Health Horizon

Planning, Research and Analysis Branch, Health System Strategy and Policy Division, MOHLTC

Examples of policy-relevant research evidence and trends
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Primary Health Care

Examining the Distribution of French-Speaking Primary Care Physicians in Ontario

A 2012 study and a 2013 study by the Centre for Rural and Northern Health Research (CRaNHR) suggest that the inability to access a French-speaking family physician may not be an issue of quantity, but rather one of mal-distribution. Among Ontario family physicians, 16% listed French as a language of competence whereas only 4% of Ontario residents identified French as their first official language. However, rural northern communities with many French-speaking residents had the lowest French-speaking-physician-to-francophone-population ratio, with 1.5 French-speaking physicians compared to 4.3 French-speaking physicians in urban southern communities per 1000 French-speaking Ontarians.

Chronic Disease Prevention and Management

Better Access to Specialists through Telemedicine

The Champlain BASE (Building Access to Specialists through eConsultation) Service, designed to allow for iterative communication between primary care providers and specialists, reduced the need for patient-specialist visits in over 40% of cases. A recent study followed 59 primary care providers who submitted 406 e-consultations. Over 90% of the e-consultations took less than 15 minutes for specialists to complete, potentially reducing wait times and increasing overall access.

Mental Health and Addictions

Embracing Good Mind: Indigenous Community-Driven Research

Building on the 2007 Ontario Federation of Indian Friendship Centres' Urban Aboriginal Task Force research project, "Urban Aboriginal Communities Thrive", MOHLTC funding in 2012 allowed five communities to identify barriers to accessing mental health and addiction services. A 2013 report offers best practices and recommendations on how to better integrate local Aboriginal and mainstream service providers including increasing the cultural competency of providers.

Population Health and Health Promotion

Health Benefits from Mixed-Income, Mixed-Use Neighborhoods

A ministry-funded research project, Healthier Built Environments, released the second phase of a study on the revitalization of the Regent Park community in Toronto, Ontario. Study participants who moved into new rental units near Regent Park reported greater satisfaction with their new home and their neighbourhood, increased safety in their neighbourhood, and lower levels of distress at least one year after moving into their new unit, compared to when they were initially interviewed and living in their original unit in Regent Park.

Institutional Care/Sector

Rates of Thyroid Cancer Diagnosis vary Four-Fold across Ontario

A 2014 study by researchers at the Institute for Clinical Evaluative Sciences found a 112% increase in the number of new cases of thyroid cancer in Ontario between 2000 and 2008. Across the Local Health Integration Networks (LHINs), annual thyroid cancer diagnosis rates ranged from 5.2 to 21.6 new cases per 100,000 people. The LHINs with the highest use of discretionary diagnostic tests, the highest population densities and the highest levels of education had the highest rates of thyroid cancer diagnosis. LHINs with the highest use of neck ultrasounds also had 25% more cases of non-progressive thyroid cancer, which may contribute to unnecessary medical care.

Note: The Health Horizon newsletter draws on current research from peer-reviewed journals. You may need to obtain some of the articles referenced through the MOHLTC Journal Access Centre or by purchasing them. For assistance with obtaining articles please contact Michael Campo, the Health Horizon Staff Lead, at (416) 327-8457. Please note that Health Horizon is a summary of information from other sources, not a representation of the policy position or goals of the MOHLTC. If material in the newsletter is to be referenced, please cite the original, primary source, rather than the newsletter itself.

Ontario

World at a Glance

Canada

Nursing Home Ownership and Emergency Department (ED) Transfers

Researchers in British Columbia examined how nursing home facility ownership was related to ED transfer rates by observing a sample of nursing home residents in the Vancouver Coastal Health region. They found that a significantly lower rate of ED transfers existed among residents of publicly-owned facilities (owned and operated by a health authority or part of a hospital) compared to both for-profit and non-profit facilities. The authors noted that this may be due to higher total direct-care nursing staff hours per resident and a greater presence of allied health staff in publicly-owned facilities.

United States

School Mental Health Services and Out-of-School Service Utilization

School mental health services (e.g. counseling) are important contact points for children and adolescents with mental disorders, but their ability to provide comprehensive treatment is limited. Researchers investigated the role of school mental health services as a precursor to mental health care in other settings. In the United States (US), adolescents who accessed school-based mental health services and who had any mental disorder during their life, used out-of-school medical services (e.g. emergency departments) to treat mental disorders three times more compared to those who did not access school-based services.

United Kingdom

Examining the Impact of a Diet and Physical Activity Intervention

Researchers in the United Kingdom (UK) evaluated the impact of a diet and physical activity intervention on weight change in 329 overweight or obese adults (aged 50 to 74 years), who had been identified through a national bowel screening program for colorectal cancer. Participants were randomized to a control group (weight loss booklet only) or a 12-month intervention group (three face-to-face visits with a lifestyle counsellor plus monthly 15-minute telephone calls). Overall, participants in the intervention group lost more weight and showed more sustained weight loss compared to participants in the control group.

European Union

Older Immigrants' Use of Public Home Care and Residential Care

Researchers in Denmark analyzed how the length of residence and the country of origin influence older immigrants' (aged over 65 years) use of long-term care services compared to native-born Danes in the same age range. They found that immigrants were less likely than ethnic Danes to use municipal long-term care services when other factors (e.g. age, income, health) were controlled for. The difference was greatest between ethnic Danes and immigrants from non-western countries who had only lived in Denmark for a few years. The difference decreased the longer the immigrants had lived in Denmark, due, perhaps in part, to improved language skills and knowledge of the Danish welfare system over time.

Other

Seven Million Premature Deaths Annually Linked to Air Pollution

The World Health Organization reported that in 2012, around seven million people died (one in eight of total global deaths) due to air pollution exposure. This finding more than doubled previous estimates and confirmed that air pollution is now the world's largest single environmental health risk. In particular, the new data revealed a stronger link between both indoor and outdoor air pollution exposure and cardiovascular diseases (e.g. strokes, ischaemic heart disease) as well as between air pollution and cancer, and between air pollution and the development of respiratory diseases.

Focus on Activity-Based Funding Models

Highlight

Community-Based Specialty Clinics in Ontario

Community-based specialty clinics are non-profit health providers who offer high-volume, low-risk procedures that do not require an overnight hospital stay and that are currently provided in acute-care hospital settings.

According to a 2013 evidence brief on considerations for creating community-based specialty clinics in Ontario, many jurisdictions, both within Canada and internationally, have witnessed the creation of community-based specialty clinics. Among the limited, but available synthesized research evidence on this topic, outcomes such as mortality rates were generally comparable in hospitals and specialty clinics for select surgical procedures (e.g., angioplasty with stent).

What's Happening in Ontario?

The Ontario MOHLTC, along with the LHINs and Cancer Care Ontario (CCO), will be introducing specialty clinics which will initially focus on low-risk cataract and colonoscopy services. Recently the MOHLTC launched an application process to create community-based specialty clinics for cataract procedures. Applications are currently being evaluated and will be completed later in 2014.

Funding Approach

Clinics will be funded based on Health System Funding Reform and Quality Based Procedures (QBP).

Future Planning

In the future, other health procedures will be considered such as dialysis and out-patient orthopedic and other specialized services that do not require overnight stays in a hospital.

What is Activity-Based Funding?

Internationally and within Canada, many jurisdictions are focusing their attention on ways to improve efficiency, accountability, value for money and access to care within their respective health care systems. One strategy currently being considered for addressing these challenges is altering how funding is allocated to health care providers such as hospitals and nursing homes.

Compared to international norms, Canada is unusual in its extensive use of global budgets to fund health care. With global budgets, a fixed amount of funding is distributed to health care providers who are responsible for delivering health care services to patients for a set period of time. While this funding method does provide an effective means of controlling health care costs, it offers little incentive for health care providers to improve efficiency, invest in quality improvement or integrate services with providers across the continuum.

Many international jurisdictions currently fund a portion of their hospitals using an activity-based funding (ABF) model, which reimburses providers based on the types of care delivered as well as the nature and volume of patients being cared for. The premise behind this model is that payments are determined for different patient groupings rather than for specific services delivered such that health care providers are motivated to use the most appropriate means of care to treat patients. Accordingly, ABF (also referred to as payment by results in the UK, payment by diagnosis-related groups in the US, case-mix funding or case-based funding), is characterized by two features: 1) a case-mix classification system used to describe hospital activity; and 2) a payment price set for each case-mix group.

Case-Mix Classification Systems: Case-mix systems categorize patient care episodes into reference groups (i.e. case-mix groups) that are clinically similar (e.g. patient primary diagnosis, co-morbidities, age) and that consume similar health care resources. According to the Canadian Institute for Health Information's 2013 guide on designing and implementing ABF systems, no single case-mix system may be suited to all implementations of ABF as this depends on how the system aligns with jurisdiction-specific characteristics such as funding policy objectives, clinical practice patterns and local costs. Consequently, many case-mix classification systems have been developed. For example, in the US, the Medicare Severity – Diagnosis-Related Groups (MS-DRG Version 31.0) divide patient care episodes into 25 major diagnostic categories and 751 case-mix groups. In England, Healthcare Resource Groups (HRG version 4+) divide patient care episodes into 22 chapters and 2,289 case-mix groups.

Indeed, using case-mix classification systems appears to be beneficial in evaluating the performance of health care providers. For example, a 2014 study on methods of measuring productivity and efficiency in 113 Ontario hospitals found that a model in which case-mix was used as a tool to adjust for patient complexity in inpatient and outpatient volumes data provided greater discriminatory power in distinguishing hospitals on efficiency and productivity measures compared to a model without such adjustments.

Setting Payment Amounts: Reimbursing health care providers for each care episode most commonly involves determining a base value and multiplying it by a cost weight. Typically, the base value is a dollar figure that represents the average cost of a care episode across all case-mix groups. The base value may also be adjusted to ensure that payments are fair such that they take into account non-clinical patient- or hospital-related factors (e.g. patient socioeconomic status, rural hospital location) that may change the cost of treatment. The cost weight for each case-mix group – and subsequently, that of each care episode assigned to that case-mix group – is set relative to the average cost of all patient episodes across all case-mix groups. Accordingly, cost weights explain the variability in costs due to clinical differences. For example, a cost weight of 0.5 is assigned to an episode that consumes half the resources compared to the average care episode across all case mix groups. Additionally, cost weights often require refinement by jurisdictions to ensure that the reimbursement system is aligned with the health policy goals. For example, an additional set of weights ("payment weights") may also be used to provide incentives for providers to change activity. This may include strategies such as using a payment weight to modify the amount paid to providers to a level that is lower than the average cost for a case-mix group or setting payment prices such that hospitals are not fully reimbursed for

avoidable expenses that are incurred when best practices are not followed.

Health System Funding Reform in Ontario

A 2011 report noted that combining the properties of ABF and global budgets may optimize the strengths of both models and is an approach used in many international jurisdictions (e.g. Denmark, Sweden). Similarly, Ontario has begun moving away from using global budgets exclusively and towards incorporating ABF into hospital funding models through its Health System Funding Reform strategy. At the culmination of HSFR, approximately 30% of hospital funding in Ontario is planned to come from global budgets. Another 40% of the funding will be provided through the Health-Based Allocation Model, which estimates a hospital's health care expenses based on population characteristics (e.g. age, gender), clinical data (e.g. complexity and type of care) and other factors such as expected population growth rates, the hospital size and hospital teaching status.

The remaining 30% of hospital funding is expected to come from Quality-Based Procedures (QBPs), which provide funding for specific procedures (e.g. cataract, hip and knee replacement). In contrast to international practices of determining ABF prices based on the expected average cost of treating patients, Ontario is unique, as QBPs are priced according to the expected cost of evidence-based, best practice for these services. Accordingly, QBPs in Ontario were chosen in areas where significant variations in practice patterns and costs were identified across health service providers and where case volumes and costs as a proportion of total health care costs were significant. To date, 14 QBPs have been launched and detailed clinical handbooks have been developed for each of these including, but not limited to: stroke, hip fracture, cataract , tonsillectomy and hip and knee replacement.

Current and Emerging Research on Activity-Based Funding

ABF may be introduced to accomplish a number of different policy objectives, including creating transparency of funding, increasing productivity and efficiency, reducing wait lists and improving quality of care. As a result, there is substantial variation across jurisdictions in how activity-based funding has been developed and implemented. These differences are important to consider, as assessing the impact of ABF may depend on implementation goals as well as other factors such as a jurisdiction's starting point including prior payment systems (e.g. fee-for-service in the US versus global budgets in England). Evaluating the impact of ABF is also hindered by the shortage of rigorous empirical evaluations, particularly in the areas of care quality and patient outcomes or experiences as well as the longer-term effects of the new systems. A Canadian research team is currently in the process of conducting a systematic review, on the impacts of ABF models on health care systems around the world.

According to available evidence, health systems that shift towards activity-based payments for funding hospitals may experience reduced lengths of stay per patient, increased volumes of activity and decreased overall wait times. For example, a 2012 study which reviewed the experiences of five European countries in implementing activity-based funding found that in England, France and Germany, the volume of hospital activity increased following the introduction of activity-based funding; in England, the incentive for hospitals to minimize costs encouraged them to switch from the expensive inpatient treatment to the less expensive day-case practice. According to a 2009 study, these changes in the volume and composition of hospital activity in England suggested a reduction in the unit cost of care associated with the ABF program. In Sweden, a 10% relative gain in productivity was realized between 1989 and 1995 following the adoption of an ABF program; this result appeared to occur due to a modest increase in hospital admissions and sharp declines in lengths of stay and hospital beds. Additionally, a 2007 report noted that within a year of introducing ABF reforms in Australia (State of Victoria) waitlists had fallen by 16% compared to the pre-reform total.

ABF programs have also been shown to produce an increase in total expenditures, which are unlikely to be contained without controls over volumes and prices. For example, a 2009, 28-country review on the impacts of hospital payment reforms found that ABF methods over historical budgets led to an increase in total health care spending of approximately 21%. Similarly, a 2014 report noted that in Sweden, the introduction of ABF has made it difficult to control total costs and has led some counties to limit volumes or offer a reduced payments for activities above set volume limits. Other jurisdictions such as Denmark and England have also implemented similar cost-containment measures to limit cost increases.

Recent Research and Reviews

Associations between Active School Transport and Physical Activity, Body Composition, and Cardiovascular Fitness: A Systematic Review of 68 Studies

Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE) for the Diagnosis of Dementia Within Community Dwelling Populations

Tai Chi for Primary Prevention of Cardiovascular Disease

Hip Protectors for Preventing Hip Fractures in Older People

Making Activity-Based Funding Work for Mental Health in Australia

Interesting Links

Externally-Informed Annual Health Systems Trends Report – 5th Edition

Ontario Health System Funding Reform Website

The Why, the What and the How of Activity-Based Funding in Canada: A Resource for Health System Funders and Hospital Managers

Evaluating the Impact of Activity-Based Funding on Health System Performance

Payment by Results: How can Payment Systems help to Deliver Better Care?

Diagnosis-Related Groups in Europe: Moving Towards Transparency, Efficiency and quality in hospitals

Health Horizon Contacts

Planning, Research and Analysis Branch:

Director – Michael Hillmer, PhD, (416) 327-3314

Manager (A), Planning Unit – Andrea Proctor, PhD, (416) 212-4372

Manager, Research Unit – Shannon Fenton, PhD, (416) 327-1969

Staff Lead, Planning Unit – Michael Campo, (416) 327-8457