

Making Performance Reports Work



INVITED ESSAY

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ABSTRACT

Public performance reporting is an increasingly common health policy tool to support accountability and quality improvement but there are few formal evaluations of this trend. In this review, we suggest that performance reporting may be an effective way to support improvements in performance when it is directed towards groups of providers rather than individuals and that there is enough evidence to support the use and further development of public performance reporting. However, the true impact of performance reporting depends on the policy context around reporting including clarity of strategy, incentives, and support for performance improvement.

Growth in Public Performance Reporting

Performance measurement is the measurement of “what is done and how well it is done” (JCAHO 2005). Public performance reporting is the public release of performance measurement information, whether at the system, community, organization or individual provider level.

Performance measurement in healthcare is not new. It dates as far back as Codman’s attempts to get his fellow doctors to collect and compare mortality rates among their patients in early 20th-century Boston. In Canada, healthcare performance reporting may have begun with the release of statistics on the utilization and efficiency of publicly insured hospital care, but it accelerated through small-area variations research in Manitoba and Ontario in the 1980s and 1990s that culminated in a series of clinical atlases, reports and papers that described substantial variations in utilization and efficiency across communities and hospitals in both provinces.

The second major acceleration in performance reporting started in the mid-1990s. The release of profiles of cardiac surgery mortality across New York State surgeons was followed by a shift toward reports that included outcomes as well as outputs. Since then, the growth in performance reporting has been accompanied by three consistent trends across jurisdictions:

- *An increase in the range, number, and types of performance indicators.* A cursory search of system-level report cards on hospital care available through the Internet identified more than 45 reports from Europe, North America and Australasia, more than

half of them including 30 indicators or more.

- *Increasing use of a balanced format.* The vast majority of these reports included data on different dimensions of performance including patient satisfaction, clinical processes or outcomes and the efficiency of care.
- *Strong support by government.* More than half of the reports found were funded by government and almost a third more enjoyed some direct or indirect government support. Not surprisingly, the most common justification for these reports was to promote the accountability of healthcare providers: almost all reports identified accountability as at least one goal.

Despite the growth in performance reporting, the evidence on the value of performance reporting remains lukewarm. An important review by Marshall and colleagues (2000) emphasized the limited potential for performance reporting to affect healthcare, and a commentary by Davies and colleagues has pointed out the potential for performance reports to increase inequity in healthcare (Davies, Washington and Bindman 2002). A more recent and strong review by Morris and Zelmer offered a cautious endorsement of public performance reporting, but pointed out the limits on current evaluations (Morris and Zelmer 2005). Moreover, the evidence in these and other reviews and commentaries needs to be assessed in the context of the rapidly evolving and growing volume of performance reporting.

We should expect some ambiguity across the evaluations of public performance reporting in healthcare. These

evaluations face substantial methodological challenges. Rigorous methods such as randomized controlled trials are difficult when the intervention is a public report typically applied across a set of communities. Moreover, even in the largest jurisdictions the number of subjects such as hospitals that can be studied may remain relatively small, making statistically significant conclusions difficult.

These evaluations also face conceptual challenges. There is no accepted framework for the evaluation of public performance reporting, nor do individual evaluations address questions critical to the evaluation such as: (1) How long would it take for changes in outcomes to occur following the release of a report? (2) What outcomes should change following the release of a report, (Ghali et al. 1997)? (3) What was the general trend in outcomes prior to the release of the report? Finally, it is difficult to determine the extent to which a literature largely based in the United States – where a quasi-market healthcare system may encourage consumers to use performance data when making decisions about healthcare – can be used to draw conclusions about less-market-driven systems in Canada and elsewhere.

In this paper, we present the results of a systematic review of the societal impact of public performance reporting in healthcare. We have used the concept of societal impact to encompass a broad range of endpoints, including how consumers and providers understand their healthcare system and how the outcomes of care change within these systems. In order to cope with this broad range of endpoints we have adapted the Knowledge, Attitudes and Behaviour

(KAB) model from the health promotion literature. We chose the model for two reasons. First, typical health promotion strategies such as information, education and communication that aim to influence and impact the knowledge, attitudes and behaviours of individuals or social groups share a strong similarity to performance reporting activities that target similar types of effects within individuals and groups. In this regard, we are merely building on the review by Morris and Zelmer (2005) that identified similar types of effect. Second, the ordered relationship among the categories within the KAB model, with the addition of performance or actual improvements in health outcomes, reflects the sort of ordered relationship that might be expected within public performance reporting where changes in knowledge lead to changes in attitudes and behaviours and eventually to changes in outcomes. This sort of approach may also help identify areas where the period of evaluation, for instance, three months, may not correspond to the objective of the evaluation, for instance, a long-term change in healthcare outcomes.

As with previous reviews, we have also broken down the results by different groups of subjects including individual consumers, groups of consumers (insurers, large employers), individual providers (physicians) and groups of providers (hospitals, managed-care organizations). However, the use of systematic review methods to the extent possible should not be taken as a hallmark of rigour. Throughout this review we describe the numbers of studies supporting one conclusion or another and we comment on the findings of some interesting indi-

vidual studies. This review remains one of largely quasi-experimental evaluations that suffer from the absence of a clear conceptual framework.

Methods

We began our review by identifying potentially relevant English language papers evaluating healthcare performance reporting that were published between January 1980 and January 2004 using different search strategies including:

- Text queries (“report card,” “score-card,” “performance report,” or “report on performance”) or subject heading queries (“information services,” “information dissemination” “mandatory reporting” and “quality indicators, health care”) in the *Medline and Health Star* (819 papers)
- Hand searches of complete volumes published between 1990 and 2004 of *International Journal of Quality in Healthcare, Medical Care, Health Services Research, Journal of the American Medical Association, British Medical Journal, Quality and Safety in Healthcare and Health Affairs* (40 papers)
- Review of performance measurement literature, performance measurement bibliographies and reference lists in published literature reviews, and gleaning of the reference lists of articles eventually selected for review (132 papers)

We also searched the websites of several organizations involved in performance reporting to find additional work, including those for: the New York, Pennsylvania and California

Departments of Health; the Institute for Clinical Evaluative Sciences in Ontario; the Regenstrief Institute; the Manitoba Centre for Health Policy; RAND University; the Agency for Healthcare Policy & Research; the National Committee for Quality Assurance (NCQA); the Kaiser Agency for Healthcare Research & Quality Survey; the Centre for Reviews and Dissemination at the University of York; and the Pacific Business Group on Health. This search and an additional Google search on “healthcare impact” or “healthcare evaluation” and “performance” and “public reports” identified a total of 50 more potentially relevant papers.

Potentially relevant papers were included for review if they met the following two criteria:

- The paper described a publicly available healthcare performance report that compared at least two communities or institutions;
- the paper included some quantitative measure of change in an endpoint that described consumers’ or providers’ knowledge, attitudes or beliefs, or in healthcare outcomes following the release of a performance report.

Most studies were eliminated from the review because they did not provide a quantitative measure of change. Four were eliminated because they reported results included in other, more recent or more detailed publications. Following application of the criteria, 62 papers remained, some of which included the results from multiple analyses or multiple studies. This increases the number of studies included in our review. We did not find any studies

from before 1985.

We extracted data for each study on a range of study and population characteristics and on the nature and changes in knowledge, attitudes, beliefs or performance where

- knowledge is defined as the accurate understanding or awareness of the report and its content;
- attitudes are defined as a perceived usefulness of the report and a willingness to use the report or a positive attitude around the intended impact or objectives of the report;
- behaviour is defined as actions based on or related to the content in the report such as changes in which care is sought; and
- performance is defined as changes in process or outcome measures following the release of the report.

We did not combine results of the selected studies statistically.

Results

The Quality and Scope of Evaluations of Performance Reporting

Of the 62 studies selected for review, more focused on groups of providers (26), largely on hospitals instead of on individual providers (4). In contrast, for consumers a large number of studies focused on individual consumers (35) instead of groups of consumers (3). The majority of provider studies had between 6 and 100 subjects, and the majority of consumer studies included between 200 and 5,000 consumers. The majority of papers (41) reported on observational studies, and most papers (45) included some estimate of statistical significance. The overwhelm-

ing majority of the literature described studies of US performance reporting, less than 10 studies describing experiences in Canada and the UK. Although a number of studies of consumer knowledge or attitudes toward performance reporting provided some framework for their analysis, no studies of providers articulated a theoretical framework for their evaluation.

Impact of Performance Reporting on Individual Consumers

Thirty-five papers studying public performance reporting and individual consumers suggested that public reporting does not have a strong impact on individual consumers' knowledge, attitudes or behaviour. For both knowledge and attitudes, roughly equal numbers of studies showed no impact or a positive impact (e.g., increased awareness of the report or of the performance described in the report or positive attitudes toward the use or value of the report). No studies showed a negative impact. Six studies showed no impact on individual consumers' knowledge and seven showed a positive impact. Likewise, largely the same set of papers produced six studies showing no impact on individual consumers' attitude and seven showing a positive impact. One study of Minnesota residents (Schultz, 2001) showed a negative impact. These results should not be overinterpreted. In this study, those that used the report were more likely to show positive attitudes toward it than those who did not.

In contrast, when considering the impact of these reports on behaviour, the evidence is more heavily weighted toward no or negative impact. A total of 19 studies showed no impact and 3 showed a negative impact. In contrast, only 12

showed a positive impact. However, again it is important not to overinterpret evidence of a negative impact. In one paper (Chernew and Scanlon 1998) positive ratings on prevention and medical treatment were positively associated with choice of insurer while positive ratings on enrollee satisfaction and surgical quality were negatively associated. Likewise, in another paper (Luft et al. 1990) positive performance on four out of six domains was associated with hospital choice and negatively associated with choice on two domains. The one troubling study (Omoigui 1996) suggests that referral out of states with performance reporting was associated with higher mortality, suggesting that patients with high acuity in states with reporting had to seek care elsewhere. On balance this group of studies suggest that performance reporting has little impact on consumer knowledge, attitudes or behaviours. No studies explicitly linked the impact of these reports on consumers to healthcare system performance. Focusing only on studies that reported statistically significant results ($p < 0.05$) did not substantially change the direction of the results.

However, some studies suggest that consumers' use of information may be appropriate. Scanlon and colleagues (1998) show that consumers do not make choices on the basis of individual indicators contained within reports. Guadagnoli and colleagues (2000) show that enrollees who had to switch health plans because their employer changed contracts were likely to have read a performance report, and their choice of plans more often aligned with positive performance reports. It is important to note in this study that consumers also had a cash incentive

(\$200) to choose plans with high-quality ratings. Perhaps most interestingly, the work of Fox and colleagues (2001) and of Fowles and colleagues (2000) suggest that consumers who use data on health plan performance to make changes find the data useful, and those who read the reports may shift their evaluations of the quality of a healthcare plan toward more important elements such as access to care and away from less important elements such as the courtesy of office staff (Fowles 2001).

Impact of Performance Reporting on Groups of Consumers

The evidence on the impact of performance reporting on groups of consumers, like health plans, shows a lack of impact and includes only three separate papers. One showed no impact on attitudes and two showed a positive impact. Finally, two studies showed no impact on behaviour and one showed a positive impact. None showed a negative impact and none explicitly linked consumer group behaviour to healthcare performance. Not surprisingly given the small number of studies, focusing only on those studies that reported statistically significant results did not have any impact on the overall findings.

In contrast to some of the evidence from the studies of individual consumers, positive results from the study of groups of consumers such as managed-care organizations ring somewhat hollow. Although many managed-care organizations studied by Mukamel and colleagues (2000) stated that quality was important and reported using quality reports, more than two-thirds of the organizations stated that the reports were a minor source of informa-

tion or provided no guidance at all and the choice of what surgeons to contract with was unrelated to risk adjusted mortality rates. Likewise, Hibbard and colleagues (1997) in a study of large employers reported that more employers used patient satisfaction data to make contracting decisions than clinical quality data. Finally, Gabel and colleagues (1998) showed a similar positive attitude toward reports and data employers, but little impact on contracting decisions.

Interestingly, comparison of the knowledge and attitudes of individual consumers and groups of consumers toward healthcare performance data suggests that consumers may be more likely to value harder sorts of data such as clinical quality or access to care while groups may be more likely to use satisfaction data. This suggests that motivation in using the data, for example enrollee retention, may have an influence on what data is used and that this may lead to misalignment between the interests of individuals and their employers or insurers.

The interpretation of studies of individual and groups of consumers is particularly difficult within the context of the Canadian healthcare system. Most of the studies examine knowledge and attitudes toward the reports themselves, without consideration of knowledge and attitudes toward the healthcare systems described in the reports. In a single-payor system like Canada's in which competition for patients tends to be low, the value of the reports may be in promoting a sense of accountability or knowledge of the system instead of their use as a guide on where to seek care.

Impact of Performance Reporting on Individual Providers

There is relatively little data on the impact of performance reporting on individual providers (physicians and managers). In total only four papers studied individual providers, and the results are roughly equivalently divided across no impact, positive impact and negative impact. One study each showed a positive impact on knowledge, attitudes, behaviour and performance. One study each showed no impact on attitudes and behaviour. And one study each showed a negative impact on behaviour and performance.

The results of these studies are interesting for the picture they start to describe of the impact of these reports. Burack and colleagues (1999) showed that following the release of cardiac surgery mortality reports, roughly a third of respondents reported a change in practice, almost half discussed the reports with a colleague and more than a quarter discussed them with a patient. However, almost two-thirds refused surgery to at least one high-risk patient in the year following the release of the report although this was a much more common phenomenon among younger surgeons and surgeons with lower overall numbers of cases. Dranove and colleagues (2002) paint an even more negative picture of the impact of cardiac surgery mortality reports. Despite an increase in the homogeneity of cardiac patient populations within hospitals, perhaps yielding a better match between experience and need, there was a small increase in mortality, a much larger increase in readmissions and costs for care, and a decline in the volume and timeliness of cardiac intervention. Work by Schneider and Epstein (1996) tends to confirm these findings.

Although surgeons and cardiologists generally agreed with the importance of risk-adjusted mortality as an outcome, few reported the data as being important to decisions on where to send patients, and many reported increased difficulties in referring high-risk patients.

The work of Hannan and colleagues (1994) presents a more positive picture of the same reports and suggests that outcomes improved following the release of the New York cardiac surgery mortality report cards, that these improvements were greatest among surgeons with the worst outcomes and that about two-thirds of surgeons found the results credible. Ghali and colleagues (1997) have challenged these more positive findings by showing that improvements in cardiac surgery mortality happened in states both with and without report cards. Regarding all of the studies of individual providers, it is unclear whether the initial findings are sustained over time and whether the growth of reports in other states, desensitization to the reports or shifts in the response to the reports, or other factors, may lead to a change in performance associated with the reports. There is no change in the results from removing studies without statistically significant findings.

Impact of Performance Reporting on Groups of Providers

In contrast to the evidence on individual providers, the evidence of the impact of performance reporting on provider groups such as hospitals, managed-care plans, hospital trusts and regions is larger and more positive. Across 26 papers, the majority of studies showed a positive impact whether looking at knowledge, attitudes, behaviour or performance. Only

one study showed a negative impact on knowledge, behaviour or performance, and two showed a negative impact on attitudes. No studies showed no impact on knowledge; one study showed no impact on attitudes; two showed no impact on behaviour; and four showed no impact on performance.

Those showing a negative impact deserve attention first. Romano and colleagues (1999) point out some of the limits on interpretation of the results in report cards. Hospitals with low mortality or those that had for-profit status, and potentially greater sensitivities to competition, had better attitudes toward the reports, but a sophisticated understanding of the report cards including risk adjustment was generally lacking. Similarly, McCormick and colleagues (2002) found that hospitals with poor scores were more likely to withdraw from public reporting projects. Hibbard and colleagues (2003) found the same relationship between good scores and positive views on reports, but in one of the few controlled studies they also found that hospitals with publicly released (as opposed to privately provided) performance data reported more quality improvement activities, suggesting that public release does stimulate quality improvement efforts. Mehrotra and colleagues (2003) provide further evidence that hospitals notice report cards, and stated that in communities with public release of data, the release of data by employers often led to antagonism between providers and payors, although in those communities where data was released concerns over such release were lower than in communities without report cards, and some hospitals wondered whether low concerns reflected lack of

interest and a potentially poor investment in reporting.

Negative knowledge, attitudes or behaviour is not associated with negative performance in any of the studies of provider groups. In fact, only one study, by Baker and colleagues (2002), showed a negative impact of performance reporting on performance. It looked at changes in outcomes across the six clinical groups included in the report. Although performance did decline for one group, it remained unchanged in three groups, and improved in two.

By contrast, almost 21 papers comprising a larger number of studies suggest a positive impact on provider groups from performance reporting and start to suggest the importance of incentives to the use of data. Maxwell (1998) shows that the importance of report card data was higher for CEOs who were in more competitive markets. Bentley and Nash (1998), also studying hospitals in Pennsylvania, showed that hospitals with higher scores on report cards used this information to help recruit staff. In line with the work of Hibbard and colleagues noted above (2003), these papers also support the guiding effect of this data on performance improvement projects. Several studies show an increase in performance improvement projects related to the reports following the release of the report (Bentley and Nash 1998; Longo et al. 1997; Scanlon et al. 2001; Smith et al. 2001; Barr et al. 2003). In some cases, these studies employ as sophisticated a set of methods as could be reasonably conceived (Tu and Cameron 2003).

The impact on process and outcomes of care may also be positive following the release of reports. Longo and

colleagues (1997) showed that Missouri hospitals improved on a range of obstetric services following the release of data. Efficiency and appropriateness of care, as measured by c-section rates, may also have improved in Cleveland hospitals following the release of length of stay and c-section rates data there (Rosenthal et al. 1998). However, most of the data on changes in mortality remains contested. A substantial number of papers such as those by Hannan and colleagues (1994) and others (Peterson et al. 1998; Baker et al. 2002) on cardiac mortality reporting, and some on other reports such as the HEDIS measures (NCQA 2000) show an improvement in performance following release of the reports. A common finding across some of these studies is that performance improvements were greater among lower-performing organizations and that improvements were relatively difficult to sustain at high-performing organizations (Pai et al. 2002). However, it is important to note contrasting work by Ghali and colleagues (1997) and Dranove and colleagues (2002) suggesting that improvements following the release of data may be elusive or overwhelmed by general improvements in quality that are independent of the reports.

Limiting the analysis to studies that report statistically significant results and focusing it on the most sophisticated studies tends to diminish the evidence in favour of an improvement in performance, but it does not affect the evidence in favour of increased quality improvement activities in response to reporting.

Discussion

The findings from this review are broadly in line with those from other reviews on

the effect of performance reporting. They show a generally positive impact on the behaviour and performance of provider groups, but little positive impact on other groups such as consumers and individual providers. These findings may be unsurprising for several reasons. In many jurisdictions, even where there are multiple providers of care, consumers may have little choice in where they seek care, either because of insurance restrictions, because of an inability to use or understand often highly technical detail in performance reports (Morris and Zelmer 2005) or because they rely on individual providers to guide their choices and not available performance reports. It may also not be surprising that individual providers show very little change following the release of performance reports. Individual providers may be inappropriate subjects for studying the way care takes place. Care, particularly in a hospital where most studies take place, may typically be provided by groups of providers rather than by individuals, and the outcomes associated with any one individual may be difficult to associate with the outcomes in these reports. There are, however, a number of reasons why these conclusions may be inappropriate.

The first is publication bias. Although we included both the grey and the peer-reviewed literature in our search and took several opportunities with colleagues to identify unpublished studies and did find several with no significant results, more work may exist. However, given our efforts, it is unlikely that the volume of unpublished non-significant findings is substantial enough to overwhelm our conclusions.

The second reason is that the largely US literature may not be generalizable to

other jurisdictions. In the United States, the pressures of a competitive marketplace, the large number of for-profit hospitals and a more entrenched tradition of consumer choice may serve to increase the value and impact of comparative performance data. Although we found no evidence of an impact on consumers, we did find limited evidence to suggest that the impact of performance reports on groups of providers may be higher in competitive markets. To the extent that there are no similar pressures in other jurisdictions this may serve to lessen the impact of performance reporting in these other jurisdictions. However, the growth of pay-for-performance, earned autonomy and other forms of accountability agreements that are linked to these performance reports may be sufficient to support a focus on the reported measures.

The third reason is that the data itself may be flawed. Since the introduction of DRG-based funding in the United States and the emergence of DRG creep almost immediately after, researchers have recognized that performance measurement may lead to changes in the data on which it is based. It is possible to conceive that some reported improvements in the process or outcomes of care result from the manipulation of data. However, the changes in mortality in some studies extend beyond that which could be explained by changes in the data.

The fourth and potentially most important reason is limitations on the studies themselves. Most of the studies are cross-sectional analyses and do not accommodate the measurement of positive and negative changes in performance that may occur several years after the start of reporting. It is possible to conceive of

a situation in which initial improvements in performance are lost after reporting becomes routine or the reports are discontinued, or where improvements in performance only occur a few years after the release of reports as quality improvement projects begin to yield results.

Finally, the review itself may be biased or limited by use of KAB+performance framework. Studies on consumers contained no analysis of the performance aspect of this framework. Likewise, the studies of providers are heavily weighted toward the studies of behaviour and performance. Moreover, none of these studies actually use this framework to describe their expectations of the results or impact of public performance reporting, and it is difficult from these studies to construct a causal or temporal link between an increase in knowledge, a change in attitudes, a shift in behaviour and an improvement in performance across these studies. That said, the framework does provide a useful way of identifying both the gaps in the literature and the gaps in the range of outcomes measured across different groups. It also suggests the type of study that might be most useful in the absence of the ability to implement strictly randomized control trial methods across populations. Furthermore, it demonstrates the impact of performance reporting consistently within a framework and within a time span that matched expected changes in specific endpoints. This means that future studies might look for early changes in knowledge and attitudes and later changes in behaviour and outcomes.

However, just because public reporting does not directly and consistently drive consumer behaviour is no reason

to abandon it. The review did show that public reporting was strongly linked to the effect it had on providers, so the effect of public reporting may be indirect. Consumers may make some choices based on data and some consumers may be more likely to make certain types of choices. These choices, and the educational effect of the data, may serve to stimulate quality improvement efforts by providers and they be critical to actually recognizing success within the healthcare system; this is an all-too-often neglected goal of performance measurement.

Nevertheless, the literature reviewed in this paper does suggest some important lessons for performance reporting. First, the lessons of quality reporting from more than a decade ago still hold. Information, like performance data, needs to be placed within a context that focuses attention and supports action. The question of focusing action through performance indicators is often challenged. Dranove and colleagues (2002) have also made a more sophisticated economic argument that focus on specific aspects of performance may lead to inefficiencies, as the marginal return on extra dollars invested in a specific area may be outweighed by the loss of not applying those dollars elsewhere. However, the question of focus is important only when the foci are on inappropriate areas of activity. The Department of Veterans Health Affairs in the United States and the National Health Services in the United Kingdom (Perlin et al. 2004) have devised indicators that meet several standards – that is, a background with evidence, a process that involves provider buy-in, and a quick turnaround of data that should yield improvements of performance in important areas. In this case,

focus may actually be appropriate, particularly when matched with evidence on what is effective. This means that public reporting with a focus on performance indicators critical to funding or to the achievement of key goals may be a powerful stimulant to health system change.

However, it is also important to recognize that the context around performance indicators must include support for the use of the performance data. In studies on small-area variations and on continuous quality improvement programs, the key element is the opportunity to examine the data closely and to work with the data. Performance reporting activities that have an opaque or less-than-transparent methodology, that are difficult for individual providers to calculate as they work through the data or that involve sophistication that makes them difficult to apply to clinical practice are unlikely to drive any meaningful change.

The second major lesson is that the direct effect of performance measures on consumers is limited. Although the accountability framework within which performance reporting occurs is important, the success of performance reporting is unlikely limited only to the healthcare market where choice is a critical component of ensuring accountability. Thus, the lessons of the systematic review are applicable to non-market healthcare systems as well. This suggests that accountability exercises may use performance data and release it to the public, but the accountability mechanism need not depend solely on driving patient volume to high-quality institutions. In fact, if funding only follows patient flows, the effect of such shifts in patient volume may be to increase inequities in performance across organi-

zations. It is easy to conceive a situation where, in a highly competitive healthcare market, funding followed patients so that high-quality organizations received more and more funding, were able to achieve economies of scale and scope and further increased the quality of their care, while poorly performing organizations received less and less resources with a consequent decline in performance.

Rather, the importance of public performance reporting may be to stimulate and recognize quality and performance against key goals. This means that funding that follows performance against key indicators may be a useful tool for system change, but it should never be the only criterion for funding. Healthcare, at least in jurisdictions such as Canada, remains one of the few industries in which there are no clear and consistent rewards for quality. Recognition of quality may provide a useful stimulus and link to other activities such as fundraising and positive appreciation of work and recruitment.

Third, performance reporting should be based on a model of rational and realistic provider behaviour. Some studies that argue against public performance reporting show that these public reports result in an increase in physician-to-physician communication, an increase in the acuity of cases seen and a reduction in access to care. Critics of public performance reporting may attribute this to gaining an inappropriate patient selection. A more rational model or interpretation congruent with provider behaviour suggests that increased physician-to-physician communication may lead to a shift in how the health of patients is described. This in itself may actually be an increase in the accuracy of the descriptions as physi-

cians pay more and more attention to this data. And it may also lead to useful conversations around the appropriateness of seeing certain cases and a more appropriate, if at times, more conservative model of practice. This sort of physician-to-physician communication is actually the sort of communication that underlies quality improvement exercises in many jurisdictions. Interpretations that tend to characterize healthcare professionals as working against the interests of their patients and that presuppose some type of agreement across providers to work against patient interests are inappropriate and inappropriately denigrate both public performance reporting and individual providers. Nevertheless, physician profiling is unlikely to spur major changes in performance, and may exact large costs in terms of maintaining the reporting system and avoiding adverse effects on provider behaviour and dealing with false positive results that inappropriately classify individuals as poor performers.

Finally, the evolution of performance reporting should not be seen as a policy option that can be pursued in a way distinct from the overall improvement of the healthcare system. The importance of focusing on important goals means that performance reporting should be accompanied by a clear articulation of system goals and system strategies for achieving those goals. This could lead to the type of performance reporting that combines the expected activities and outcomes of a series of strategies to truly meet the definition of performance measurement quoted at the beginning of this paper. Likewise, improvements in performance reporting should try to encompass larger proportions of the healthcare system in

a way that allows individual providers or provider groups to understand their contribution to overall goals but lays out their ability to affect these overall goals in the context of other groups' activities, including those of payors. Finally, the growth of performance reporting should also reflect lessons about information management learned from other disciplines. These lessons, such as the importance of a common set of standards and a single system for performance reporting, the notion of an open platform or transparent sets of methods and a verified source of data or balanced source of data as critical to the acceptance of these methods, should not be forgotten in the haste to publish and release reports; rather, all of these activities should be led together by system stewards.

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