

**TITLE: Performance Measurement Systems in Health and Mental Health Services: Models, Practices and Effectiveness.**

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## **OBJECTIVES**

Performance measurement (PM) has become an important mechanism for accountability in industrialized countries in the past 15 years. Its rise in prominence in health and mental health services parallels its use in the business sector. There has been an unprecedented proliferation of both measures and indicators as well as systems for data collection and reporting. However, health service organizations have struggled with the development of systems for performance measurement, and there is a very poor evidence base to guide best practices in this area.

**The purpose of this State of the Science Review was to summarize and outline the strengths and weaknesses of the current research literature on models, practice and effectiveness of PM systems in health and mental health services, and to place the research information in the context of current policy and practice in Canada.** The review identified critical gaps in research that need to be addressed for the optimal development and implementation of health and mental health performance measurement systems in Alberta and nationally.

## **METHODS**

Business, health and mental health literature, including peer-reviewed articles as well as reports, websites and conference materials were included in the review. The time frame searched was 10 years. There were four major steps in the process of review: refining the research questions; searching for, selecting and summarizing the literature; classifying and rating the articles for relevance and quality; and writing the report. First, to refine the research questions, input was received from 21 decision-makers in health and mental health services across the country. This was followed by a teleconference with four decision-makers to further elucidate practice issues. Second, a systematic search of peer-reviewed literature sources yielded 6,342 abstracts. After an initial screen to remove obviously irrelevant material, 1,307 abstracts remained.

Teams of raters for each type of literature independently rated each abstract for relevancy to the review topic. This resulted in 617 initial articles for the review. Additional articles were derived from key citation noted in these 617 articles and from materials nominated by 21 key authors in the field. Third, teams of readers classified and rated the articles for quality, and made summary notes. Finally the notes were consolidated and written up, and reading teams verified and validated the findings and interpretation. Feedback from four external reviewers was also incorporated into the report.

## RESULTS

- The literature on performance measurement was enormously diverse. It lacked clarity in both definitions and concepts within and across the components of business, health and mental health. The literature over the time period searched displays an evolution of thought about performance measurement. This thought ranges from initial enthusiasm that could be characterized as **the performance measurement imperative** through stages of **proliferation of measures and fragmentation of effort**, followed by **sober reassessment and reflection** on the complexity of the task, and most recently a stage of moving toward **consensus and identifying solutions**.
- Performance measurement is one of an increasingly complex set of related health care improvement activities or tools used at different levels of the healthcare system. Other tools related to performance measurement include processes such as accreditation, service evaluation, quality improvement, external auditing, management-based schemes such as the Balanced Scorecard, health system report cards, outcomes research and evidence-based medicine. The lines among these approaches are blurring, which creates further confusion for research and practice. The lack of clear definitions is considered to be one of the major barriers to the advancement of both science and practice.
- Performance measurement activities are more advanced in the U.S. and U.K., although increasing presence in Canadian policy and practice was noted. Its origins in health and mental health are rooted in a more generic realm, where the emphasis is on accountability in public sector policy and service delivery. This broader accountability emphasis was followed in the 1990s by more specific and direct performance measurement initiatives. In these initiatives, however, the measurement focus remained quite broad across many domains of performance. In the latter 1990s, greater weight was put on the **quality of care**. This movement was seen distinctly in the United States but also, to some degree, in all countries studied. More recently, more specific attention has been given to **safety** as a component of quality of care, within the continuing context of broader performance measurement.
- Performance measurement systems development and implementation proceeds through many stages. These stages can be broadly grouped as

**conceptualization and strategy, measures selection or development, data collection and analysis, and reporting and use.** Sample findings from the review for each stage are presented as follows:

- **Conceptualization and Strategy** – There is a distinct and increasing emphasis on aligning performance measurement activities with the strategic direction for the organization or system and on considering key stakeholder perspectives. These themes were present across business, health and mental health components. In practice, they present many challenges, particularly the strategy focus for health. Differences between health and business are highlighted which may contribute to these difficulties. Consideration has to be given to the scope of any performance measurement system across levels of the organization, as well as horizontally across business units or the healthcare continuum. Performance measurement activities and measures in health are currently enormously fragmented, leading to calls for more integration and coordination.
- **Measures Selection or Development** – The more prominent frameworks and systems for performance measurement in health and mental health are summarized in the report. There is no consensus on the domains for measurement across these frameworks; nor is there consensus about which framework is best. Thousands of individual performance measures or indicators have been developed in the past 15 years, and the number in use is large relative to the number that have been validated. Concerns are increasing about the consequences of invalid or misleading measures. This has led to a strong consensus that measures must be evidence-based. Measures for mental health services populations are becoming more available, but few are in use relative to measures for other health services and populations. This may result in an invisibility of mental health services in terms of strategic planning for health and health services overall.
- **Data Collection and Analysis** – One clear lesson from performance measurement practice arising from business, health and mental health is that processes for data collection and analysis are much more complex and costly than anticipated. Many organizations have lacked the human and fiscal capacity to implement effective systems, and failed attempts are abundant in the literature. Other issues in data collection include data sources and data quality. With respect to methods for analysis, advancements have been made in techniques such as in risk adjustment, but consensus is lacking about the best methods for a given analytic problem. There is little empirical information on how to manage implementation of performance measurement systems in the field, but some model practices can be found which may guide future approaches.
- **Reporting and Use** – Challenges are considerable in interpreting reported performance measures and in putting them into action or using them to improve care. Evidence to date indicates that individual providers and healthcare consumers have made little use of publicly reported health

performance information. A variety of benefits of performance measurement are noted but there is also much discussion in the literature about potential unintended effects. Among the articles reviewed, not one called for an end to performance measurement in health or mental health services, just a more comprehensive, thoughtful and evidence-based approach. There is much advice about, as well as a few models of, this more progressive approach.

- Overall, the review identified a rich breadth of ideas as well as models and practices in performance measurement in health and mental health services. Research on the ultimate impact of such systems is in its infancy.
- Specific research recommendations are listed for theoretical and causal studies, methods development, and applied studies. Examples of key opportunities for research are also provided. Next steps recommended for PM research and practice in Alberta include:
  - Developing a framework for common language and definitions.
  - Further identifying current best practices in PM in health and mental health services.
  - Setting Alberta priorities for PM research by holding an international workshop to advance a common research agenda and setting priorities for research in, as a start, five actions/directions.
  - As a first practice step, preparing a comprehensive inventory of current measures and methods in Alberta health services to frame future practice needs and to direct a set of coordinated provincial/regional PM projects.

## **CONCLUSIONS**

There is enormous need for a strong evidence-base for practice in performance measurement at all levels in health and mental health systems and services. Effective research would require a multi-disciplinary researcher approach, innovative mechanisms for encouraging research and practice partnerships, a well-coordinated yet distributed set of performance measurement related research projects, and mechanisms for dissemination to optimize uptake of research findings.

## Key Findings

- The business, health and mental health literature on performance measurement (PM) is characterized by a lack of clarity and consistency in the use of terms, which is a major barrier to the advancement of both science and practice.
- The number and type of PM related activities and the blurring of boundaries among these activities is noted.
- There is a very strong emphasis on the importance of PM overall.
- Four periods of PM thought and practice are reflected in the health literature - the PM imperative, proliferation of measures and fragmentation of effort, sober reassessment and reflection, consensus and initial solutions.
- Key findings were noted in four developmental stages of PM.
- **Conceptualization and Strategy –**
  - There is an increasing emphasis on a strategic approach to PM
  - There is an increasing emphasis on multiple stakeholder perspectives
  - There are many calls for greater vertical, horizontal, and temporal integration
  - The optimal level of integration has not yet been defined
- **Measures Selection or Development –**
  - There are many frameworks for measure selection but no agreement on domains
  - There are thousands of measures and indicators
  - Mental health measures are vastly underrepresented in actual use
  - Health organizations are increasingly using business approaches to PM
  - There is no best framework and few measures are validated
- **Data Collection and Analysis –**
  - Cost and complexity are major issues
  - Data sources and data quality are also important
  - Analysis methods range from very simple to very complex multivariate analysis
  - There is very little empirical information on how to best manage the implementation process
- **Reporting and Use –**
  - ‘Actioning’ of measures a major challenge
  - There is minimal evidence that individual providers and consumers use PM information
  - Most controversy has arisen about external reporting, or report cards
  - Potential unintended effects of PM have been delineated
  - A more comprehensive, thoughtful, and evidence-based approach to PM is widely recommended
- The major finding of the review was that rich information is available from the literature on models and practices but research on effectiveness is in its infancy. Effective research would require multidisciplinary researcher capacity, innovative mechanisms for encouraging research and practice partnerships, a well planned and coordinated, yet distributed, set of PM related research projects, and mechanisms for dissemination to improve research uptake.

## The Policy Context

- Health care is in the “era of accountability” in all developed countries.
- Drivers of this change are rising costs, ageing populations, consumer demand, and new medical technologies.
- Pressures for accountability have come from governments, taxpayers and patients as well as (in the U.S.) employers and insurance companies.
- This general emphasis on accountability has developed into more specific performance measure initiatives through the 1990s.
- **Other Countries**
  - All countries have had an increasing emphasis on quality, and more recently safety of health care
  - In the U.S. performance measurement has been advocated by a variety of stakeholder groups
  - Accreditation organizations (e.g. JCAHO and NCQA) have included performance measurement in the accreditation process and public reporting of performance report cards are common
  - In the U.K. the recent White Paper “The New NHS: Modern and Dependable” recommends improving quality and efficiency using performance measurement
  - Report cards (league tables) are also increasingly used in the U.K. along with new initiatives to improve quality and safety.
- **Canada**
  - Federally the Minister of Health has repeatedly emphasized the need for better performance measurement in healthcare
  - The interim report of the Commission on the Future of Health Care in Canada –the “Romanow” Commission emphasized that improvement in quality in Canada’s health system requires measurement
  - The Canadian Council on Health Services Accreditation (CCHSA) has incorporated performance measurement into the accreditation process and the Canadian Institute for Health Information and the CCHSA have developed performance measurement frameworks
  - Report cards are increasing in frequency of use in Canada including the production of a joint Federal/Provincial health report card in September 2002
  - Safety, as a component of quality to be addressed by performance measurement is also a major recent focus – with discussion at the September conference of health ministers and release of two major reports.
- **Alberta**
  - The Report of the Premier’s Advisory Council on Health has a strong emphasis on “setting standards, measuring results, and holding people accountable for achieving better outcomes in health”

Performance measurement related initiatives or recommendations have come from Alberta Health and Wellness, the AHFMR SEARCH initiative, and the Provincial Health Council, as well as in mental health services.