

Designing a Benchmarking Approach for Ontario's Hospitals

Observations Arising from a Symposium hosted by the Hospital Report Research Collaborative

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Background

Benchmarking is a key component of many organizational performance measurement systems. Benchmarking identifies best-in-class performance and provides a way to set aggressive targets for improvement and a way to identify potential strategies on how to improve performance. Currently, however, the *Hospital Report* project does not formally identify best-in-class performers. Consequently, we provide scant recognition to above-average achievers and therefore do not research or disseminate widely the best practices embraced by these innovative and leading organizations.

Over the last two years, *Hospital Report* investigators have worked on a variety of methods to identify benchmarks, or best practices based on the data included in the *Reports*. The Hospital Report Research Collaborative (HRRC) presented some of this work to hospitals as part of the 2003 regional sessions. During these sessions, hospitals agreed that benchmarking was important, yet stated that they would prefer to see benchmarking based on a range of indicators instead of just one indicator because: (i) this would prevent hospitals from attempting to improve one indicator (e.g., length of stay) at the expense of another (e.g., readmissions); (ii) this approach was more congruent with the balanced scorecard framework; and, (iii) this approach would help to provide some evidence of achievable or reasonable changes by focusing on many indicators instead of just one that might fluctuate more readily than several. However, once benchmark hospitals have been identified, regional session participants identified a need to establish benchmarks for individual indicators as well for quality improvement (QI) purposes.

Objectives of the Benchmarking Panel Sessions

The HRRC's objectives for this part of the symposium were: (i) to present hospitals with a review of different practical approaches to benchmarking hospital performance on multiple indicators, (ii) to solicit hospitals' preferences for different benchmarking methodologies, and (iii) to identify challenges and important issues relating to the calculation, dissemination, and validation of benchmarking information.

Different Possible Approaches to Benchmarking

Benchmarking is a powerful conceptual tool in healthcare. Benchmarking is not primarily designed to "rank" hospitals but, rather, to identify, analyze, and transfer exemplary practices (Jones, 2001). Benchmarking describes variations in practices, pinpoints a best practices target, and provides system-specific solutions. One generic definition signals that benchmarking is a "continuous systematic process for evaluating the products, services and work practices of organizations that are recognized as representing best practices for the purpose of organizational improvement" (Spendolini, 1992).

Summary Point: *Hospital Report* benchmarking will recognize and disseminate best practices.

The aforementioned objectives lead to two overriding methodological challenges. First, there is the likelihood that different stakeholders will set different benchmarks; this leads to the critical question, "Who defines the benchmark?" Second, a benchmarking approach that focuses on just one indicator or on a small number of indicators could theoretically skew hospital priorities and thereby hurt the organization's overall performance; this leads to the key question, "What makes a benchmark hospital?"

Different definitions of benchmark performance result from different methodologies. For example, the Health Services Restructuring Commission (HSRC) approach during the mid-1990s involved the use of consensus panels to set achievable targets. At American Express and Xerox the approach involved identifying the fiercest competitors consistently ranked as the highest performers and regarded as leaders in their field. The American Productivity and Quality Center defined a benchmark as "a measured, 'best-in-class' achievement; a reference or measurement standard for comparison; this performance level is recognized as the standard of excellence for a specific business process." Giff & Mosel have applied this definition to healthcare, stating that "health care benchmarking is the continual and collaborative discipline of measuring and comparing the results of key work processes with those of the best performers. It is learning how to adapt these best practices to achieve breakthrough process improvements and build healthier communities" (Giff & Mosel, 1994).

In the disease context, the Northern New England Cardiovascular Disease Study Group, a voluntary research consortium composed of clinicians, scientists, and hospital administrators representing hospitals that performed open heart surgery in Maine, New Hampshire, and Vermont, formed in 1990 to benchmark best practices after an examination of data revealed that the differences in mortality rates across institutions were not due to variations in case mix, but rather to differences in unknown aspects of patient treatment. The study group then found that there were best practices for actually conducting the benchmarking process. These process practices involved elements such as site visits, how and what to observe during a site visit, and converting best practices into a brief list of reminders that included style, transferability, pace, communication, hand-off, ownership, and completeness of reporting (Doebereiner, 2000).

Challenge 1: Who should define the benchmark?

Depending on the indicators, the answer may be simple or complex. For instance, HRRRC researchers have found it relatively straightforward to gain consensus among hospital CFOs across Ontario on financial indicators, such as total margin. However, if the indicator is patient satisfaction, there is more dispute. Managers, nurses, and patients may disagree on definition. It is more difficult to determine an agreed-upon level of performance for a benchmark when multiple stakeholders are involved. For example, our data reveal that, contrary to popular belief, patients appear to be less concerned with provider service quality when evaluating care; they express a lower threshold for

Summary Point: Depending on the indicator, the choice of who defines the benchmark will drive the findings.

satisfaction with ED care by nurses and physicians than is expressed by managers. Patients also express a much lower satisfaction threshold of acceptable waiting times in the ED and a lower acceptable threshold of willingness to return to the ED than do managers.

Given this variance in acceptable benchmarks, who should decide the appropriate benchmark method? *Hospital Report* principles identify senior hospital leaders as the key people to choose indicators. At the symposium, there was additional representation from the MoHLTC and from the OHA. Although symposium attendees, as evidenced by their formal evaluations of the symposium (also reproduced on the *Hospital Report* website), were strongly of the opinion (98.3% of responses) that the symposium participants represented the right mix to decide benchmarking methodologies, a number of participants felt that there should have been more representation from physicians, the Ontario Medical Association, the College of Physicians and Surgeons of Ontario, hospital CEOs and hospital board members, MoHLTC staff and other decision-makers, as well as from leaders in other private industries; however, there was some resistance to the suggestion that consumers be involved in the process at this stage.

Despite the challenges in gaining consensus in the development of benchmarks, the HRRRC plans to continue researching methodologies, three of which are elaborated upon later in this paper. Since there remains considerable resistance to engaging the public in the definition of benchmarks at this time, next steps will involve a study of the feasibility of incorporating patient preferences into the benchmarks through literature reviews and/or consensus panels in which panelists will be asked to adopt a patient perspective, in addition to their professional one.

Challenge 2: What Makes a Benchmark Hospital?

The 2003 regional sessions identified the second key challenge along the path toward benchmarking: What makes a benchmark hospital? There was broad interest by hospital leaders in studying multiple indicator benchmarks to obtain a more holistic view of performance (Brown, 2003). Rather than focus on one indicator, hospital leaders felt the need to analyze performance across different dimensions in order to learn from the strong performers. Therefore, the methodological challenge now becomes: How do we combine indicators to best identify benchmarks? This multi-indicator vision builds on the balanced scorecard theory adapted by the *Hospital Report*, which defines performance measurement as an interconnected framework of cause-and-effect linkages (Kaplan and Norton, 2001). Supporting this theory, best-practice hospitals could be evaluated on the basis of their overall performance across the quadrants of *Hospital Report*.

Summary Point: Multiple indicators promote a more holistic and robust account of performance for the purposes of benchmarking.

Towards Multiple Indicator Benchmarking

Regional Sessions involving over 200 attendees from 87% of participating institutions revealed that hospitals want benchmarks based on several indicators. Multiple indicator benchmarking is consistent with the balanced scorecard methodology and helps protect against undue reliance on any one indicator. The sessions also emphasized the importance of validating each benchmark method.

Three dominant benchmarking methods may be used to aggregate results across multiple indicators. These are: (i) the ranking method, (ii) "Good to Great," and (iii) strategy linkages (based on the balanced scorecard). As the table on the following page explains, there are advantages and disadvantages associated with each method. Two prominent examples of the ranking method in the hospital sector, well-known to the public, are the *100 Top Hospitals* series (HICA-Sachs), and the *U.S. News & World Report* rankings. "Good to Great" is an innovative method used in the business world to identify companies that made the leap from simply being "good" to becoming "great" (Collins, 2001). The strategy linkage approach is based on Kaplan and Norton's balanced scorecard model (Kaplan and Norton, 2001). Practically, it involves creating a strategy map that depicts the impact of improvements in non-monetary assets such as improved employee satisfaction or monetary assets such as improved financial outcomes. After selecting a set of cause-and-effect relationships derived from the strategy map — termed "strategy clusters" — indicators pertaining to each of the identified strategy clusters are then grouped together, making it possible to trend a hospital's performance in each of the clusters over a period of time.

Different Benchmarking Methods use Different Approaches to Aggregating Results across Multiple Indicators

	Ranking	Good to Great	Strategy Linkages
Method	Rank in top 25% across all indicators within each peer group	Always Great: Consistently above average for 75% of indicators in a quadrant and not below average in 75% of indicators in remaining quadrants Attained Great Status: Attained and maintain great status by year 2 Great but Slipped: Above average for 75% of indicators in a quadrant in year 1 or years 2 and 3, lower in year 2 or year 3	Above average performance on related indicators within a quadrant or across quadrants
Advantages	Easy to explain	Reward improvement, focus on long-term results	Explicit link between investments and outcomes
Disadvantages	Ranking can lead to perverse effects	Stringent criteria, no hospitals perform well in every area	Must validate related sets of indicators, no hospital performs well in every area

Summary Point: Multiple indicator benchmarking and the strategy linkage approach are in keeping with the balanced scorecard philosophy.

The HRRC has explored and applied the aforementioned benchmarking methods in order to seek to identify a potentially suitable and comprehensive approach for the *Hospital Report* project. (The methodologies for each approach are explained in more detail below). For each separate analysis, we used three years of consecutive *Acute Care Hospital Report* data. We compared a cohort of 72 hospitals (11 small, 51 community, 10 teaching) that consistently participated across all four quadrants of the *Report* for all years. The purpose of presenting this information at the symposium was to help symposium participants select the benchmarking method that they believed most suits the information needs of Ontario hospitals. The HRRC encouraged participants to review the proposed methods based on five themes: innovativeness, usefulness, empirical rigour, conceptual rigour, and interpretability.

1. The Ranking Method

In our analyses, we identified that the ranking method is strongly sensitive to the number of years included. Applying the ranking method — using the HCIA-Sachs methodology (HCIA-Sachs, 2003) — the HRRC identified benchmark hospitals by peer group for each of three years of *Hospital Report* data (2001-03). The number of benchmark hospitals that consistently ranked in the top 25% in each year are described in the table below. The table illustrates how hospitals slide in status as we trend performance over three years using the ranking method.

The Ranking Method is Sensitive to the Number of Years under Analysis

	Year 1	Year 1 & 2	All 3 Years
Small Hospital	3	1	1
Community Hospital	13	4	3
Teaching Hospital	4	3	2

Summary Point: The ranking method appeals to the public yet is highly sensitive to the number of years under analysis.

2. “Good to Great”

We adapted the “Good to Great” methodology and applied it to three years (2001-2003) of the Acute Care *Hospital Report* findings. We assessed hospitals within and across different peer groups (i.e., small, community, teaching) for a group of hospitals that participated in all three of the designated years. In our research, we defined “Good to Great” organizations to include hospitals that were either:

Always Great: Hospitals that performed consistently above average (i.e., higher than the mean) for 75% or more of the indicators in at least one of the quadrants of the *Hospital Report* and not below average in 75% of indicators in the remaining quadrants of the *Hospital Report*.

OR

Attained and Maintained Great Status: Hospitals that attained improvements from 2001 to 2002 and maintained these improvements in 2002 to 2003 by demonstrating above average results (i.e., higher than the mean) for 75% or more of the indicators, in at least one quadrant of the *Hospital Report* and did not perform below average in 75% of indicators in the remaining quadrants of the *Report*.

We also identified a third category of “**Great but Slipped**” hospitals that made a short-term shift from “Good to Great” but were not able to sustain superior performance over time. Hospitals in this category performed above average for 75% of indicators in a quadrant in year 1 or years 1 and 2, but lower in year 2 or year 3.

We applied the algorithm described above to identify “Good to Great” hospitals across *Report* quadrants. However, this resulted in very few hospitals qualifying for “Good to Great” status. Therefore, we reapplied the algorithm with a slight modification: Hospitals that performed consistently above average OR those that attained and maintained improvements for 75% or more of the indicators and did not perform below average in 75% of their indicators *for more than one quadrant* of the *Report*.

The take-home lesson from the “Good to Great” methodology is that no hospital performs well across all quadrants (see the table on the following page).

Summary Point: The “Good to Great” methodology promotes multiple indicators, since it reveals that no hospital performs well across all quadrants.

No Hospital Performs Well Across Quadrants

	Always Great	Attained & Maintained	Great but Slipped
Satisfaction	10	1	1
Financial	2	None	3
Clinical	None	None	3
System Integration	1	4	1
Overall	None	None	None

3. Strategy Linkages

We used this benchmarking method to develop a strategy map for the *Hospital Report* framework. First, we chose a select set of hypothesized cause-and-effect relationships from the strategy map. We termed these linkages/relationships “strategy clusters.” The SIC advisory panel for *Hospital Report*, as well as a survey of the academic literature concerning challenges now facing Ontario and Canadian hospitals, provided the rationale for establishing the selected strategy clusters. *Hospital Report* investigators and members of the Strategic Advisory Committee¹ also contributed to the process of cluster development. These strategy clusters were based on intra- (within) and inter- (cross) quadrant linkages identified in the *Hospital Report* strategy map. We grouped indicators pertaining to each of the strategy clusters together and trended a hospital's performance in each of the clusters over a period of four years. Furthermore, we used 1999-2002 data for some clusters and 2001-2003 data for other clusters to account for the time lag in the “cause-and-effect” relationships that were identified through the strategy map.² Hospitals were compared within and across their respective peer groups (i.e., small, community, teaching) depending on the comparability of the data. A benchmark hospital was defined as a hospital that demonstrated above average (i.e., above the mean) scores for all of the indicators in a strategy cluster.

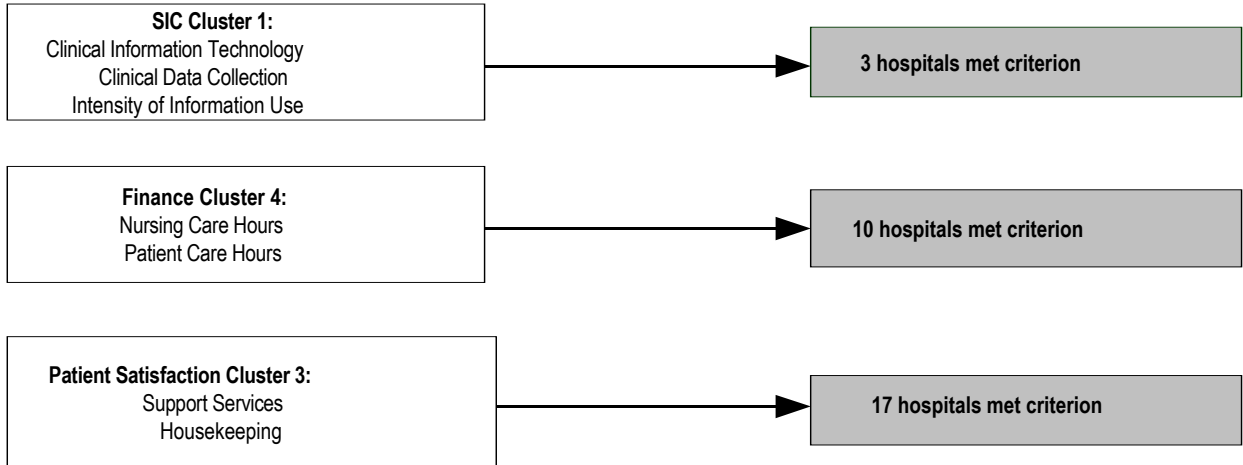
Importantly, we found that few hospitals performed well on all cross-quadrant groups of indicators in *Hospital Report*. This is a possible signal that we might not

¹ This group currently consists of senior representatives of *Hospital Report* key stakeholders (the CCHSA), the Ministry of Health and Long-Term Care, the Ontario Hospital Association, hospitals (small, community and teaching), and the non-acute sectors (Complex Continuing Care, Mental Health, and Rehabilitation). The Strategic Advisory Committee offers strategic advice for the ongoing development and implementation of the *Hospital Report* Series.

² For example, a change in work processes, such as the integration of clinical protocols, will not affect clinical results until a year or more later.

studying the right linkages. However, when examining within-quadrant clusters of indicators, more hospitals qualified as benchmarks (see table).

Many Hospitals Perform Well on Within-Quadrant Groups of Indicators



Of particular note is our finding that there appears to be limited convergence in these findings across the three different methods of benchmarking — ranking, “Good to Great,” and “strategy linkages.” As illustrated in the table that follows, there is wide divergence in findings.

There is limited consistency in results across benchmarking methods

	Ranking	Good to Great	Strategy Linkages	Common in all 3 methods
Small Hospital	1	10	29	1
Community Hospital	3	16	115	2
Teaching Hospital	2	0	25	0
Total Yield by Method(s)	6	26	169	3

Choosing a Benchmarking Method

In the process of deciding upon a suitable benchmarking method for *Hospital Report*, Adalsteinn Brown presented symposium attendees with a number of questions that may be helpful. As mentioned earlier, these questions may be grouped under five thematic dimensions. These include:

1. Usefulness

- Is the method useful for Hospital CEOs and Boards?
- Is the method useful for middle management such as directors and program managers?
- Is the method useful for reporting to the public?
- Will the method help to improve QI practices?

2. Acceptability

- Is the method compatible with your notions of quality?
- Is the method compatible with the goals of the Ontario hospital system generally and could it be easily implemented?
- Is the method acceptable to hospitals, professionals, and government?

3. Conceptual Rigour

- Does the method give a multi-dimensional perspective?
- Does the method support performance management?
- Does the method provide insight into organizational strategy and support priority setting?
- Does the method reflect realistic or reasonable expectations given current constraints?

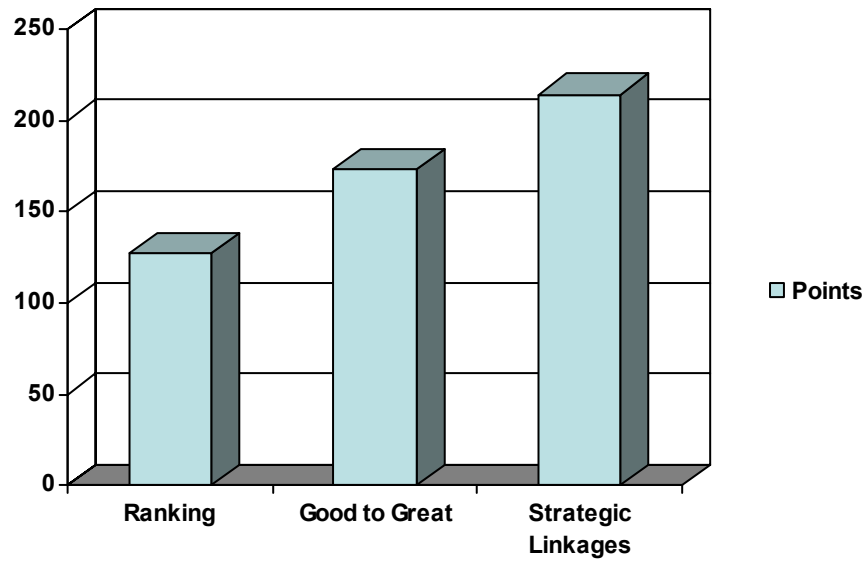
4. Interpretability

- Is the method easily understood by hospital CEOs, Boards, and staff?
- Is the method easily understood by hospital patients and visitors?

Symposium attendees were asked to rank their preferred benchmarking method in a distributed survey. Those who completed the survey (N=86) selected their first, second, and third choices of benchmarking method using the above-listed criteria. After assigning three points to a respondent's top choice, two points to a second choice, and one point to a third choice, we find that the winning benchmarking approach is strategic linkages. However, these results must be interpreted cautiously, since, for many respondents, this was the first time they had been exposed to these benchmarking methodologies. Also, some respondents commented that their choice of method might change depending on the end-user of the information (i.e., senior managers, the public).

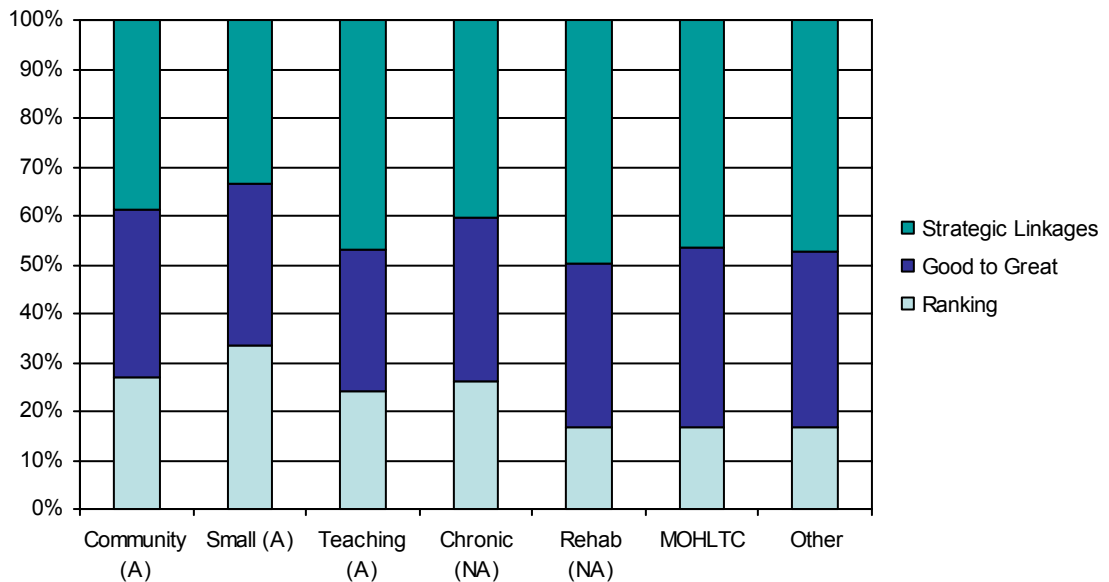
Summary Point: Symposium attendees strongly favoured the strategy linkage approach to benchmarking performance.

Benchmarking Method Preferences of Symposium Participants (N=86)



Significantly, the order of preferences for the different benchmarking methodologies is almost identical across all hospital types (see following chart). Except for small acute care hospitals, which expressed identical preferences for each method, strategy linkages was the method favoured across hospital types, followed by Good to Great, and then by the ranking method.

Benchmark Preference by Hospital Type (N=80)



Legend

A = Acute

NA = Non-Acute

N=80 because 6 respondents failed to properly identify their hospital type.

No Mental Health (Non-Acute) facilities were represented in this analysis.

Symposium Discussion Points on Benchmarking

Following Prof. Brown's analysis of benchmarking approaches, symposium participants raised a number of questions about *Hospital Report's* benchmarking initiative. These included concerns about indicator selection, methodology, involvement of the lay public, and the manner of information dissemination.

Other Approaches

For example, looking at the "Good to Great" method, should there be other categories included in the benchmarking process that might be more meaningful? For instance, "good-to-great that have become terrible"? The rationale here is that the public may simply want to pinpoint the worst performers for accountability purposes. This approach, however, is at odds with the benchmarking mandate, as expressed in the regional sessions, to focus on learning from top performers.

In the context of discussing whom to consult in the design of methods, several participants asked whether the HRRC might gain insights from outside the hospital/health sector? How has benchmarking worked in the private sector? What sorts of approaches (other than the ranking method) have private firms used that may be transferable?

The Role of the Consumer

Several concerns were raised as regards the communication of benchmarking data, and the potential that the public and the media may badly misconstrue the results. Who is the audience for benchmark reports? Is there a schism between the needs and wants of senior hospital managers, the traditional target audience for *Hospital Report*, and consumers?

This discussion over audience led to the issue of public dissemination. Would we ever publicly release the results of benchmark hospitals? *Hospital Report*, one participant observed, has created a thirst in the public's mind for benchmarking. How do we respond to the rising demand for such information? If the information is publicly released, there was some agreement that we would have to be careful about how we communicate this information to the public. One participant felt that there is a strong argument in favour of full disclosure. It drives data quality and is more in keeping with the philosophy of successful benchmarking initiatives across the private and public sectors.

The discussion over public dissemination and the interests of consumers led to the suggestion that consumers be involved in the benchmarking process. If indicators make sense to the consumer, one participant noted, they should make sense to hospitals, too. However, symposium members did not appear generally to embrace the involvement of consumers in methods selection. The point was made that hospitals and consumers may, at times, have divergent interests in benchmarking. Hospitals want to learn from the best, and to improve. Consumers, on the other hand, want to know which are the best, but they also do not want to be misled into thinking a hospital is a strong performer when, in

Summary Point: Symposium attendees were resistant to consumer participation in the design of benchmarking methods, yet were curious to learn more about private-sector benchmarking initiatives.

fact, it is not. Moreover, they do not want to be misled into thinking a hospital is a weak performer, when, in fact, the opposite is the case. Therefore, both “false positives” -- and “false negatives” -- matter to consumers.

One participant felt that benchmarking poses an optics problem in the measurement of complex, multi-dimensional organizations such as hospitals. The public may think that a benchmark hospital is one that performs exceptionally well on every indicator, when, in fact, this is never the case. Maybe, then, we should have two sets of benchmarking awards. As in Hollywood, there could be one set of awards administered by the “experts” (“Oscars”) and another driven by consumers (“People’s Choice Awards”).

Another participant observed that consumer-driven indicators can pose risks. For example, consumer-driven indicators can produce a marketing-driven organization that aligns its priorities exclusively to meet consumers’ (potentially capricious) desires. Another participant countered by noting that hospital managers and researchers are all consumers, too, and therefore we can and inevitably do step outside of our professional roles to see the consumer’s perspective in the generation of benchmark indicators.

Beyond consumers, two other groups were specifically identified as being of possible assistance in the benchmarking and indicator-generation process. These were physicians and politicians. Should we evaluate physicians’ perceptions of care in the generation of benchmarks? Should politicians be involved in the benchmarking process? Two participants noted that since politicians are driving the agenda in terms of resources and planning, they should ideally be included in the process.

Final Suggestions

In order to meet the strategic challenges facing Ontario hospitals today, there is widespread agreement in the goal of benchmarking, which encourages hospitals to look outside their own walls, learn from others, and to eventually achieve exemplary performance. It is notable that this goal is in keeping with one of the chief strategic challenges currently facing Ontario hospitals, as demonstrated at this symposium and in the HRRC strategic priorities survey which preceded it: namely, greater integration and partnerships (e.g. networks). More than 80% of respondent hospitals in the HRRC strategic priorities survey noted that horizontal and vertical or health services integration were very important strategic issues — yet the respondents associated these priorities with considerable challenges; more than 10% of respondent hospitals reported that meeting these integration challenges was beyond their control. In consideration of this situation, a concerted approach to benchmarking may help drive collaborative QI initiatives.

Successful benchmarking can create opportunities to improve performance through the discovery of best practices. Although much more work must be done in order to refine a methodological process by which benchmark

indicators are selected, we have come to two preliminary conclusions in this regard: (i) a multiple-indicator approach should be favoured over a more limited approach; (ii) an approach that correlates strategic linkages across the existing quadrants of the balanced scorecard seems more meaningful than a crude ranking method or a “Good to Great” model.

As has been noted, there are several more steps in the research process. Findings from this symposium and strategic priorities survey will be validated with hospital CEOs. We will undertake further refinement and development of strategic clusters. The question of whom to involve in the development of benchmark indicators, particularly the involvement of clients and practitioners, needs to be explored. However, despite the ambitious scope of this research initiative, the HRRC has a clear mandate from hospitals to define those strategic challenges that are most pertinent to improving quality, and to confirm and refine the method by which *Hospital Report* will identify benchmarks.

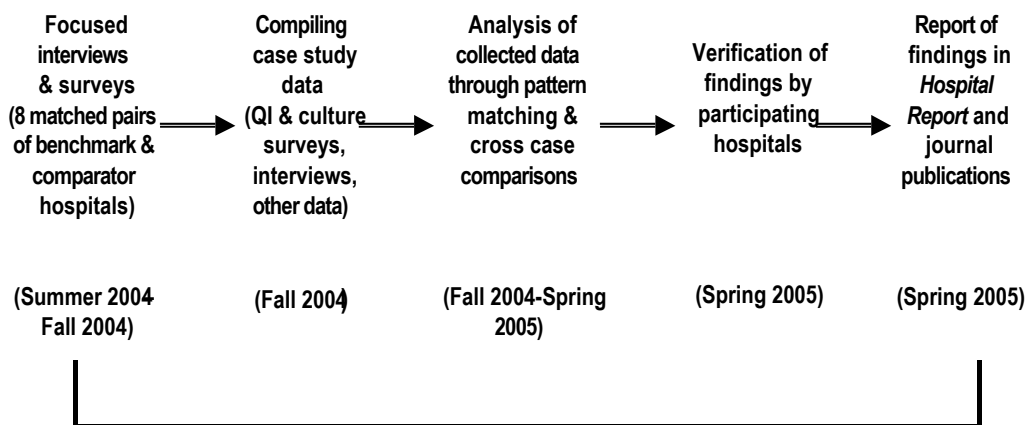
The results of the benchmarking selection survey suggest an HRRC research priority of exploring the evidence and existence of currently articulated strategy linkages (for the purposes of validation), and the exploration of new potential linkages from which to develop more meaningful strategy clusters. Finally, a related research priority involves the development of benchmarking for individual indicators.

Summary Point: *Hospital Report* will embark on exploring new potential strategy linkages and clusters.

Next Steps in Benchmarking Methods Selection

Having invested considerable efforts in devising alternate benchmarking approaches, the next steps along the path toward benchmarking involve further interaction with the field, and compilation of case study data. By Spring 2005, the HRRC workplan calls for the verification of our findings by participating hospitals, and the subsequent report of these findings in *Hospital Report* and in journal publications (see table).

Next Steps will Validate the Preferred Benchmarking Method



Case Study Timeline

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