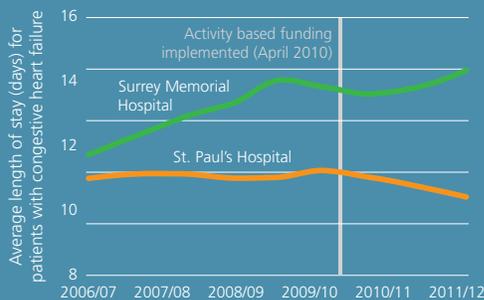


Health Care Funding NEWS

April 2013 | Volume 3 | Issue 2

From the Editor

This edition of *Health Care Funding News* expands on our previous work on measuring healthcare quality and provides an introduction to the concept of cost per weighted case. We also invite you to visit www.healthcarefunding.ca to view our monthly data bulletins assessing the effects of the introduction of activity based funding in BC. The April 2013 data bulletin examines trends in average length of stay for patients with congestive heart failure.



Please feel free to contact us (editor@healthcarefunding.ca) with comments or suggestions.

COMMENTARY

Measuring Hospital Costs

Activity-based funding (ABF) of acute care is thundering down the tracks like a freight train. In several provincial health ministries, ABF is perceived to promise improved access to care, shorter wait times, and lower cost, more efficient care. Whether ABF can deliver depends on the rails it's riding on. One of the most important rails is hospital cost per weighted case (CPWC) data (another is quality of care).

Calculating a hospital's costs for treating a patient is a challenging process. Some variable expenses are fairly straightforward; meals, medical devices, or even prescrip-

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COMMENTARY

Measuring Hospital Quality

In the [last newsletter](#) we wrote about other countries' use of funding policies to create incentives for hospitals to pay for high quality hospital care. Now, we take a step back and look at whether hospital quality can be definitively measured. We use a definition of healthcare quality with two parameters: first, the degree to which healthcare services provided to patients increase desired health outcomes, and second, the degree to which provided services are consistent with evidence (1).

We can then derive indicators to monitor specific aspects of quality. In a subsequent step, we can compare (over time and between) hospitals or other healthcare providers. The most significant drawback of this process is that the concept of quality is only measured on narrow aspects of care, not the compendium of hospital services. Despite this limitation, quality measures are in broad use for monitoring and promoting high quality hospital care.

Two of the most common indicator types are measures of process and of outcome. Process indicators report on what activities or treatments a patient received in order to achieve the desired health outcomes. Outcome indicators report whether a patient's health improved by evaluating changes in their health status.

Process indicators are the most common, often because the data is readily available. An example of a process indicator is the proportion of patients treated according to clinical guidelines. Its derivation is often guided by expert opinion, rather than clinical evidence. A process indicator is only useful if evidence demonstrates that a process of care is linked to improvements in health outcomes. Unfortunately, for many process indicators, the evidence linking them to improved outcomes is weak or uncertain.

An ideal outcomes indicator shows the effect of specific, evidence-based care on the health of a patient. Common outcome indicators include mortality and morbidity

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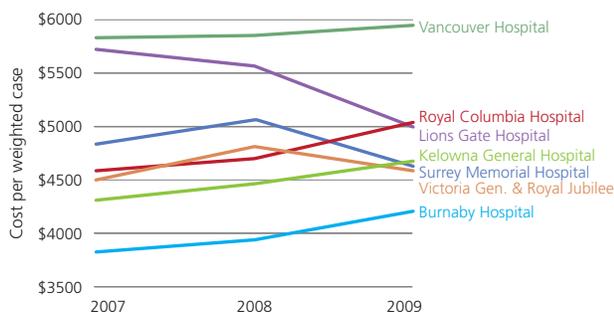
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Continued from measuring costs...

tion drugs, for example, can be confidently measured and attributed to patients. But beyond these directly consumed items, calculating patient costs get murky. Nursing is shared across many patients and must be divided up accordingly, as must hospital administration and registration and discharge systems.

Understanding hospital costs is fundamental to determining whether hospitals are cost efficient. This point is particularly salient as provinces implement funding policies aimed at improving hospitals' operational efficiency. Hospitals use the CPWC as a standard measure of cost efficiency. CPWC is derived by dividing total expenditures by total weighted cases (a standardized measure of the intensity of hospital resources consumed by patients). Thus, the CPWC is a hospital's cost for treating a standard patient, adjusting for the complexity and intensity of patients treated by the hospital.

An advantage of this system is that it facilitates comparison between hospitals, as shown in the figure below, which illustrates the CPWC for select hospitals in BC from 2007 to 2009 (1).



By definition, the CPWC represents the expected cost of the average patient. It cannot precisely predict the costs of a specific patient type. This makes CPWC a blunt tool for hospital administrators who are looking to identify specific areas of care that are unexpectedly expensive. The CPWC also does not account for any exogenous (structural) differences in hospitals' costs. For example, hospitals in remote areas might be expected to have higher costs since nurses are more expensive to attract and retain.

Despite these limitations, CPWC is a sound measure for estimating efficiency. It will see growing importance for both hospitals and policymakers as ABF makes whistle stops across the country.

1. Data obtained from the Canadian Institute for Health Information's [Canadian Hospital Reporting Project](#).

Continued from measuring quality..

measures, though outcomes can also be influenced by a range of factors beyond the treatment, including patient-specific, illness, and system factors. Thus, outcomes may not be solely attributable to the quality of care delivered. The strength of outcome measures is that they are direct measures of the health of a patient and can be evaluated over long periods of time.

The Canadian Institutes for Health Information (CIHI) publicly reports several indicators of hospital quality. Currently, no Canadian province ranks the quality of hospital care, singly or in a comparative manner.

Hospitals in BC provide one example. According to CIHI's [hospital reporting project](#), for each 1,000 surgeries performed in BC, 8.1 patients die in hospital within five days. This rate varies widely across the province. For each 1,000 major surgeries performed at the Burnaby hospital, 3.8 patients die in hospital within five days, whereas in the University Hospital of Northern British Columbia, 7.5 patients die. At Kelowna General 9.8 patients die per 1,000 and at Ridge Meadows 23.2 patients die per 1,000 surgeries. Clearly, the quality of hospital care varies widely across BC, with patients in Ridge Meadows facing a substantially higher risk of death after surgery than patients in Northern BC or in Burnaby. Risk factors that were controlled for include age, gender and selected pre-admit comorbid diagnoses that were applicable to the indicator.

More in depth information is now on our website in a new section called [Hospital Quality](#).

1. Berenholtz SM, Dorman T, Ngo K, Pronovost PJ. [Qualitative review of intensive care unit quality indicators](#). *J Crit Care*. 2002;17(1):1-12.

New Publications

[Paying for Hospital Services: A Hard Look at the Options](#)

Jason Sutherland, R. Trafford Crump, Nadya Repin and Erik Hellsten. CD Howe Institute; 2013.

[A Review of Methods for Deriving an Index for Socioeconomic Status in British Columbia](#)

Kyle Vincent and Jason Sutherland. UBC Centre for Health Services and Policy Research; 2013

CONFERENCE PREVIEW

Hungry for More?

The Health Care Funding team will be giving two presentations at the upcoming Canadian Association of Health Services and Policy Research (CAHSPR) conference in Vancouver on May 28-30.

Poster presentation

[Linking Administrative Data Sources to Analyze Cost of Care over the Continuum](#)

Chu S, Liu G, Crump T, Sutherland J.

Ontario is moving towards a comprehensive view of care across time, settings, and providers. Care use by Ontario patients hospitalized with ischemic stroke was examined. Linked administrative data from multiple care settings and providers (i.e., hospitalizations, rehabilitative care, long-term care, emergency department use, home care and physician billings) over a two year period were analyzed. Emergency department use and hospital readmission were common in these patients and use and cost of care varied significantly.

Oral presentation

[Activity-based Funding in BC: Changes in Activity?](#)

Liu G, Repin N, Crump T, Sutherland J.

BC recently introduced activity-based funding (ABF) in an attempt to improve access to the healthcare system. Using hospital discharge data for the population of BC, inpatient and day surgery activity were analyzed by regional health authority between 2007 and 2012. Time series models were applied to test the significance of the effect of ABF on surgical volumes. Inpatient and day surgeries have increased across the province except in one health authority. However, time-series models showed that ABF had no interaction effect on surgical volumes in the five health authorities.

If you are interested in the selection and collection of patient reported outcome measures (PROMs), check out two other presentations by members of our team: *Selecting a generic health status instrument for the systematic collection of patient-reported outcomes* (poster) and *Collecting patient-reported outcomes in a large Canadian health region: An integrated knowledge translation exercise* (oral presentation).

Upcoming Events

[Making Good on the Triple Aim: How to Improve our Success within the Canadian Context](#)

Canadian Association for Health Services and Policy Research Conference
Vancouver, BC | May 28-30, 2013

[Summer School 2013](#)

Patient Classification Systems International
Tallinn, Estonia | June 10-14, 2013

[Annual Research Meeting](#)

Academy Health
Baltimore, USA | June 23-25, 2013

[Transparency in Healthcare](#)

Patient Classification Systems International
Annual Conference
Helsinki, Finland | September 18-21, 2013

[Methods, Measures and Meaning: Making the Most of Health Data](#)

2013 Health Data Users Conference
Ottawa, ON | September 23-24, 2013

This newsletter was produced by the editorial team of www.healthcarefunding.ca, a reliable and impartial resource for literature, news, and discussion regarding health care funding policies in Canada and internationally.

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