funded by reducing tariffs by 1% to 2% and redistributing the sum not recouped to the highest scoring hospitals. The budget is neutral, but allows for a redistribution of roughly 963 million dollars between hospitals during fiscal year 2013. The reduction in tariffs must increase gradually every year, rising from 1% in 2013 to 2% by 2017.

Institutions' score for the 12 clinical quality measures must be published for at least one year in the Inpatient Quality Reporting (IQR) Program before an institution can really participate in VBP. The quality measures account for 70% of the total score. The remaining 30% comes from the results of a patient satisfaction survey.

Nearly 3,000 institutions participate in the program. As of December 20, 2012, nearly 1 billion dollars have been redistributed.

Sources:


1. HEALTH COUNCIL OF CANADA, *Emergency Department Decongestion Incentive Model: Rewarding target transit times that improve access and reduce wait times in the emergency department*, [Online], http://innovation.healthcouncilcanada.ca/fr/innovation-practice/mod%C3%A8le-incentive-de-d%C3%A9sencombrement-des-services-des-urgences-r%C3%A9compenser-les [page consulted November 3, 2013].
2. RAU, J., *How Hospitals' Quality Bonuses and Penalties Were Determined and How to Use the Data*, 2012, [Online], www.kaiserhealthnews.org/stories/2012/december/21/medicare-hospitals-value-based-puchasing.aspx [page consulted November 18, 2013].

### 1.1.3 **Pay for performance to physicians**

Another of the more widely known approaches that link remuneration to physician activity is to make remuneration conditional upon the achievement of specific performance objectives. Initially adopted in the private sector, this practice has become increasingly widespread in public services and in a wide range of professions in the last 20 years.

In the health sector, a number of models have been developed to encourage the priority allocation of certain interventions or services to family physicians or specialists. Over time, attention has shifted to developing joint approaches to a simultaneous reform of physician remuneration methods and the creation of payment programs. Pay-for-performance programs are becoming common for remuneration in the health sector in many administrations. As many as 19 OECD countries are using such programs to improve quality of care.[12]

In Québec, general practitioners and specialists are primarily paid through a fee-for-service system and, sometimes, using a mixed remuneration system. General practitioners receive a portion of payments by capitation for the patients registered with a family medicine group. Since physician remuneration is not part of the Expert Panel's mandate, the recommendations regarding the use of tariffs to improve the quality of services (both in the Access to Surgery Program and in the proposal for a best practice funding program) apply to funding for the health and social services network, not to physicians.

[12] JOAN SUTHERLAND et al., *Reviewing the Potential Roles of Financial Incentives for Funding Healthcare in Canada*, Ottawa, Canadian Foundation for Healthcare Improvement, 2012, 56 p.

## Examples of pay for performance to physicians

**1) The Quality and Outcomes Framework in England**

The Quality and Outcomes Framework (QOF) introduced in England in 2004 is a voluntary incentive pay program for primary care physicians. The QOF has a set of indicators against which physicians score points according to their level of achievement. The financial reward the physician receives is calculated based on the points achieved. The final payment is adjusted to take into account the number of patients registered with the physician and the prevalence of chronic disease in the practice area.

Indicators are organized into four domains: clinical, organizational, patient experience and additional services. Each domain consists of a set of achievement measures known as indicators. The 2012-2013 QOF contains 148 indicators, for a maximum of 1,000 points.

Results are published annually. The data is used by regulatory bodies, health care professionals and policymakers to improve knowledge and the program's effectiveness. A Web site allows patients to consult the data easily.

**2) Payment by capitation in Ontario**

Ontario family physicians are shifting from fee-for-service to capitation in ever-increasing numbers. The Ministry of Health and Long-Term Care says that this is good news for both physicians and patients, although it warns that such systems can be complicated and difficult to operate in practice.

Since 2009, nearly a quarter of family physicians in Ontario have been paid via capitation, many abandoning fee-for-service only recently. Around two-thirds of Ontario patients are enrolled with physicians paid by capitation or so-called blended systems which retain some elements of fee-for-service.

The Ontario government implemented its first trials with capitation in the 1970s with its Health Services Organization program. In 2002, physicians were allowed to participate in the Family Health Network model, also based on annual global payment. However, it wasn't until the 2005 introduction of the Family Health Organization program, which covers more services and offers a higher capitation rate, that Ontario physicians began switching in large numbers to this new method of remuneration.

Recently, the Ministry of Health and Long-Term Care and the Ontario Medical Association have developed a menu of innovative and attractive compensation models that reward family physicians for providing comprehensive care to their patients. Compensation is based on blended payments. This means that while a model may be predominantly based on one form of payment (e.g. capitation), it will have a blend of financial incentives, premiums and other types of payments.

Sources :


1. HEALTH AND SOCIAL CARE INFORMATION CENTER (HSCIC), *Quality and Outcome Framework*, 2013, [Online], http://www.hscic.gov.uk/qof, [page consulted November 20, 2013].
2. R. COLLIER, "Shift toward Capitation in Ontario", *Canadian Medical Association Journal*, Vol. 181, No. 10, 2009, pp. 668-669, [Online], http://www.cmaj.ca/content/181/10/668.short.
3. HEALTHFORCEONTARIO, *Family Practice Compensation Models*, [Online], http://www.healthforceontario.ca/. [page consulted November 20, 2013].

## 1.2 Summary of issues concerning quality-based payments

To develop its strategy and recommendations for the implementation of patient-based funding in Québec, the Expert Panel took into account experiences in other jurisdictions, interviews and discussions with key stakeholders, research and other publications.[13,14] The importance of making quality a clear commitment and an integral part of patient-based funding approaches is consistent with experiences in the field. An emphasis on quality is essential to increase the value of health care and ensure the long-term sustainability of the health care system.

Quality-based funding programs around the world share a number of objectives and principles, but also differ in several important respects. Consequently, programs are not all identical and it should be noted that they are implemented in health care systems that are often very different, at different times, and with various political goals. These financial models are often implemented in conjunction with other elements, such as comparative analysis (benchmarking), continuing professional development, organizational changes and patient experience initiatives. Therefore, the changes cannot be attributed to a single factor.

Nevertheless, some of the conclusions[15] drawn from experiences with quality-based payments are strong enough to provide some guidance for the implementation of future initiatives. They include the importance of clinical leadership and the introduction of incentives in primary care that are substantial enough to have an effect. Implementation must be carefully designed and monitored so that the impact can be continuously evaluated and improved. Possible consequences for institutions in remote regions must be considered so that the population they serve is not disadvantaged. Furthermore, incentive structures must focus on engendering improvements across all institutions, rewarding both those that perform well and those that improve. These factors were taken into account in developing recommendations to establish a structured approach for best practice funding.

Recommendation 1

The implementation of patient-based funding in Québec's health and social services system must have the clear objective of improving quality of care.

Section 2 of this paper presents the case for recommending the use of a structured approach for best practice funding and proposes objectives, a plan, the people that should be involved and the processes needed to implement it.

[13] F. EIJKENAAR, "Pay for Performance in Health Care: An International Overview of Initiatives", *Medical Care Research and Review*, Vol. 69, No. 3, 2012, pp. 251-276.

[14] F. EIJKENAAR, M. EMMERT, M. SCHEPPACH and O. SCHOFFSKI, "The Effect of Pay for Performance in Healthcare: A Systematic Review of Systematic Reviews", *Health Policy*, Vol. 110, No. 2-3, 2013, pp. 115-130.

[15] DEEBLE INSTITUTE, ibid.

# 2. A BEST PRATICE FUNDING PROGRAM

## 2.1 Spread best practices

The ability of health care providers and their organizations to spread innovations and new ideas is a key factor in closing the gap between "best practice" and "common practice." Many promising studies and initiatives are focusing on improving clinical care. When these initiatives are undertaken by a group of inspired and motivated clinicians, they often produce gains in patient outcomes. But knowledge of these good ideas and practices often remains isolated.[16]

In fact, several experts say that if the transfer of knowledge is left to its own devices, without the assistance of a program dedicated to best practices, it takes an average of nine years for best practices to be fully implemented throughout a health care system. Even then, significant variations in practice remain. If upgrading is necessary, it often takes several more years before these changes are incorporated and included in case costing models and funding revised accordingly. Thus it is clear that spreading clinical advances broadly and rapidly is a major challenge for health care systems.[17] Despite the difficulty of changing clinical practices, significant clinical and financial gains can be made by implementing best practices rapidly and constantly.

Improving quality of care and patient safety is an important responsibility shared by many stakeholders in our health care system (at the MSSS, in agencies and CSSSs, as well as in professional associations). In 2011, recognizing the need for an independent source of knowledge on best practices, Québec created the Institut national d'excellence en santé et en services sociaux (INESSS), whose mission is to promote clinical excellence and the efficient use of resources in the health and social services sector. The Expert Panel benefited from INESSS's work in a number of areas, in particular its review of international experiences with patient-based funding,[18] produced in response to a mandate given by the MSSS.

Nevertheless, these bodies appear to operate without any overall program dedicated to quality and priorities for the system as a whole. Each follows its own logic and responds to health needs in its sector of activity and interest, without there necessarily being any coherence between the efforts of these groups for excellence or a systematic way to promote clinical leadership among other professional sources. The opinions of many renowned experts, for example those from the Institute for Healthcare Improvement, show the limits of allowing the most diverse initiatives to proliferate. While innovation has its place at all levels of the system, in itself it is not enough to reap all the potential benefits of clinical advances. Establishing clear priorities and mobilizing organizations capable of leading campaigns are now recognized as key factors for success.

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16 INSTITUTE FOR HEALTHCARE IMPROVEMENT, *How-to Guide: Sustainability and Spread*, 2011, [Online], http://www.ihi.org/knowledge/Pages/Tools/HowtoGuideSustainabilitySpread.aspx.

17 C. YUAN, I. NEMBHARD, A. STERN, J. BRUSH, H. KRUMHOLZ and E. BRADLEY, *Blueprint for the Dissemination of Evidence-Based Practices in Health Care*, Issue Brief, The Commonwealth Fund, Vol. 86, 2010, [Online], http://www.commonwealthfund.org.

18 J.M.R. LANCE, *Le financement axé sur les patients. Revue de littérature sur les expériences étrangères*, Québec, Institut national d'excellence en santé et en services sociaux, 2013, 103 p.

Introducing the right financial incentives also helps spread best practices more rapidly. In the Access to Surgery Program, which is the first priority area recommended by the Expert Panel, tariffs will be determined based on data on the average cost of the care received using a top-down approach. At a later stage, once Québec has implemented a case costing system that uses a bottom-up approach, data from institutions will enhance understanding of resource utilization and service organization and, incidentally, provide valuable insight for more accurate tariff setting.

Another way of refining the methodology would be to tackle variations in practices, which can cause variations in costs and potential negative effects on health outcomes. It is at this very point that it is important to follow a systematic approach to promote the adoption of best practices in priority health care sectors and to change funding mechanisms to encourage their use.

## 2.2 A best practice funding program

To implement evidence-based practices more rapidly and systematically, a joint effort is necessary. This effort must allow the right stakeholders to work together to provide committed clinical leadership. To take this objective even further, the Expert Panel recommends creating a best practice funding program. This program's approach is based on the example of the Québec Colorectal Cancer Screening Program (PQDCCR) presented in the next section of this paper.

The main work involved in spreading and adopting best practices is to identify committed clinical leaders who work in collaboration with experts from the MSSS and experts and managers from specific services in each clinical sector. These teams would be supported by a project manager charged with planning and implementing the program at the ministerial level.

The goals and objectives of the best practice funding program would be as follows:

- systematize the selection of interventions that offer the greatest potential for enhancing value by using agreed-upon criteria to identify priority clinical sectors;
- include priority clinical sectors in the multi-year plan for the implementation of a best practice funding program, supported by project management at the MSSS;
- identify lessons learned across activity sectors and from the experiences undertaken in order to develop the skills needed to identify and spread best practices throughout Québec's health care system and among the stakeholders concerned;
- enable the health care system to develop strengths in all its organizations and at all levels and ensure their harmonization;
- achieve more significant outcomes than those obtained by sporadic and isolated experiences in order to initiate a change in culture.

These goals and objectives require the MSSS's leadership to promote the adoption of best practices supported by funding.

Recommendation 2

Establish a program to implement best practices. This program must rely on clinical leadership, structures, processes and skills that will ensure that the best practices concerned are spread and supported by funding.

## 2.3 Criteria for selecting services for the application of a best practice funding program

Since spreading best practices is demanding work, it is proposed that the approach be implemented for a limited number of interventions each year, with each intervention following a three-stage process. A number of criteria should guide the selection of priorities and the evaluation of outcomes.

The main logic behind the best practice funding program is that the anticipated outcomes should justify the efforts made. All initiatives do not present the same degree of opportunity, and priority interventions must be selected where there is a potential for advancing clinical practices in accordance with a work plan that is realistic in terms of time and costs.

In order to strike a balance between quality improvement, the time needed to implement improvements and cost effectiveness, the following criteria, based on the experiences of other administrations, are proposed as a starting point for selecting priority clinical sectors for the best practice funding program:

- the presence of significant variations in practices;
- the possibility of demonstrating health gains without incurring additional costs, or with a positive cost-benefit ratio;
- the extent of the impact, that is, the possibility of improving care coordination and cohesive care pathways, the potential for improving patient experience and the clinical sector's importance in terms of volume and the number of patients concerned;
- rigorous evidence from scientific research and the possibility of setting targets based on expert consensus at the clinical and organizational level;
- the level of motivation and commitment to changing practices in the health and social services network.

The project team for the program would be in the best position to determine the number of clinical sectors to include each year. The magnitude, complexity and degree of preparation for the change will be key factors with respect to the best practices to be developed and implemented in a sector. Nevertheless, to ensure the impact is substantial enough and achieved within a reasonable timeframe, at least four to six interventions should be planned annually.

Recommendation 3

Develop a plan for best practice funding in consultation with clinicians and experts so that a significant number of clinical sectors are selected for the program annually based on the scope of the expected outcomes and in accordance with the criteria proposed by the Expert Panel.

## 2.4 The process proposed for the best practice funding program

A balance must be achieved between evidence-based innovations and the desire to change the system rapidly. The process of implementing best practices must not result in a disproportionate administrative burden; a balance must be struck between the effort required and the potential benefits.

### ❑ Clinical and administrative leadership is essential

All the evidence for the successful spreading of best practices points to the need for clinical and administrative leadership at the local, regional and provincial levels. Clinical care is a medical field that cannot be tackled without clinical experts; the same is true of the organizational field with respect to access and reviewing processes. The best practice funding program must build on and make use of the existing extensive network of expertise.

Each priority clinical sector should have its "clinical and administrative leaders", supported by an appropriate interdisciplinary team, the institution's administration and the health and social services agency. The program would be developed and supported by the MSSS to ensure that the parameters are clearly communicated and harmonized with the other initiatives. Each project team would include a representative from the MSSS who is responsible for the program. INESSS could also contribute to the program.

### ❑ A cost-benefit analysis

The interventions selected should have the potential to improve care and a positive cost-benefit ratio. A convincing cost-benefit analysis illustrating the anticipated benefits should be a requirement.

The goal is to provide an evidence-based document that is more quantitative than qualitative to demonstrate the potential gains and present performance targets against which the project's success could ultimately be evaluated. Different types of gains are possible:

— benefits related to the choice of technical platform: some interventions can be performed in the operating unit, in day surgery or in ambulatory surgery, in accordance with medical opinion. The cost associated with each technical platform can differ and choosing one over another can generate savings;

— benefits related to advances in technology: technological advances, for example, in the surgical technique or the type of material used, can reduce the length of surgery, complication rates or recovery time, etc;

— benefits related to the standardization of processes: when best practice protocols are introduced, based on clinical standards certified by a committee of expert clinicians, improved organization and efficiency can also have an impact on the cost of the intervention and patient outcomes;

— benefits related to improving quality, patient satisfaction and reducing complications.

A concrete example is cholecystectomy (removal of the gallbladder), which can be performed with hospitalization or in day surgery. When performed in day surgery, this intervention costs $1,350[19] compared with $5,170 with hospitalization. For the same patient outcome, treatment in day surgery can be considered the preferred practice. In 2011-2012, three quarters of cholecystectomies in Québec were performed with hospitalization (425 out of 563 cases). For example, by increasing the proportion of day surgeries from 25% to 50%, substantial resources would become available without adversely affecting quality of care. The resources freed up in this sector (estimated at nearly $540,000 for 2011-2012) would become available for the provision of other services, either for a higher volume of cholecystectomies or for other priority health care.

The idea here is not to produce a lengthy document. Moreover, while they have very real potential, many indirect benefits are unfortunately very hard to measure.

**An example of a cost-benefit analysis**

A convincing cost-benefit analysis, illustrating the anticipated benefits and projected costs, must justify short-term investments that will produce quantifiable benefits in the medium and long term.

**Illustration of a cost-benefit analysis**
(in dollars)

| | Year 1 | Year 2 | Year 3 |
|---|---|---|---|
| **Anticipated benefits** | | | |
| Fewer inappropriate interventions | | **Benefits** | **Benefits** |
| Improved quality, cost-benefit analysis of patient satisfaction and fewer complications | | **Benefits** | **Benefits** |
| Improved efficiency | | **Benefits** | **Benefits** |
| Other benefits | | **Benefits** | **Benefits** |
| **Projected costs** | | | |
| Upgrading of institutions (preparation of guides, software development, installation of equipment, training, etc.) | **Costs** | | |
| Catch-up on wait lists (where applicable) | **Costs** | | |
| Other costs | **Costs** | | |
| | **Adoption of best practices when benefits outweigh costs** | | |

A review of the research literature for the clinical activity in question, including patient experience, would have to be carried out, enabling us to obtain data on the health outcomes of the patients treated. We must be able to make a case for change and it must include an analysis of the anticipated costs and benefits based on costs, volumes and the likely impact of the implementation of best practices.

[19] The costs shown are based on the average provinicial relative intensity level of resource utilization (NIRRU) for all cholecystectomy cases (typical and atypical) and the provincial unit cost calculated based on actual direct costs.

In a context where resources are scarce, sectors that wish to benefit from investments will also have to take the "efficiency" factor into account from now on. The presence of significant variations in practices is often a sign of variation in quality of care too; this avenue could be an interesting starting point.

## ❑ Selecting interventions for the program

Every year, a number of targeted interventions could be funded using best practice tariffs. To implement the funding mechanism, the following stages must be completed. A number of actions must be taken to select the interventions that will be targeted, prepare a cost-benefit analysis, create an interdisciplinary team and develop best practice guidelines. These actions are prerequisites to the next stages. This process is based on the lessons learned from the experience with the PQDCCR.

## ❑ Stage 1: early adopters

A cohort of early adopters could initiate the project and start to upgrade procedures based on best practice guidelines and the standards and targets established. During this stage, the following measures must be taken:

— announce the interventions selected for best practice funding;

— identify “clinical and administrative leaders” supported by an interdisciplinary team;

— launch by the MSSS of a call for tenders to recruit the cohort of early adopters for each intervention;

— identify the people at the MSSS responsible for collecting the lessons learned throughout the project from all the collaborators involved.

Furthermore, early adopters could benefit from temporary implementation funding in order to support the adoption of standardized systems for the collection of clinical and financial data that will be used to document clinical standards, costs and calculate tariffs. This first cohort of participants could also be eligible for incentive funding, if deemed necessary, for example to reduce the number of cases with excessive wait times on waiting lists or to provide support for a specific problem. This temporary financial assistance would only be available for the first cohort that agrees to participate in the project.

During this stage, the project’s progress could be tracked using a set of indicators to assess compliance with the protocol and the outcomes achieved. Indeed, the indicators must be tested to see if they are applicable and if using them produces the desired outcomes.

A financial simulation could also be carried out during this stage to give institutions an idea of the reimbursement they would have received had the intervention been funded based on their level of compliance with the quality indicators selected.

## ❑ Stage 2: payment for performance and calculation of the best practice cost

By the time they reach Stage 2, the early adopters would have had time to get accustomed to practice standards and targets. At this point, the tariff can be conditional upon the level of compliance with the best practice guideline and the achievement of the predetermined targets.

In Stage 2, for designated interventions and in early adopters' institutions, the global funding envelope can be officially replaced with performance-based funding. A mechanism must be planned to capture the budgets associated with the interventions concerned. From this point on, and as best practices are implemented, cost data provide an increasingly accurate indication of the difference between the average starting cost and the "best practice cost."

The early adopters' results will be published. At the same time, the MSSS could launch a call for applications for a second cohort of institutions that would like to join the project, imitate the first stage of the process and start upgrading. As the project progresses, the results of all the institutions would be published. Non-participating institutions will continue to be paid based on an average cost within a global budget.

## ❑ Stage 3: best practice tariffs

The final stage begins when enough data has been collected to define a best practice tariff. At this stage, the tariff is not necessarily conditional anymore, although it could be made so again. The objective is to adopt best practices, ensure they are applied and that the protocol is being followed in all the interventions. Tracking quality, volumes and the evolution of costs is still essential in order to optimize patient outcomes. However, we must avoid introducing an audit process that is too cumbersome, focusing instead on monitoring specific institutions whose performance relative to indicators deviates from the desired outcomes.

## ❑ Evaluation of the program

The implementation of best practices should always be evaluated in order to compare outcomes with the initial cost-benefit analysis. Changes may be necessary and a realignment required. The lessons learned throughout the early adopters' experience will allow certain points to be revised so that the next cohorts integrate smoothly into the process. Furthermore, an evaluation also improves the network's knowledge and expertise in the same process, but for other interventions. At this point, it is hoped that all practitioners will have adopted best practices.

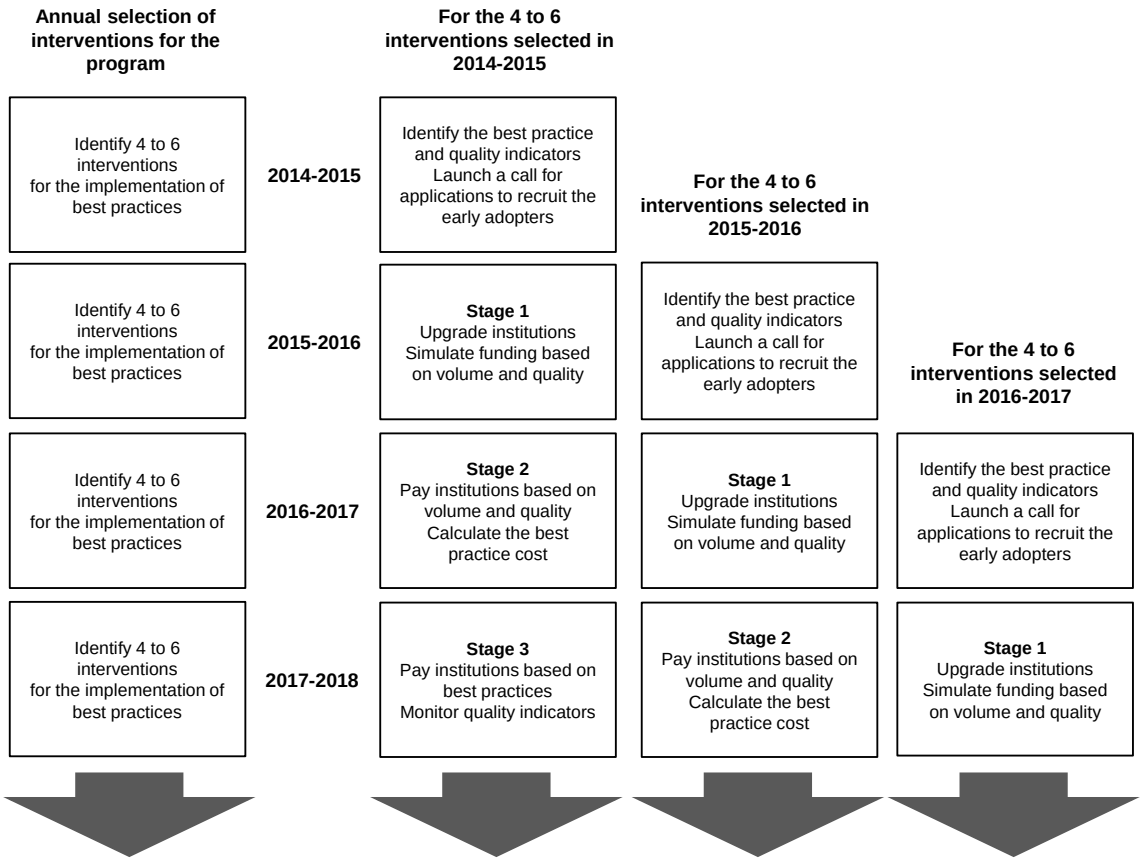
Recommendation 4

Implement best practices in selected interventions using the best practice funding program's three-stage approach.

> *"The only true measures of quality are the outcomes that matter to patients. And when those outcomes are collected and reported publicly, providers face tremendous pressure and strong incentives to improve and adopt best practices, with resulting improvements in outcomes."*
>
> Michael E. Porter and Thomas H. Lee, "The Strategy That Will Fix Health Care",
> *Harvard Business Review*, October 2013.

ILLUSTRATION 1

## Summary of the recommended approach: the best practice funding program



# 3. THE EXPANSION OF THE QUÉBEC COLORECTAL CANCER SCREENING PROGRAM

In the course of its work, the Expert Panel studied a number of initiatives undertaken in the field to implement evidence-based best practices. Of these initiatives, we found the Québec Colorectal Cancer Screening Program (PQDCCR) to be of particular interest. This program, which involved defining and implementing best practices in colonoscopy, received logistical and financial support from the MSSS along with committed clinical and administrative leadership.

The actions taken so far under this program and the initial results are presented below. The Expert Panel examined this project by asking whether it could be supported by a quality-based funding mechanism. In consultation with the stakeholders responsible for the program, the Expert Panel proposes extending the PQDCCR throughout Québec and its gradual transition based on the elements included in the proposed best practice funding program.

## 3.1 Case study: the Québec Colorectal Cancer Screening Program

Colorectal cancer is the second cause of cancer mortality in Québec. While the number of colonoscopies has increased significantly in recent years, some institutions still have long waiting lists.

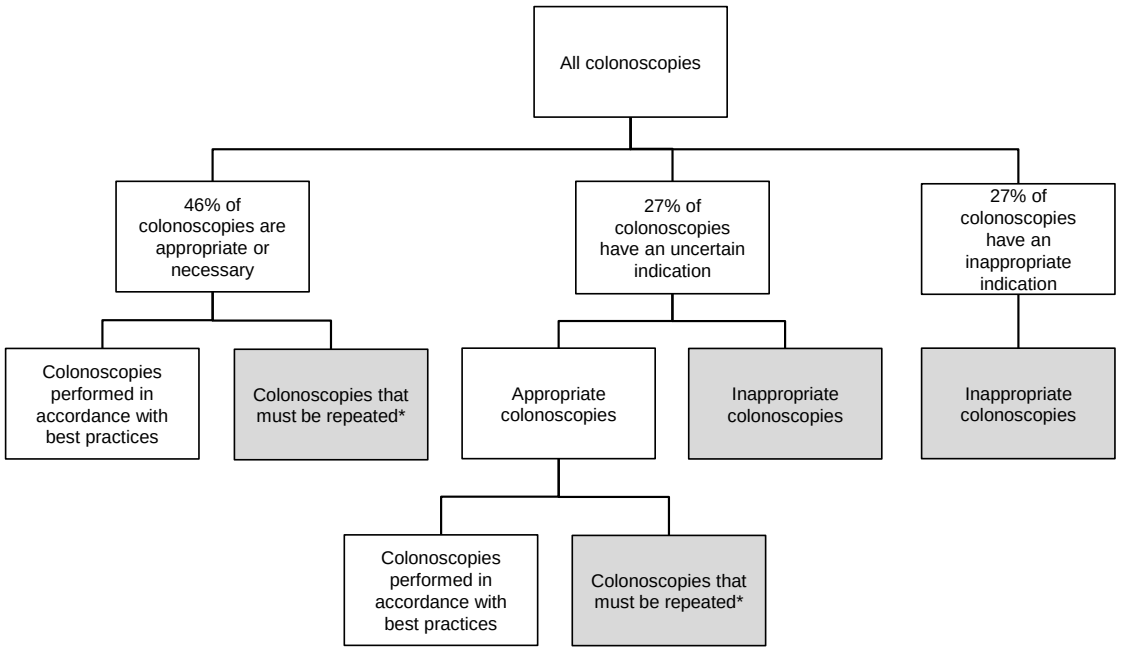
In 2008, the Institut national de santé publique du Québec (INSPQ) published a report that highlighted "the variations in procedures for scheduling appointments and follow-ups, the lack of institutional mechanisms to prioritize requests for colonoscopies and the lack of adequate documentation in many colonoscopy services."[20] [Translated from the French.]

More specifically, the INSPQ report describes the findings of a study conducted in a number of European countries.[21] Only 46% of colonoscopies in referred patients were appropriate or necessary, while 27% of referrals had an uncertain indication and 27% of cases had an inappropriate indication. These findings are important, since they identify significant proportions of inappropriate diagnostic colonoscopies, which could compromise patient safety and generate unwarranted expenditures.

[20] INSTITUT NATIONAL DE SANTÉ PUBLIQUE DU QUÉBEC (2008), *Pertinence et faisabilité d'un programme de dépistage du cancer colorectal au Québec*, p. 43, http://www.inspq.qc.ca/pdf/publications/882_PertinFaisPrograCcColo.pdf (consulted January 30, 2014).

[21] J.K. HARRIS, F. FROEHLICH, J.J. GONVERS, V. WIETLISBACH, V. BURNAND and J.P. VADER (2007). "The Appropriateness of Colonoscopy: A Multi-center, International, Observational Study", *International Journal for Quality in Health Care*, Vol. 19, pp. 150-157.

**The rate of appropriateness of colonoscopies**




* Due to incorrect practices.

Source: J.K. HARRIS, F. FROEHLICH, J.J. GONVERS, V. WIETLISBACH, V. BURNAND and J.P. VADER, *The Appropriateness of Colonoscopy: A Multi-center, International, Observational Study, International Journal for Quality in Health Care*, Vol. 19, 2007, pp. 150-157.

Moreover, the variations observed in practices led to the identification, by the Collège des médecins, of less-than-optimal practices and the publication of colonoscopy practice standards in March 2010.[22] Similarly, the Ordre des infirmières et infirmiers du Québec also published nursing guidelines for colonoscopy in September 2011.[23] Beyond the issue of appropriateness, these events are indicative of variations in practices and, consequently, in quality of care.

The situation led to a review of patient management and medical practice. In November 2010, the Minister for Health and Social Services announced the gradual deployment of the Québec Colorectal Cancer Screening Program. The leadership shown by the MSSS at this stage of the project was important; it should be evident again in the context of the proposed best practice funding program recommended by the Expert Panel.

Planning this program presented an opportunity to develop quality assurance mechanisms for colonoscopy in Québec and to test them at eight pilot sites before implementing a province-wide screening program.

22 COLLÈGE DES MÉDECINS DU QUÉBEC, *Normes d'exercice en matière de coloscopie*, Volume 50, Number 2, 2010, p. 15.

23 ORDRE DES INFIRMIÈRES ET INFIRMIERS DU QUÉBEC, *Lignes directrices sur les soins infirmiers en coloscopie chez l'adulte*, 2011, 36 p.

### 3.1.1 **The pilot project**

To participate in the initiative, the pilot sites had to respond to a call for applications. They then had to commit, with the collaboration of their agency and clinical and administrative leaders, to providing information about the project and completing a status report on colonoscopy services and associated sectors, including the reprocessing of medical devices and access to cancer surgery. The pilot sites responded to the MSSS's call for applications on a voluntary basis, but the institutions selected were those that met the criteria.

Eight pilot sites have been selected by the MSSS since 2011 and have committed to complying with the project's requirements regarding the availability of data to monitor performance and work in the area of access and quality.

TABLE 1

**Participating institutions that joined the PQDCCR in 2011-2012**

| Health and social services region | Name of the institution |
|---|---|
| Bas St-Laurent | CSSS de Rivière-du-Loup |
| Capitale-Nationale | Centre hospitalier universitaire de Québec |
| Capitale-Nationale | Centre hospitalier affilié universitaire de Québec |
| Mauricie et Centre-du-Québec | CSSS d'Arthabaska-et-de-l'Érable |
| Montréal | CSSS du Sud-Ouest-Verdun |
| Montréal | Centre universitaire de santé McGill |
| Montréal | Hôpital Maisonneuve-Rosemont |
| Chaudière-Appalaches | CSSS Alphonse-Desjardins |
| Montérégie | CSSS Pierre-Boucher |

The Direction québécoise de cancérologie coordinated the work of a provincial expert panel that prepared the document *Normes de pratique clinique relatives à la coloscopie*. This document takes into account the standards of the Collège des médecins du Québec and those of the Ordre des infirmières et infirmiers du Québec (OIIQ). Organizational standards regarding the optimal clinical pathway for people who require a colonoscopy were also developed by another ministerial committee, in particular for wait times for different clinical indications. Quality assurance mechanisms were also proposed. The medical associations concerned have adopted and promote these standards. Medical and nursing discussion forums coordinated by the Direction québécoise de cancérologie in order to implement the standards have contributed to their implementation.

### ❑ **The network's commitment**

In practical terms, the network was required to:

— submit the application form following a collaborative effort between the agency, institutions and partners on the territory to obtain a clear commitment from all the stakeholders involved;

— demonstrate the appropriateness and robustness of the regional project presented with respect to all the areas of intervention.

The agency was required to take the following measures:

- identify a regional manager and an inter-branch project team;
- designate a “leader” physician and nurse who participated in the telephone forums and have been charged with relaying information and supporting good practices;
- monitor the project using territorial medical tables and confirm that it is being coordinated in the institutions;
- prepare a status report on the service offer and implement a regional access mechanism or regional points of entry;
- implement information technology tools and ensure the project indicators are achieved;
- inform the MSSS of any problem that might compromise the achievement of the objectives.

Institutions were required to take the following actions:

- identify a project manager who is available and has the expertise to move the project forward;
- create and coordinate working committees charged with completing the evaluation checklists and developing and implementing the action plan;
- monitor and collaborate in the implementation of the project.

### ❑ The MSSS’s commitment

Once stakeholders in the network had made a commitment to taking action, a project team at the MSSS provided:

- information for project managers to ensure knowledge is shared;
- an evaluation of the application of the standards at the beginning and at the end of the project;
- reference tools on the standards and the criteria to apply along with appropriate monitoring;
- telephone forums for clinicians, but also to manage access;
- mandatory conference calls;
- a continuing professional development program in colonoscopy (under development);
- financial support to catch up on waiting lists by clearing cases with excessive wait times and the implementation of information technology tools as needed.

### ❑ The computerization of endoscopy units

Needs expressed by pilot project stakeholders made the computerization of endoscopy units imperative. Information requirements concern the use of all the data entered by clinicians to produce and calculate indicators in order to evaluate pilot sites’ performance and compliance with clinical standards in a timely manner. The computerization of endoscopy units is an essential prerequisite to applying performance-based funding to the practice of colonoscopy.

The institutions selected as pilot sites received funding for the implementation of endoscopic software packages. The funding allocated for this part of the project amounts to a little over $730,000,[24] or an average of $91,250 per institution.

## ❑ A necessary catch-up on waiting lists

Funding was also allocated to support a temporary effort needed to clear cases on waiting lists with excessive wait times. The appropriateness and utility of untreated requests were reviewed and, if treatment was still required, these cases were given priority. This initiative balanced the service offer against actual volumes to ensure cases were appropriate, but also to introduce a reflex of planning tests at regular intervals to treat people on waiting lists with excessive wait times.

Participating institutions were eligible for activity-based funding for volumes of activities exceeding a certain threshold and at a tariff equal to 50% of the unit cost of colonoscopy in order to expedite the process of treating cases with excessive wait times. The unit cost of colonoscopy was calculated using a rigorous and standardized methodology. Work was carried out with the collaboration of the eight pilot sites and three CSSSs in the Saguenay–Lac-Saint-Jean region.

At present, the costs available are those produced for the PQDCCR pilot sites and institutions in the Saguenay–Lac-Saint-Jean region. Results show variations in costs between institutions. After calculation, it was agreed that the average cost would be used as a basis for setting the tariff.

TABLE 2

**Total direct costs for a colonoscopy**
(in dollars)

| Institutions | Labour | Supplies | Drugs | Scopes | Scope repair | Total direct costs |
|---|---|---|---|---|---|---|
| Institution 1 | 114.85 | 47.36 | 4.76 | 29.80 | 25.15 | 221.92 |
| Institution 2 | 83.44 | 42.30 | 3.15 | 22.32 | 12.88 | 164.09 |
| Institution 3 | 126.11 | 43.64 | 3.11 | 14.92 | 10.64 | 198.42 |
| Institution 4 | 124.71 | 27.29 | 10.23 | 21.32 | 17.93 | 201.48 |
| Institution 5 | 108.76 | 31.72 | 1.88 | 21.76 | 8.29 | 172.41 |
| Institution 6 | 98.43 | 48.88 | 3.03 | 25.29 | 11.42 | 187.05 |
| Institution 7 | 88.19 | 57.66 | 1.77 | 38.29 | — | 185.91 |
| Institution 8 | 83.48 | 42.30 | 13.30 | 25.75 | 12.83 | 177.66 |
| Institution 9 | 84.53 | 22.00 | 7.34 | 21.96 | 21.06 | 156.89 |
| Institution 10 | 102.73 | 30.56 | 1.54 | 12.17 | 20.44 | 167.44 |
| Institution 11 | 101.95 | 46.73 | 6.21 | 14.09 | 11.74 | 180.72 |
| Institution 12 | 81.91 | 52.93 | 8.15 | 26.15 | 12.19 | 181.33 |
| **Group average** | **99.92** | **41.11** | **5.37** | **22.82** | **14.96** | **182.94** |
| **Weighted group average** | **96.22** | **44.13** | **5.63** | **23.01** | **13.06** | **182.06** |
| **Normalized median** | **100.19** | **42.97** | **3.96** | **22.14** | **12.83** | **181.03** |

Source: MEDIAMED TECHNOLOGIES, *Estimation des coûts de coloscopie du réseau de la santé et des services sociaux*, 2012, p. 28

To help clear cases on waiting lists with excessive wait times, pilot sites received additional funding. The tariff associated with surplus volumes in order to clear cases on waiting lists with excessive wait

[24] Data from the Ministère de la Santé et des Services sociaux.

times covers 50% of the direct costs of labour, supplies, drugs, sterilization, laboratory, and scope repair. To date, the sums associated with this additional funding for participating institutions is a little over $608,000[25] for 2012-2013, which represents nearly 6,755 colonoscopy cases out of the total 45,000 performed.

## ❑ Two quality assurance measures

### ■ The immunochemical fecal occult blood test (iFOBT test)

The immunochemical fecal occult blood test (iFOBT test), also called a fecal immunochemical test (FIT), is an advanced screening test that is economical and easy to use.

Screening for colorectal cancer, which has mainly been done by colonoscopy so far, can now be done using this test so that patients who do not require a colonoscopy as a first-line investigation do not have to have one. Only patients with a positive result on the iFOBT will require a colonoscopy, which does away with unnecessary testing and, ultimately, should take cases with excessive wait times off waiting lists.

Since institutions that have completed their upgrading have already cleared any cases on their waiting lists with excessive wait times, the iFOBT test is an important element in ensuring the appropriateness of future referrals in colonoscopy. Appropriateness is also a factor that affects access by ensuring shorter wait times.

### ■ The continuing professional development program

An expert panel mandated by the Direction québécoise de cancérologie developed tools for practitioners and professionals who work in colonoscopy units to promote the maintenance and adoption, where applicable, of evidence-based clinical practices and compliance with the desired standards.

These tools include a patient management algorithm based on risk level, a requisition form that indicates maximum wait times based on clinical priority as well as quality standards developed by the expert panel mandated by the Direction québécoise de cancérologie.

A continuing professional development program is being developed and tested at pilot sites. This program will, ultimately, comprise a team responsible for the program, online training tools, a Web site, a team of expert trainers in colonoscopy, two centres for expertise in colonoscopy equipped with a training unit and a Canadian adaptation of the Global Rating Scale that can be used to self-evaluate quality of care and evaluate the user's experience.

Essentially, this parallel approach allows performance and compliance with practice standards to be monitored and provides colonoscopists with an opportunity to set their own professional development objectives and obtain support.

Recommendation 5

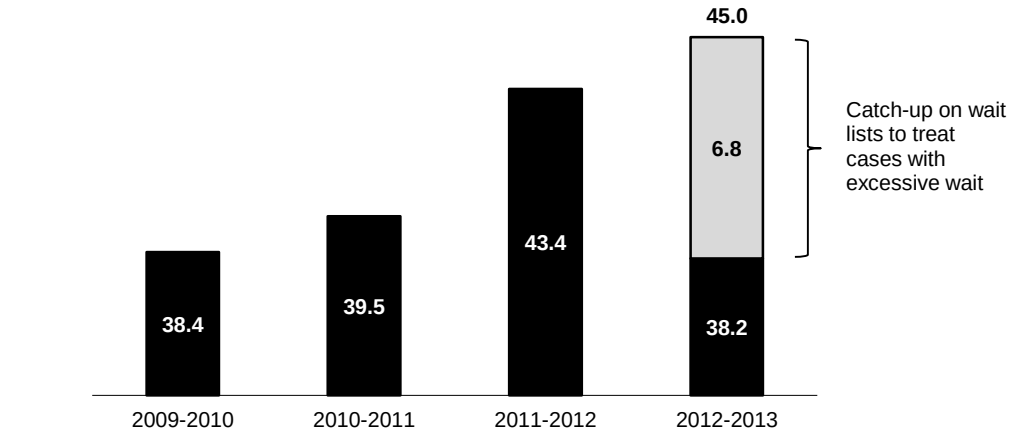
The Expert Panel supports the recommendation of the team responsible for the PQDCCR to extend the best practice standards developed at the eight pilot sites under the PQDCCR throughout Québec.

[25] Data from the Ministère de la Santé et des Services sociaux.

## Enlightening initial results

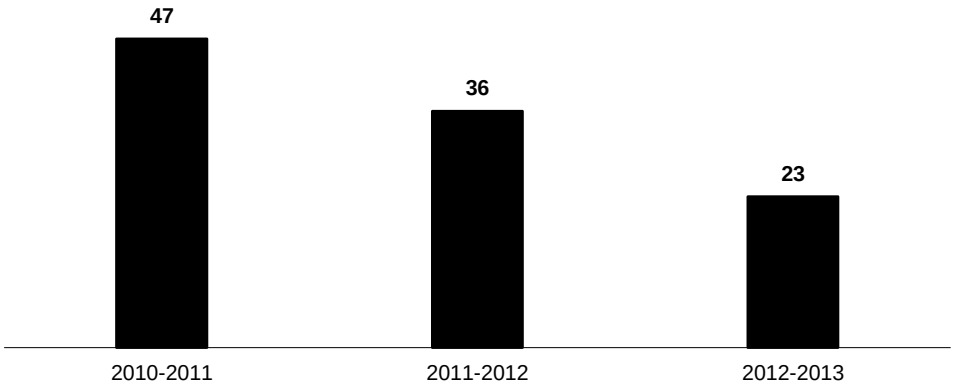
At the eight pilot sites, colonoscopy volumes increased between 2009-2010 and 2011-2012, from 38,400 to 43,400. However, a decrease in the number of colonoscopies is anticipated, since many of the colonoscopies performed in 2012-2013 were part of a temporary catch-up process to quickly treat cases with excessive wait times that were still on waiting lists. Gains in appropriateness could therefore cover some of the costs incurred.

**Changes in volumes of colonoscopies between 2009-2010 and 2012-2013 at the pilot sites**
(in thousands)




At the same pilot sites, the wait time for a colonoscopy was halved between 2010-2011 and 2012-2013, decreasing from 47 days to 23 days.

**Changes in wait times for a colonoscopy between 2010-2011 and 2012-2013 at the pilot sites**
(in days)




Sources: Partial data from the Régie de l'assurance maladie du Québec and the Information System on Mechanisms of Access to Specialty and Subspecialty Services (SIMASS).

## 3.2 The Expert Panel for Patient-Based Funding: recommendations for three stages

The Expert Panel for Patient-Based Funding recognizes the importance of the PQDCCR initiative and examined this pilot project by asking whether it could be supported by a quality-based funding mechanism. In consultation with the stakeholders responsible for the project, the Expert Panel proposes extending the PQDCCR throughout Québec and its gradual transition on the basis of the elements included in the proposed best practice funding program.

### 3.2.1 Do a cost-benefit analysis

The PQDCCR initiative was undertaken independently of the Expert Panel's activities. At the time, a cost-benefit analysis had not been done. Among the benefits that are easily quantifiable, the reduction in inappropriate practices seems significant.

- According to a study reported by the INSPQ, 27% of cases referred for a colonoscopy had an inappropriate indication. In Québec, some 200,000 colonoscopies are performed annually, at a unit cost of $290 (including direct and indirect costs). Based on these parameters, the savings associated with 27% of inappropriate cases are estimated to be 15.6 million dollars.
    - To date, some of the pilot sites have seen a decrease of up to 30% in their production after the upgrading initiative.

Quality improvement has probably also generated gains. Many repeat colonoscopies have had to be performed in recent years owing to disparities in practices in some regions of Québec. These repeat tests generated a cost, but it has not been calculated yet.

### 3.2.2 Stage 1: upgrade institutions

Based on the PQDCCR team's recommendation, endoscopy units across the province could benefit from an upgrading initiative. The new cohorts of institutions would begin a similar process, while the institutions in the first cohort that have completed the first stage could move on to the second stage after an evaluation confirming their compliance with quality and performance criteria.

#### ❑ Financial support for implementation

The eight pilot sites that participated in the PQDCCR project received financial support to cover the costs of implementing the new approach (equipment and professional development). Should the program be extended to other endoscopy units in Québec, the MSSS will have to determine whether or not this financial support will be available. The objective should be to fund temporary implementation costs from the recurrent savings generated by the adoption of best practices.

The savings generated by best practices have not yet been officially estimated. It is therefore risky to propose continuing the financial support. Moreover, the temporary implementation costs could be broken down as follows:

- An average cost estimated at around $91,250 to implement the software package in each endoscopy unit, for a total of 6.2 million dollars[26] to extend it to the rest of the province. The cost of implementing software packages can also be expected to decrease with developments in the market for this type of endoscopic software package. Competition in the Québec market has intensified with the advent of new brands of software packages that meet requirements and are in French.

- Added to this amount are costs for the deployment and management of a centralized database used to produce indicators for all clinicians and institutions. These costs, estimated at 1.4 million dollars,[27] include the required interfaces.

- A commitment had been made to the eight pilot sites to fund part of the costs incurred to clear cases on waiting lists with excessive wait times. If the same commitment is made when the program is extended to the rest of the province, the estimated costs of treating patients who have been on waiting lists for longer than the recommended wait time would be roughly 4.4 million dollars.[28]

- The MSSS will be responsible for determining the financial framework for the expansion of the program. The implementation of clinical best practices in this sector should not depend on additional funding.

[26] Data from the Ministère de la Santé et des Services sociaux.

[27] Ibid.

[28] Ibid.

## ❑ Access to clinical and financial information required for monitoring

Once the institutions are able to apply best practices, they must also have access to the clinical and financial information needed to monitor the program.

In this regard, the Direction québécoise de cancérologie has already developed a set of indicators for quality of care, access to services and productivity. There are many indicators and they can be consulted in the *Guide sur la mise à niveau des unités de coloscopie du Québec*. The indicators selected to be included in the tariff, and which will be essential for funding in the second stage, are presented in the table below.

TABLE 3

**Monitoring indicators for colonoscopies in the PQDCCR**

| | |
|---|---|
| **Access standard** | ≥ 90% of requests for colonoscopies received in the endoscopy unit satisfy the indication and the medical priority (≤ 10% cases with excessive wait times).<br><br>90% of cancer surgeries must be performed within 28 days and 100% must be performed within 56 days. |
| **Quality standards** | Detection rate for polyps and adenomas: ≥ 95% of polyps detected must be removed and sent to pathology.<br><br>Complication rates:<br><br>Perforation rate < 1/1,000 for all colonoscopies, < 1/2,000 for asymptomatic patients and < 1/1,500 for colonoscopies with polypectomy.<br><br>Hemorrhage rate < 1/1,000; can be 10% for polyps larger than 2 cm.<br><br>Rate of complications associated with sedation ≤ 1/100 for minor complications, rate of complications associated with sedation < 1/300 for serious complications, rate of complications for cardiac arrhythmia cases that require treatment and cases of pulmonary aspiration of residual gastric contents ≤ 1/1,000.<br><br>No deaths attributable to colonoscopy.<br><br>Cecal intubation rate (cecum reached): ≥ 90% for asymptomatic patients and ≥ 80% for symptomatic patients. |
| **Productivity standard** | Minimum of 12 colonoscopies per room per day (to be tested at the pilot sites). |

To allow institutions to prepare for the change, it is preferable if they can simulate what will happen to them in the second stage. The spreading of performance indicators and a simulation of their ability to achieve them provides valuable information when it is time to identify areas of strengths and weaknesses in practices. Therefore, before moving on to the second stage, institutions must already have an idea of the elements that could be improved in their institution.

Recommendation 6

The Expert Panel recommends adding financial mechanisms to the Québec Colorectal Cancer Screening Program to implement best practice funding.

### 3.2.3 **Stage 2: activity- and performance-based funding**

At present, institutions that are eligible to move on to Stage 2 are those in the pilot project that have met the Stage 1 objectives. In Stage 2, funding would be allocated based on volumes of activities and the tariff would be based on average cost. The tariff would be adjusted to take into account the results obtained with respect to the performance indicators disseminated in Stage 1.

For the eight pilot sites, the implications are as follows:

- calculate the costs associated with the intervention and establish a standard risk-adjusted cost for the delivery of health care in accordance with the best practices guide;
- collect data on the quality indicators and start to publish results so that a comparative analysis can be done;
- have the MSSS confirm a single provincial tariff based on the costs calculated at the eight pilot sites and in consultation with the team in charge of the PQDCCR.

#### ❑ Payment based on performance indicators

The payment of a tariff based on average costs will encourage a reduction in variations in practices and will motivate institutions with higher costs to take steps to reduce their costs. Adjustments are starting to be made and the system is gradually learning to adapt to the new rules of the game.

This tariff would be adjusted based on results measured by performance indicators. An institution could receive a financial bonus for achieving all five targets listed above.

**An example of how the tariff is calculated for a colonoscopy**

Let's take a hypothetical tariff of $97.50. The institution would receive $0.50 each time it performs well with respect to the corresponding target, for a maximum of $2.50, or a total of $100.00.

Performance bonuses will be known at year-end, once results for the performance indicators selected have been received, and applied to all colonoscopies performed by the institution during that year.

**Simulation of the tariff based on the achievement of targets**
(in dollars)

| Categories | Target | Result | Target achieved | Value of adjustments | Tariff |
|---|---|---|---|---|---|
| Tariff paid based on volumes | | | | | 97.50 |
| Access standard for colonoscopy | ≥ 90% | 91% | Yes | 0.50 | 0.50 |
| Polyp detection rate | ≥ 95% | 97% | Yes | 0.50 | 0.50 |
| Complication rates | *Perforation rate*<br>all colonoscopies: < 1/1,000;<br>asymptomatic patients: < 1/2,000;<br>colonoscopies with polypectomy: < 1/1,500.<br>*Hemorrhage rate*<br>all colonoscopies: < 1/1,000;<br>≤ 10% for polyps 2 cm or larger.<br>*Sedation*<br>minor complications ≤ 1/100;<br>serious complications < 1/300;<br>cardiac arrhythmia cases that require treatment and cases of pulmonary aspiration of residual gastric contents ≤ 1/1,000.<br>*No deaths attributable to colonoscopy* | — | No | 0.50 | — |
| Intubation rate | asymptomatic patients: ≥ 90%<br>symptomatic patients: ≥ 80% | 92% | Yes | 0.50 | 0.50 |
| Access standard for cancer surgery | 90% of surgeries within 28 days<br>100% within 56 days | 85% | No | 0.50 | — |
| **Financial bonus for achieving targets** | | | | | **1.50** |
| **Tariff paid** | | | | | **99.00** |

## ❑ The best practice cost

Knowledge of colonoscopy costs should be improved so that costs per case can be used for all institutions and a reference document should be produced for reporting costs per patient.

There are various ways to calculate the tariff associated with colonoscopy. In Stage 2, a tariff based on the average direct costs of participating institutions would be applied. If cost data for all participating institutions are available as planned in 2016-2017, at this point institutions could be funded based on the best practice tariffs institutions will have adopted.

The cohorts of institutions that will succeed the eight pilot sites could even move directly on to the third stage, since best practice tariffs will already be known.

The funding mechanisms and the new iFOBT test to ensure scheduled tests are appropriate will probably generate savings relative to the current demand for services. Moreover, knowledge of costs will be honed over time, and an annual reevaluation of costs based on the constant improvement of the network as well as advances in practices and technologies should allow the tariff to be revised so that it continues to reflect reality.

- **The budget estimate**

When institutions move on to the second stage and colonoscopies are reimbursed based on activities alone, the expenditures associated with colonoscopy must be identified. These expenditures constitute the budget estimate.

This budget estimate, which corresponds to the funds currently dedicated to colonoscopies, will be recouped. These amounts will then be paid back to institutions in the form of activity-based funding. At this stage, new funds cannot be obtained. In fact, a financial issue may arise. If colonoscopies are performed at a higher cost than the reimbursement received, the institution will have to reduce its costs, modify its practices or suffer a loss. On the other hand, institutions that are cost effective will be able to reinvest the savings generated in performing a higher number of colonoscopies or reallocate the resources to other priority health care sectors.

The agreements between agencies and institutions that will define the payment clauses for colonoscopy must be specific and take these issues into account.

### 3.2.4 Stage 3: best practice tariffs

During the second stage, practitioners will have adapted their practices, aligning them with best practices. From then on, the best practice tariff can be applied. The best practice tariff may differ from the average cost tariff to further encourage care providers to align their practice with agreed-upon predetermined high-quality criteria. The costs associated with this practice are often lower than the average tariff, which is another incentive to increase efficiency.

At this point, the following actions must be taken:

— identify and seize the budget for colonoscopy at the pilot sites and use it as payment by the MSSS to reimburse colonoscopies using best practice tariffs;

— determine an annual volume of colonoscopies for each pilot site based on an agreement between the pilot sites and their respective agency or CSSS;

— ensure the agreement on volumes and the tariff includes targets for reducing wait times and waiting lists in each region, targets for quality indicators for readmission rates, etc.;

— evaluate whether or not the pilot sites have achieved the results expected of the PQDCCR initiative.

In addition to the work underway at the pilot sites, the Expert Panel recommends:

— selecting additional cohorts of institutions from those that responded to the call for applications launched by the MSSS fairly rapidly to ensure best practices are adopted in all endoscopy units across Québec;

— set up all the above-mentioned infrastructures and support teams needed to initiate the process in the institutions that have joined the program.

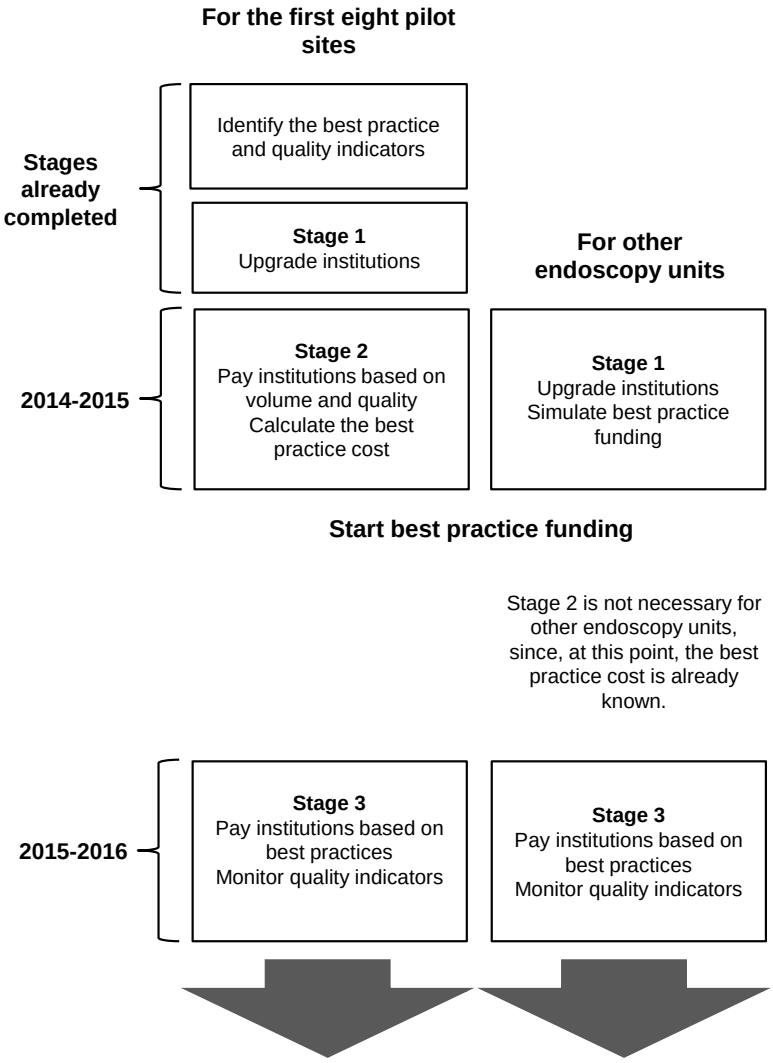
## ❑ The publication of results and evaluation

In Stage 3, colonoscopies are funded using a best practice tariff. Once it has been determined that the institutions have made the necessary adjustments to align their practices with the standards and that they are cost-effective, the conditional nature of the payment relative to indicators need not be maintained.

However, monitoring control elements will ensure that there is no slackening off in practices and that quality of care is maintained. Institutions' results will continue to be published to allow participants to compare their respective performance, and the continuing professional development program in colonoscopy will be maintained to support medical practice. Monitoring will be continuous with an annual review and adjustments made as needed.

ILLUSTRATION 2

## Summary of the proposal for colonoscopy



# 4. HOW TO MANAGE THE RISKS AND THE CHANGE

As when implementing any new approach in a system as complex as health care, there are risks associated with best practice funding. They must be anticipated and managed throughout the program's implementation. The risk of inaction must also be considered as well as the costs associated with the nine years or more that it usually takes for evidence-based changes to be spread and adopted throughout the system.

## ❑ Provide adequate clinical and administrative leadership

The greatest risk associated with the implementation is failing to provide the necessary clinical and administrative leadership to ensure adequate support for best practices in a given clinical sector. When this happens, evidence is disputed or ambiguous and it is hard to reach a definite consensus. With the contribution of internationally recognized sources and clinicians renowned for their expertise and with the support of the MSSS, it should be possible to reduce this risk.

## ❑ Select clinical sectors with a potential for improvement

If the program is to produce the expected benefits, the interventions must be selected in accordance with agreed-upon criteria (listed in Section 2.3) and the exercise must be carried out within the clinical and financial parameters established by the MSSS.

## ❑ Bureaucratic efficiency is essential

Care protocols can become unviable and cease to interest clinicians and administrators if they are overly detailed and costly to adopt and evaluate. Before approving a best practice guideline for adoption, it must be evaluated to confirm that the bureaucratic procedure recommended is acceptable and necessary.

## ❑ Limit cost inflation

There is a risk that the concept of best practices will result in a care pathway being associated with very high quality standards that may be disproportionate relative to the anticipated gains. This can happen when there are fears about the risk involved or a conservative approach to adopting new methods. The initial cost-benefit analysis should mitigate this risk by making a case for selecting an intervention where gains exceed costs. Efficiency gains can be made by more appropriate health care delivery, a more targeted use of services or more efficient clinical interventions.

## ❑ The importance of monitoring quality

Clinical processes and quality indicators must be carefully chosen, with great regard for their validity, reliability and the possibility of accessing patient data in order to monitor the rate of compliance with best practice standards. It is accepted that data quality improves as it is made public and used in practice. When Stage 3 of the structured initiative for best practice funding is reached and payments are conditional upon achieving quality standards, it will be especially important to ensure that quality is very much in evidence.

## ❑ Adequate budget control

Best practice funding must be implemented within a closed budget envelope determined by the MSSS. The objective of the program is to provide higher volumes of better health care by adopting best practices that reduce unwanted variations in clinical practice, preventable complications and length of stay. This must be achieved with a fixed volume of resources. Like many patient-based funding initiatives, the budget will have to be managed by closely monitoring volumes of services, appropriateness (which is reflected in utilization rates) and costs.

# 5. SUMMARY OF RECOMMENDATIONS

Recommendation 1

The implementation of patient-based funding in Québec's health and social services system must have the clear objective of improving quality of care.

Recommendation 2

Establish a program to implement best practices. This program must rely on clinical leadership, structures, processes and skills that will ensure that the best practices concerned are spread and supported by funding.

Recommendation 3

Develop a plan for best practice funding in consultation with clinicians and experts so that a significant number of clinical sectors are selected for the program annually based on the scope of the expected outcomes and in accordance with the criteria proposed by the Expert Panel.

Recommendation 4

Implement best practices in selected interventions using the best practice funding program's three-stage approach.

Recommendation 5

The Expert Panel supports the recommendation of the team responsible for the PQDCCR to extend the best practice standards developed at the eight pilot sites under the PQDCCR throughout Québec.

Recommendation 6

The Expert Panel recommends adding financial mechanisms to the Québec Colorectal Cancer Screening Program to implement best practice funding.

Québec