

MASSACHUSETTS MEDICAL SOCIETY

# THE HEALTH REPORT

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## PRINCIPLES FOR PROFILING PHYSICIAN PERFORMANCE

*Editor: William B. Stason, M.D., M.Sci.*

*Authors: Bruce S. Auerbach, M.D., F.A.C.E.P.*

*Karen Bell, M.D., M.M.S.*

*Mark Bloomberg, M.D., M.B.A.*

*Christopher M. Coley, M.D.*

*Alan S. Diamond, M.D.*

*Norbert I. Goldfield, M.D.*

*Marise S. Gottlieb, M.D.*

*Stephen A. Metz, M.D., Ph.D.*

*Joel J. Rubenstein, M.D.*

*Harry P. Selker, M.D., M.S.P.H.*

*William B. Stason, M.D., M.Sci.*

*Christie L. Hager, J.D., M.P.H.*

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# THE MASSACHUSETTS MEDICAL SOCIETY'S PRINCIPLES FOR PROFILING PHYSICIAN PERFORMANCE

## EXECUTIVE SUMMARY

**T**his report describes current efforts to measure physician performance and discusses the principles that the Massachusetts Medical Society believes should guide future profiling activities.

Physician profiling is a reality. Physicians need to play a leadership role in developing quality measurement strategies that will best serve the interests of patients, physicians, and health care organizations in achieving the highest possible quality of care.

Major changes in the health care delivery system have increased public awareness of quality of care issues. Responses include intense efforts to measure the performance of physicians and health care organizations and use of the results to improve the quality of care, provide input to accreditation processes, and to inform the public. Physician profiling efforts to date have been limited in scope and focused primarily on controlling overuse of health care services and reducing costs. This emphasis has been driven by competition among managed care organizations and employers' demands for control of health care premiums. Measures of clinical quality have been few and largely limited to the appropriate use of preventive services, selected measures of health care processes, and patient satisfaction. Physicians' criticisms of current profiling activities stem from (1) potentially adverse effects of pressures to restrict services on the quality of care; (2) burdens created by uncoordinated and redundant requests for data; (3) reports based on variable and often poor quality data; and (4) inadequate risk-adjustment of results.

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Development of sound approaches to the measurement and reporting of physician performance will require close collaboration among physicians, health care organizations, and the other parties that have vital stakes in health care. Each has a valid perspective that needs to be heard.

#### Principles that are central to physician profiling include

- primary emphasis on quality improvement
- use of performance measures that are clinically important to the physicians or practices being evaluated
- adequate reflection of the patient's perspectives in the choice of performance measures
- accountability limited to patients and services for which the physicians or practices are directly responsible
- standardization of core performance measures and profiling methods across health care organizations
- requirements for especially high standards of accuracy, validity, relevance, and clarity for reports that are to be released to the public
- provisions for review and comment by physicians prior to the public release of reports
- adequate risk-adjustment of clinical outcomes and costs
- distribution of profiling reports limited by the “need to know”

### Next Steps

The Massachusetts Medical Society has adopted the principles described in this report as the foundation for improving physician profiling activities in the Commonwealth of Massachusetts. A Task Force has been formed to evaluate currently used performance measures and profiling methods and to explore opportunities for collaboration with provider organizations and other stakeholders, in order to develop a profiling system based on these principles.

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# INTRODUCTION

Major changes in the health care delivery system have raised public concern about the quality of health care. Efforts to measure the performance of physicians and health care organizations have resulted. This information is potentially valuable to each of the major participants in the health care system. Physicians need information to guide their efforts to improve the quality of care. Patients need reliable information to guide their choices of provider and to evaluate the quality of services they are receiving. Health plans, integrated networks, and hospitals need information to guide strategic and management decisions. Employers and accrediting and regulatory agencies need information to guide their decisions. The question is not whether the performance of physicians should be measured, but rather how activities can best be developed to meet needs for comprehensive, valid, and cost-effective information on the quality of health care.

In this report, attention is focused on physicians' clinical performance. Issues of physician credentials, personal qualifications, medical liability claims, and environment in which care is provided are left to other regulatory bodies. The terms "physician performance measurement" and "physician profiling" are used interchangeably. We recognize that physicians increasingly practice as employees of, or in close relationship to, managed care organizations or integrated delivery systems. Hence, though physicians are ultimately responsible for the quality of care they deliver, system factors may have profound effects on the results achieved. These interactions need to be considered in the design, analysis, and interpretation of profiling results.

The Massachusetts Medical Society (MMS) should play a leadership role in developing and implementing physician profiling activities, while collaborating closely with health care organizations in the Commonwealth. It also should collaborate with national quality-of-care initiatives being developed by the American Medical Association (AMA) through its American Medical Accreditation Program (AMAP), National Committee for Quality Assurance (NCQA), and Joint Commission on Accreditation of Healthcare Organizations (JCAHO). The MMS will greatly benefit its members and the public by advocating for a quality measurement system based on clinically important performance measures and

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sound methodologies and by educating all concerned on the appropriate use of results.

Development and implementation of a comprehensive quality measurement system is a complex and expensive undertaking. Perfection is a long way off. Agreement on guiding principles and a clearly defined implementation strategy provide the foundation.

## Committee Objectives and Process

The Subcommittee on Physician Profiles was formed in February 1998 and charged by the MMS's immediate past president, Allan Goroll, M.D., to "delineate meaningful and useful principles for physician profile development." This charge built upon and extended a physician profiling policy adopted by the MMS in 1994. Subcommittee members, drawn from the Medical Service, Quality of Medical Practice, and Managed Care Committees of the MMS, brought to the process a broad range of expertise in clinical medicine, health services research, health care administration, quality measurement in medical practice settings, and managed care.

The Subcommittee examined the current health care environment and defined principles for measuring physician performance based on credible and meaningful measures of clinical quality. In so doing, it sought information from a wide variety of sources including the medical literature, national organizations, and academic experts in quality measurement. In addition, it surveyed health plans and integrated delivery systems in eastern Massachusetts to obtain information on current profiling activities and a "wish list" for future activities.

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# BACKGROUND

## The Quality Imperative

The same forces shaping the health care system in the United States are also responsible for raising concern over its quality.<sup>1-7</sup> Fierce competition within the managed care industry, dramatic changes in the organization and delivery of health services, and efforts to control the costs of health care are among these. As a result we have seen increased reliance on capitation, incentives for providers to assume financial risk, reductions in payments to physicians, reduction in insurance coverage, specialized coverage for high-cost illnesses, increasing authority of primary care physicians over access to specialty care, and burgeoning of efforts to rate providers' use of health care resources.<sup>8</sup> These initiatives have contributed to increasing concerns about restricted access to care and the quality of health care. Concurrent changes in medical science and technology, and in criteria for optimal care, add additional layers of complexity.

A recent report from the National Roundtable on Health Care Quality, convened by the Institute of Medicine (IOM), helps to put quality-of-care issues into perspective.<sup>9</sup> The Roundtable concluded that “a national focus on improving the quality of health care is imperative.” As a starting point, it accepted the IOM's definition of quality: “Quality of care is the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.” This report discusses health care quality problems in terms of underuse, overuse, or misuse. Underuse is defined as the “failure to provide a health care service when it would have produced a favorable outcome for a patient” (one might add, “in a timely fashion”). “Overuse occurs when a health care service is provided under circumstances in which its potential for harm exceeds the possible benefits.” Finally, misuse “occurs when an appropriate service has been selected but a preventable complication occurs and the patient does not receive full potential benefit of the service.” The Roundtable concluded that “health care professionals should take the lead in improving quality” and urged “leaders in the health care professions as well as practicing clinicians to actively do so.”

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Concerns over the quality of care have increased emphasis on quality measurement, and have resulted in the development of “report card” performance-evaluations of individual physicians, group practices, and health plans. Physicians have been singled out because they make the clinical decisions that determine both the use and quality of health resources.

Efforts to shape this quality imperative involve all participants in the health care system. Physicians, however, are uniquely qualified to take leadership. This is because they combine, on the one hand, an understanding of diagnostics and therapeutics, and on the other, an understanding of each patient’s individual circumstances with an ethical and professional commitment to their well being. The confluence of interests between physician and patient could anchor an alliance that would be politically and economically irresistible.<sup>10</sup> Furthermore, physicians’ scientific training provides them with the expertise needed to conduct meaningful evaluations of clinical processes and outcomes.

## Current Status of Physician Profiling

Physician profiling, to date, has been driven by the efforts of managed care organizations to control health care costs. Efforts to measure and improve the quality of clinical care have been secondary.

### Criticisms include<sup>11,12</sup>

- the incomplete picture of health care provided by clinical indicators that are measured
- excessive reliance on administrative databases
- incentives created for “upcoding” or other expedient steps to improve measured performance
- failure to audit results adequately
- premature release of inaccurate or misleading information
- ambiguous and confusing public releases of information
- absent or inadequate adjustment of results for differences in case-mix and severity of illness

Physicians’ main objection to profiling has been its emphasis on measuring and reporting patterns of resource use and costs of care.<sup>13</sup> Reports are particularly onerous when they are used to restrict services or to penalize physicians whose practice patterns represent “high cost outliers.” Other major problems include



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the duplication of effort required when physicians are asked to submit data to multiple health plans, insurers, or regulatory agencies and data quality problems that compromise the validity of results.

Studies have found that physicians are either unaware of, or are not influenced by, profiling reports.<sup>14,15</sup> One reason given is that physicians have not been involved either in developing the performance measures or implementing activities. If physician profiling is to be effective in improving the quality of care, physicians must share ownership of the process and ensure that their values are adequately represented.

The most widely used set of profiling measures to date are those developed by the National Committee for Quality Assurance (NCQA) to evaluate performances of health plans. NCQA's Health Plan Employer Data and Information Set (HEDIS)<sup>16</sup> measures address access issues, patients' satisfaction with care, preventive services, utilization, finance, and health plan management. Measures of clinical quality are few and restricted mainly to process measures that can be examined using administrative data sets. New HEDIS measures now being developed will address clinically important issues, such as cholesterol management after acute cardiovascular events, management of antidepressant medications, blood pressure control in hypertensives, important aspects of diabetes care, treatment of asthmatics, detection of asymptomatic chlamydial infections in women, and management of menopause.<sup>17,18</sup> These are clearly steps in a positive direction.

## National Activities

The NCQA, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), and the American Medical Association through its Accreditation Program (AMAP) are actively involved in developing physician profiling. These organizations, respectively, focus on the accreditation and quality of care in managed care organizations or health care facilities and on performance of individual physicians. In June 1998, they announced a collaboration "to ensure that measurement-driven assessment processes are efficient, consistent and useful . . ."<sup>19</sup> The Performance Measurement Coordinating Council (PMCC) was created to ensure that "assessment processes are efficient, consistent, and useful for the many parties" that depend on them. This collaboration is in early formative stages. The PMCC has announced plans to begin developing common criteria

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for performance measurement and an effort to identify new measurement sets across the three levels of the health care system that they represent.<sup>20</sup> The goal is to create a comprehensive and coordinated approach to monitoring the quality and cost-effectiveness of health care based on sound scientific methodologies that effectively balances medical and business objectives.

Announcement of the collaboration between these organizations closely followed the Clinton Administration's establishment of the Forum for Health Care Quality Measurement and Reporting. This public-private collaboration, led by Vice President Gore, is charged with developing a national plan for quality measurement, data collection, and reporting standards.<sup>21,21</sup> The PMCC states that it will work through the Quality Forum to help shape measurement priorities and approaches for the American public. The Quality Forum also includes in its mission efforts to help the public become better informed about quality-of-care issues so that they can utilize the health care system more effectively.

The Massachusetts Medical Society is in an excellent position to contribute to these national initiatives by developing a model of leadership that will help to guide the evolution of quality measurement and improvement activities. As a first step in this direction, the MMS entered into a partnership with the AMA in July 1998, under which it agreed to provide credentials verifications and to manage the subcontractor responsible for implementing the environment-of-care element for AMAP in Massachusetts. This partnership is the first of its kind in Massachusetts.

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# GUIDING PRINCIPLES FOR PHYSICIAN PROFILING

**TABLE 1: GOALS OF PHYSICIAN  
PROFILING**

- Improve quality of care
- Provide measures of physician accountability
- Inform consumer choices
- Address local, regional, and national health care priorities

The primary goal of physician profiling should be to provide physicians with meaningful information on their clinical performance that can be used to improve the quality of health care. Success, therefore, should be measured by evidence of improvement over time in the structures, processes, and outcomes of care. Performance reports provide the starting point for the quality improvement process. Appropriate attribution, exploration of root causes of deficiencies, and constructive responses to problems that are identified complete the cycle.

Other important goals are to ensure physician accountability both to their patients and accrediting and regulatory bodies, while enabling consumers to make informed choices of health care providers.

Physician leadership is essential to ensure the clinical relevance of performance measures and to inform the public about particularly important aspects of health care. Clinical indicators should respond to national concerns, but they also need to be tailored to local and regional priorities. Only in this way can unique local needs be addressed and active physician participation be assured.

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# DEVELOPMENT OF PHYSICIAN PROFILING

Development of physician profiling requires close collaboration among physicians, health care organizations, payers, consumer groups, and regulatory agencies. Each party has an important stake in the quality and cost-effectiveness of health care and a legitimate perspective that needs to be heard. A forum for exchanging ideas and for resolving the conflicts that will inevitably arise is an essential ingredient.

Physician profiling is complex and may be expensive. Benefits must be weighed carefully against the costs for each performance measure and for activities as a whole. This implies examining the payoff of information obtained in terms of identifying clinically important variations in practice patterns, improvements in performance, and demonstrable benefits to patients and clinical practices. The burdens and dollar costs of data collection, analysis, and report generation are each important. Tradeoffs between higher costs and greater benefits need to be confronted directly. For example, the greater benefits of performance measures based on medical record reviews may warrant their higher costs in some instances but not others. Conversely, a first level of analysis using administrative databases may be an excellent expenditure if subsequent validation costs are modest.

Opportunities to improve the efficiency of profiling need to be explored. Use of standardized measures and methods across all health care organizations is one means to this end. Another is to avoid the duplication of effort that results when physicians are required to submit reports to several different payers or regulatory agencies. Centralization of some parts of the process, such as patient surveys or claims analysis, can improve the quality of reports. Moreover, reports based on complete and accurate data and appropriate analytic methods will improve the efficiency of profiling by reducing the waste that results when practices or health plans are required to respond to erroneous conclusions. External audits can pay dividends by increasing adherence to standardized performance measures and data collection and analysis strategies, and ensuring the accuracy of the results. Open disclosure by profiling organizations of their policies, objectives,

**TABLE 2: IMPORTANT ISSUES IN DEVELOPING PHYSICIAN PROFILING**

- Close collaboration between physicians, health care organizations, and other stakeholders
- Justify burdens and costs of profiling in terms of benefits
- Standardize core performance measures and methods
- Minimize duplication of effort
- Use external audits to maintain quality standards for profiling reports
- Ensure open disclosure of objectives, measures, and methods used by profiling organizations
- Allocate burdens and costs of profiling equitably among users

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measures, and methods will help physicians and external users to interpret findings and compare results among provider organizations.

Finally, development of profiling needs to take into account who will be bearing the costs. Ideally, costs should be fairly allocated among those who benefit. Provider organizations are likely to bear most of the costs initially but then attempt to pass them on to consumers and employers through higher insurance premiums. Physician practices which benefit from information feedback should also bear their share of the costs, as should accrediting and regulatory agencies. Negotiations aimed at developing cost sharing arrangements should be an intrinsic part of profile development.

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# USES OF PROFILING REPORTS

Physician profiling reports are currently being used internally by health care organizations to help control rising costs, and as inputs to quality improvement activities. With increasing frequency, they are also being made available to insurers and accrediting entities or released to the public. Table 3 summarizes the principles that the MMS feels should guide the content and use of profiling reports.

## All Reports

The physicians or practices being profiled should be given the opportunity to review reports, whether they're intended for internal or external use, in order to identify factual errors or provide explanations for aberrant findings. Prior reviews are especially important before external release, but can also facilitate internal discussions of results between the physicians and their supervisors. Documented errors should be corrected, and substantive comments or explanations for the findings should be appended to the report. To maximize proper interpretation, all reports should be as "user friendly" as possible. Appropriate explanatory materials should be attached.

## Reports for Internal Use

Confidentiality protections afforded to profiling reports would not alter existing protections for peer review proceedings. Profiles containing identifiable physician-specific data must be afforded the maximum protection of confidentiality provided by law, whether they are used internally within a health plan, integrated delivery system, or institution, or are released externally. The sensitivity of internal quality assurance activities and information generated from them in compliance with statutes and regulations of the quality of medical practice is the basis for confidentiality. In most instances, reports should remain confidential between the physicians or practices being profiled and their immediate supervisors.

**TABLE 3: USES OF PROFILING REPORTS**

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### ALL REPORTS

- Opportunity for review and comment by physicians or practices being profiled
- Should be in clear and unambiguous formats and accompanied by materials that facilitate interpretation

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### REPORTS FOR INTERNAL USE

- Should be protected by peer review regulations
- Should be confidential between physicians or practices being profiled and immediate supervisors
- May rely on smaller sample sizes than reports intended for external use
- Will consider information gained from sentinel events

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### REPORTS FOR EXTERNAL USE

- Must meet higher standards of accuracy, statistical validity, and clarity
- Complete review and comment by physicians being profiled before public release
- Distribution governed by "need to know"

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Internal reports may be based on sample sizes that are too small to document statistically significant differences among physicians. However, these reports are to be used to improve the quality of care and not for sanctions based upon these differences. In this spirit, consideration of sentinel events (deaths and permanent loss of function) may yield particularly valuable insights. Patient-specific data may, where necessary, be given to the patient's physician, but broader release of such data requires explicit permission of the patient.

## Reports for External Use

Reports intended for public release need to meet higher standards of accuracy, reliability, and statistical validity than those for internal use only. Independent audits of reports intended for public release are highly desirable. Reports unable to support a meaningful analysis should not be publicly released.

External distribution of physician profile results should be governed by the “need to know” as defined by the responsibilities of the entity and the content of the report. For example, the public should receive reports that are relevant to choosing a physician, health plan, or hospital; and accrediting or regulatory agencies should receive information specified in their credentialing standards. Criteria for the distribution of reports and rules governing appropriate uses of information contained in them should be stated explicitly and agreed to by all parties.

# SELECTION OF PERFORMANCE MEASURES

The ultimate goal should be to develop a comprehensive set of performance measures that covers the full spectrum of health care, including inpatient and ambulatory care and services provided by specialists as well as primary care physicians. The acceptability of performance measures depends on their clinical importance, their scientific validity, and the feasibility of measurement. Measures of clinical outcomes and processes of care are central, but measures that reflect the patient's priorities and satisfaction with care are also important. In the current marketplace, measures of resource use, costs, and cost-effectiveness of care are highly germane. Ideally, each measure should have the potential to improve, rather than merely document, some significant dimension of care.

These ideals will not be easy to achieve, and pragmatic compromises will be required between the comprehensiveness of evaluation and limitations imposed by available data sources and costs of profiling. Short-term options are (1) to limit profiling to a few core measures for each type of setting and specialty; (2) to use a broader range of measures, rotating them in order to reduce the profiling burden at any one time; or (3) to rely on core measures to track improvement in performance over time while periodically inserting other measures to address particular areas of concern. One advantage of the latter option is that it permits new measures to be introduced on a regular basis to respond to changing priorities or to stimulate quality improvement. Another advantage is that it reduces the likelihood of "gaming" the system by directing special efforts to ensure favorable results on core measures.

General principles for the selection of performance measures, types of measures, and desirable characteristics of measures are summarized in Table 4.<sup>23</sup>

## General Principles

The single most important attribute of a performance measure is its clinical importance in the physician's practice being evaluated. Markers include high

TABLE 4: SELECTION OF PERFORMANCE MEASURES

### GENERAL PRINCIPLES

- Clinically important to practices being profiled
- Well-grounded in scientific evidence or professional consensus
- Clearly defined attribution to physician, care team, or practice being profiled
- Performance assessment of both specialists and primary care physicians
- Careful consideration of the perspectives of physicians, patients, and other stakeholders in the selection process

### TYPES OF MEASURES

- Clinical outcomes that reflect processes of care under control of the physician or practice being profiled
- Process measures that are clearly linked to clinical outcomes
- Patient perceptions of quality of care
- Resource use and cost measures consistent with high quality care

### CHARACTERISTICS OF INDIVIDUAL MEASURES

- Capable of systematic and objective measurement
- Based on data collected routinely during patient care or by patient surveys
- Data available and burden of data collection tolerable
- Capable of risk-adjustment to account for differences in the severity of illness
- Analytic methods fully disclosed and open to inspection
- Updated at regular intervals to reflect new knowledge or changing practice norms



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prevalence, impact on mortality or morbidity, importance to the patient, extent of variations in rates among practices, and the potential for changing performance.

Performance measures should be firmly grounded in scientific evidence to the greatest extent possible. Published randomized clinical trials provide the strongest level of support. Other desirable evidence-based clinical practice guidelines are those developed by the Agency for Health Care Policy and Research, or structured consensus processes such as those developed at the RAND Corporation for integrating scientific evidence with the perspectives of specialists, non-specialists, and patients.<sup>24</sup> Where the science base is inadequate, professional consensus may be substituted. In any case, sources of support need to be fully documented and readily accessible. Physicians and their specialty societies should be directly involved in the development and testing of performance measures.

Individual physicians should be evaluated only with respect to patients and clinical services for whom or which they are directly responsible. When responsibility is shared or attribution is not clear, more aggregate analyses at the level of practice, service, or health care organization should be performed. Examples of situations where attribution can be ambiguous include cross-coverage arrangements, care provided by a multidisciplinary team, or the transfer of a patient from the care of one physician or one service to another. Inaccurate attribution can lead to both erroneous conclusions and undermine the credibility of profiling.

Ideally, performance measures will support both “rolling up” results into clinical teams or practices or “drilling down” to individual physicians. Advantages of “rolling up,” even when uncertainty about attribution is not an issue, include the possibility of meaningful analyses when sample sizes are too small at the level of individual physicians. Further, quality improvement efforts are often more effective and less likely to evoke defensive responses when they are conducted at the group level.

Performance measures are needed for the full range of medical and surgical specialists as well as for primary care physicians. The greater emphasis that has been given to profiling primary care physicians, to date, has been justified by their numbers and by their importance as gatekeepers, especially in managed care organizations. A better balance is needed.

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Physicians should play a leading role in selecting clinical performance measures. At the same time, the perspectives of patients, provider organizations, employers, payers, and regulatory agencies are important and need to be carefully considered.

## Types of Measures

Performance measures may examine clinical outcomes, processes of care, patient perceptions of the care process or outcomes, or resource use and costs of care (Table 4). Each type of measure has its strengths and limitations. Together, they provide a comprehensive view of health care.

Principles for selection differ by the type of measure. Clinical outcome measures should be clearly related to processes of care that are under the control of the physician or practice and are capable of being modified to improve the outcome. Examples include control of blood pressure in hypertensives or prevention of post-operative infections and their relationships to the choice of, and compliance with, medication regimens. Risk-adjusted outcomes of coronary artery bypass surgery is another example.

Similarly, process measures should be limited to those that are clearly linked to patient outcomes. Process measures often relate to diagnostic and treatment decisions, but they may also examine timely access to care or compliance with prescribed regimens.

At its best, medical care is a true partnership between patient and physician. In this spirit, patient perceptions of the quality of care they receive provide essential feedback to clinicians and form an important pillar for quality improvement. Patients should have input into the selection of performance measures that relate to access to care, the care process, relationships with physicians, and the continuity of care. Moreover, patients are often the best witnesses for the clinical outcomes they experience.

Measures of resource use and costs should be supported by evidence that their use does not create pressures that adversely affect the quality of patient care. Decisions on the selection of such measures should include individuals who have no direct financial stake in the care being evaluated. The primary purpose of profiles for resource use and cost should be to raise awareness and inform quality improvement activities. Results should not be used for punitive purposes except

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in cases of flagrant overuse or clear waste. “Economic credentialing” that measures a physician’s costs of care against a budget should be discouraged. Health plans and insurers should be held accountable for any related adverse effects on outcomes.

## Characteristics of Individual Measures

Performance measures should be capable of systematic and objective measurement using data that is collected routinely during patient care or periodically by patient surveys. Relevant data sources must be readily available, accurate, and reasonably complete in all practice settings that are being profiled. Data collection should not impose an undue burden on the physician, practice, or organization.

Measures and associated analytic methods should be clearly defined and fully disclosed to those who “need to know.” Analytic methods that include non-disclosed “black box” algorithms or software are not acceptable. Risk-adjustment is essential for most clinical outcomes and some process and cost measures. More extensive discussion of risk-adjustment appears in a later section.

All performance measures should be reviewed and updated at regular intervals to reflect changes in either medical knowledge or the norms of practice.

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# TYPES OF PERFORMANCE MEASURES

## Clinical Outcomes

Clinical outcomes are the most salient measures of the quality of care. At the same time, they are also the most difficult and expensive to measure. As a general rule, clinical outcomes require risk-adjustment for differences in the severity of illness before meaningful comparisons can be made among physicians or practices. Clinical outcome measures include mortality rates, rates of non-fatal complications of diseases or treatments, intermediate or physiological outcomes, symptom relief, and changes in functional capacity (Table 5). Each is important, and each presents unique challenges to measurement.

**Mortality Rates** are suitable measures only for high-risk and high-frequency diseases or surgical procedures. Even then, results often need to be aggregated for an entire practice or clinical service, or measured over a long period of time, to achieve statistically meaningful comparisons. Adequate risk-adjustment is essential. Moreover, care must be taken to ensure that mortality rates are not confounded by early hospital discharges to nursing homes, transfers to referral centers, or other factors.

Death can also be considered a “sentinel event” and reviewed on a case-by-case basis during internal quality improvement activities. Discussion of unexpected deaths can have considerable educational value and should be encouraged. Mortality is not an appropriate measure in situations where quality of life is a more important consideration than length of life, or in situations where no effective therapy is available. Hospice care is a prime example.

### Examples

- 30-day mortality for acute myocardial infarction or unstable angina pectoris
- 30-day mortality for acute stroke
- 30-day mortality for coronary artery bypass surgery
- 30-day mortality for primary colon surgery

**TABLE 5: CLINICAL OUTCOMES**

- Mortality Rates
- Non-Fatal Complications of Disease
- Non-Fatal Treatment Complications
- Intermediate or Physiological Outcomes
- Symptom Relief
- Functional Capacity

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**Non-Fatal Complications of Diseases** are common and sometimes preventable. Risk-adjusted rates of these events can be useful indicators.

#### Examples

- asthma attacks requiring emergency room visits or hospitalization in known asthmatics
- episodes of diabetic ketoacidosis in known Type 1 or Type 2 diabetics
- hospitalizations for exacerbation of congestive heart failure
- infection or gangrene of the foot in patients with known peripheral vascular disease

**Non-Fatal Treatment Complications** are important clinical indicators but are often difficult to measure reliably. Claims data can be used to identify diagnoses or procedures that may represent complications, but medical record reviews are needed to validate these. Meaningful comparisons among practices require complete ascertainment of cases and adequate risk-adjustment.

#### Examples

- postoperative bleeding
- postoperative wound infection or dehiscence
- hemorrhagic stroke after thrombolytic therapy for acute myocardial infarction
- impotence following prostatectomy
- drug reactions
- complications of invasive diagnostic procedures such as colonoscopy or cardiac catheterization

**Intermediate or Physiological Outcomes** can provide objective and relatively easy to measure indicators. Their validity depends on the closeness of their relationships to more definitive outcomes.

#### Examples

- blood pressure control in hypertensives
- serum cholesterol reduction following acute cardiovascular events
- hemoglobin A1C levels in diabetics

**Symptom Relief** and the alleviation of suffering is the primary goal of medical care. Both the degree and promptness of relief are important. In either

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case, the patient is often the best witness. Measurement requires accurate documentation of the patient's response to treatment in the medical record or timely use of condition-specific quality-of-life questionnaires. Relief of symptoms is important not only to the patient but also to the employer who is interested in time lost from work as the result of an illness.

### Examples

- relief of sore throat or sinusitis symptoms
- relief of low back pain
- relief of severe recurrent headaches
- relief of dysuria
- relief of abdominal pain after cholecystectomy

**Functional Capacity:** Patients highly value independence in activities of daily living and the ability to perform favorite activities. Dramatic improvements in function after treatment of an acute medical illness or a surgical procedure, gradual improvements during rehabilitation, and reduced rates of decline in function during a progressive chronic illness are each important. Functional ability status can be measured with generic instruments or activity of daily living scales or with condition-specific instruments. Interpretation of results requires close attention to distinguishing between the effects of medical, surgical, or rehabilitation treatments; the patient-physician relationship or the availability of psychosocial supports; and the natural history of the disease.<sup>25</sup>

### Examples

- return to work or a more active lifestyle after relief of angina by coronary artery bypass surgery
- increased mobility after hip or knee replacement
- increased exercise tolerance due to effective long-term management of chronic pulmonary disease
- regaining the ability to walk independently after a stroke as a result of physical therapy
- increased exercise capacity in patients treated for congestive heart failure
- maintenance of independence in patients with Alzheimer's disease

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## Processes of Care

Clinical processes can be used as proxies for outcomes provided clear links have been demonstrated. Processes also have the advantages of being easier to measure than clinical outcomes and offering the potential to either prevent disease complications or improve outcomes. They are particularly well suited for defining targets for quality improvement activities.

### Examples

#### *Diagnosis of disease*

- appropriate use of MRI in the evaluation of knee injuries
- appropriate use of coronary angiography in the evaluation of chest pain

#### *Treatment of disease*

- appropriate use of beta-blockers in patients after acute myocardial infarctions
- timely use of thrombolytic therapy after the onset of chest pain

#### *Screening and early detection of disease*

- appropriate use of mammography or cervical cancer screening; appropriate use of colonoscopy
- health education and counseling (e.g., diet, exercise, smoking cessation)

#### *Prevention of disease*

- rates of childhood immunization
- appropriate use of prophylactic antibiotics before and after surgery

#### *Access to care*

- time from initial phone contact to visit for a patient with a cough and fever, chest pain, or abdominal pain
- appropriate indications for hospitalization for patients presenting to emergency departments with acute infarction or unstable angina pectoris
- readmission rates after unusually short hospital lengths of stay

#### *Adherence to medical regimens*

- long-term adherence of hypertensives or diabetics to medication regimens
- completion of the full course of antibiotics for a strep throat or urinary tract infection

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## Patient Perceptions of the Quality of Care

Health care services are much more likely to achieve their desired ends if patients are active participants in making decisions regarding their own care. It follows that patients should actively identify and evaluate measures of the quality of their own health care. Greater involvement by patients has been shown to improve outcomes especially for chronic diseases such as hypertension and diabetes. Information can be collected at the time of clinical encounters or by using surveys. Surveys usually yield more systematic and complete data. Policy makers and patient advocates alike emphasize that information obtained directly from patients is essential to evaluating the quality of care.<sup>26</sup>

Patients' views on the services they receive, on the success of communication with providers, and on the amenities provided are each important. Also, patients are often the best witnesses of the types and severity of symptoms they are experiencing, and of their ability to perform daily activities. Profiles that reflect the patient's perceptions are useful to the individual physician but are often more valuable in stimulating quality improvement initiatives if they are aggregated to the level of the practice, health plan, or hospital. Some important dimensions include the following:

### Satisfaction with Care

- access to desired services: routine, urgent, or hospital services
- timeliness of care received
- respectfulness and friendliness of medical staff
- quality of information and communications
- involvement in decision-making
- continuity of care
- amenities and convenience of treatment
- ease of telephone communications: number of rings, time spent on hold, and helpfulness of the person contacted

### Health Status

- responses of symptoms to treatment
- side effects of treatment
- ability to work, job performance, and absenteeism
- ability to participate in highly valued activities (social, avocational, sporting)



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- sense of well-being or quality of life — generic and disease-specific ratings
  - family and spousal burdens

## Resource Use and Costs

Measures focusing on patterns of use of medical services or costs are distinctly different than those for clinical quality. Cost comparisons among physicians or practices should be used to raise awareness of the importance of costs and to stimulate efforts to lower costs without compromising quality. Adequate adjustment for case-mix differences is essential.

Cost reports that permit consumers or regulators to judge differences in priorities for the use of resources among group practices or health plans can also be useful (e.g., percent of premium dollars spent on primary prevention, percent of budget spent on medical care). Cost-effectiveness or return on investment estimates can facilitate strategic decision-making by the health care organization but are rarely helpful at the level of the individual physician.

### Examples

#### *Use of Treatments*

- significantly higher risk-adjusted rates for cholecystectomy, appendectomy, or Caesarean section
- utilization rates of generic versus more expensive trade-name antibiotics for post-surgical prophylaxis of the treatment of wound infections, urinary tract infections, or uncomplicated bacterial respiratory infections in the absence of evidence indicating that the more expensive alternatives are superior
- rates of CABG surgery in patients with single vessel disease and an inadequate trial of medical therapy
- longer lengths of stay for specific types of elective surgery
- rates of CCU admission for patients without acute cardiac ischemia

#### *Use of Diagnostic Tests*

- rates of negative colonoscopy examinations
- rates of coronary angiography results showing insignificant coronary artery disease
- rates of normal chest x-rays

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# IMPLEMENTATION PRINCIPLES

## Data Sources

Data sources for physician profiling include medical records, electronic medical records and other clinical information systems, administrative and claims data, and patient surveys (Table 6). Each type of source has its strengths and limitations. Moreover, the completeness and accuracy of data often varies widely from one clinical setting to another.

Data sources need to meet explicit standards of accuracy and completeness if they are to support internally valid results or valid comparisons among physicians or provider organizations. The bar should be “set high.” The choice of data source will depend on the performance measure being examined and its uniform availability in the practice settings being evaluated.

## Medical Records

Medical record reviews are labor intensive but are essential to the measurement of many clinical processes and most clinical outcomes. Adequate risk-adjustment usually requires information from the medical record to document the severity of illness and the presence and severity of comorbidities. An important drawback of medical records, however, is that their completeness, accuracy, and legibility vary widely in different clinical settings.

### Examples of performance measures that require medical record reviews

- appropriate pre- and post-operative use of prophylactic antibiotics
- appropriate use of thrombolytic agents in patients with acute myocardial infarctions
- appropriate evaluation and treatment of post-surgical complications such as post-operative bleeding

TABLE 6: DATA SOURCES FOR PROFILING

- Medical Records
- Clinical Information Systems
- Electronic Medical Records
- Administrative and Claims Data
- Patient Surveys

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## Clinical Information Systems and Electronic Medical Records

Electronic clinical data systems can provide reliable and inexpensive sources of data for examining health care processes and outcomes. Promise surpasses reality, however, since very few health care settings have installed effective systems. Laboratory and pharmacy data systems are the most widely available. Systems that integrate information from medical records, chemistry and bacteriology laboratories, radiology, and pharmacy are especially important. Better information systems will improve health facility management and will markedly improve the validity and efficiency of physician profiling.

### Examples of potential measures

- risk-adjusted outcomes in intensive care units
- appropriateness of emergency department triage using acute care predictive models for myocardial ischemia
- electrocardiograph-based probabilities of cardiac outcomes
- pharmacy prescribing errors
- use of drugs for specific conditions, such as ACE inhibitors for congestive heart failure or beta-blockers after acute myocardial infarctions
- appropriate use of abnormal laboratory results to guide clinical decisions, such as elevated creatine kinase levels, decreases in hematocrit levels, or ECG changes after surgery

## Administrative and Claims Data

Most HEDIS measures and most profiling for costs and resource-use patterns depend on administrative or claims data. Major advantages are availability and low cost. Claims data can also be used to identify some types of clinical complications. Severity adjustment systems have been developed that help to standardize some types of cost comparisons. Major shortfalls are the paucity of clinical information needed for adequate risk-adjustment, variable accuracy and completeness of data, coding errors, and the potential for biased estimates of performance from upcoding of diagnoses. Analyses based on claims data can raise flags that problems may exist. Further evaluation is usually needed, however, to validate and refine findings before firm conclusions can be drawn and steps to improve quality can be taken.

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### Examples

- Caesarean section rates using live births as the denominator
- hospital admission rates following emergency department visits for cardiac symptoms, asthma, or croup
- admission rates to pre-term nurseries or neonatal intensive care units
- rates of treatment complications such as postoperative infection
- admission rates for “Ambulatory Care Sensitive Conditions” such as asthma, congestive heart failure, and hypertension

### Patient Surveys

Patient surveys are well adapted to collecting information from patients regarding functional capacity, quality of life, relief of symptoms, adverse effects of medications and satisfaction with the care received, and relationships with providers.

### Examples

- functional outcomes following specific types of procedures (e.g., hip replacement) or diseases (e.g., stroke rehabilitation)
- quality-of-life trends over time in elderly or disabled individuals
- relief of symptoms of depression or abdominal pain from gastric or duodenal ulcer
- impact of symptoms such as urinary incontinence after prostatectomy

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# DATA COLLECTION & ANALYSIS

**TABLE 7: PRINCIPLES FOR DATA COLLECTION & ANALYSIS**

- Data collection protocols should be explicit and objective.
- Analyses should be planned and conducted by skilled individuals.
- Analytic techniques should be appropriate to the objectives of the analysis and the database.
- Analyses should emphasize time trends in performance or comparisons among physicians or practices.
- Methods of analysis should be fully described and available.

Data collection should be performed by persons who have been fully trained in the relevant methodology. For example, the skills needed to perform medical record abstraction and analysis are very different than those required to design, conduct, and analyze patient surveys or claims data. Ideally, individuals performing data collection and analysis should be selected and reimbursed in a manner that will optimize objectivity and minimize bias.

Selected general principles for governing data collection and analysis are summarized in Table 7. Most are self-evident.

Data collection protocols should be as explicit and objective as possible and limited to essential items of data. Analyses should use techniques that are suitable to the objectives of the study and the database and should be planned and conducted by individuals skilled in these techniques. Issues such as limitations imposed by sample size, appropriate level of analysis (individual physician, group practice, or health plan), techniques for analysis of trends or differences among groups, and choice of dependent and independent variables are particularly important. Results should be reported with clear statements on the statistical significance of differences and the clinical importance of those differences. Methods of analysis need to be described in sufficient detail so that results can be easily understood and, if necessary, reproduced.

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# RISK - ADJUSTMENT

Adequate risk-adjustment is essential to achieving valid comparisons among physicians, practices, or health care settings.<sup>27-31</sup> This is especially true for measures of clinical outcomes and the appropriateness of decisions to perform specific surgical or diagnostic procedures.

Case-mix adjustment is a related term used in this report to refer to whole populations with a range of diseases. Demographic and socio-economic characteristics are included as well as clinical variables. Case-mix systems can be used for internal management (e.g., monitoring the impact of a clinical protocol), external reporting (e.g., use rates of certain procedures), or for payment purposes (e.g., adjustment of capitation rates).

No risk-adjustment model is able to explain all patient-related effects on the outcome of interest. A realistic goal is to include the most important variables (strongest predictors) and then to qualify conclusions based on the amount of variance explained. The cost of collecting data may be a limiting factor. Medical record data are preferable but are more expensive to obtain than those from administrative or claims databases. The greater cost of medical record reviews needs to be weighed against the value of stronger predictive models.

Risk-adjustment models are specific to a particular illness or to patients receiving a particular procedure. They are also specific to a single type of outcome (e.g., mortality, type of complication, or functional improvement), and often to a single type of clinical setting (e.g., inpatient or outpatient). Each model needs to be carefully tested and demonstrate good calibration between predicted and actual outcomes at all levels of severity of illness. Patient characteristics in the model should usually be those present at the time of presentation with an illness or hospital admission for a procedure. Complications that occur after admission should be included only if they clearly reflect the severity of the disease (e.g., complete AV block on the second day after a myocardial infarction) and are not due to the treatment.

Adequate adjustment at the upper and lower extremes of the severity scale is especially important. Generic risk-adjustment models may be used if they have been demonstrated to be valid for the particular condition and the particular type of clinical setting. Simple adjustment for selected patient characteristics such

**TABLE 8: PRINCIPLES FOR RISK-ADJUSTMENT**

- Adequate risk- or case-mix adjustment is essential for valid comparisons among practices regarding clinical outcomes and resource use and costs.
- The goal of risk-adjustment is to explain as much as possible of the variance using data on patient characteristics that is available at reasonable cost. Perfection is not a realistic goal.
- Risk-adjustment models are specific to an illness, procedure, or type of outcome.
- In most cases, disease severity should be judged at the time of admission or procedure.
- Risk-adjustment models should demonstrate good calibration between observed and predicted outcomes at all levels of disease severity.
- Simple adjustment for selected patient characteristics may be sufficient for process measures.
- The risk- or case-mix adjustment methodology should be fully described and open to inspection. “Black box” models are not acceptable.

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as age, gender, and risk factors for the disease may be sufficient for certain process measures (e.g., mammographic screening for breast cancer).

The risk-adjustment methodology should be well-documented and open to inspection. Preferably it should have been published in peer-reviewed medical literature. As stated previously, “black box” systems are not acceptable.

## FREQUENCY OF PROFILING REPORTS

**T**he frequency of profiling depends on the intended purpose. If the goal is to achieve behavior change and quality improvement, frequent reinforcement is required. Annual reports are usually sufficient, however, for comparisons among health plans and for satisfying accrediting agencies. The burden and costs of profiling are often limiting factors.

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# PROFILING IN MANAGED CARE ORGANIZATIONS & INTEGRATED DELIVERY SYSTEMS

## Current Profiling Activities

Information on current profiling activities was obtained from responses to a questionnaire completed by four health plans and two integrated delivery systems in eastern Massachusetts. The questionnaire was designed to obtain information about the types of physicians who are profiled (e.g., primary care, specialists), uses of profiling reports, types of performance measures being monitored, data sources used, internal decision-making about profiling, policies to protect the privacy of data, and the perceived value of profiling. It was administered either in person, by telephone, or in writing, depending on the availability of the respondent. Responses to questions are summarized in Table 9, and currently monitored performance measures are shown in Table 10. Organizations are identified only by letter in order to preserve anonymity. The open-ended questionnaire was designed to encourage respondents to emphasize aspects of their programs about which they felt especially strongly. Its main drawback lies in the variable amount of detail provided. The reader should interpret findings accordingly. Though we believe the information presented is accurate, it is not not uniformly complete.

Each organization monitors the performance of primary care physicians, but only two are currently assessing the performance of specialists. Primary care physicians attract the most attention because of their large numbers and their critical functions as “gatekeepers” in managed care settings. Most health plans monitor only physicians who have panel sizes exceeding 50 or 100 members. Profiling of specialists is limited by the small number of cases for most diagnostic or treatment procedures.



**TABLE 9: PHYSICIAN PROFILING AT THE PRESENT TIME**

	A	B	C	D	E	F
<b>PHYSICIANS PROFILED</b>						
PCPs	Yes	Yes	Yes	Yes	Yes	Yes
Specialists	No	No	No	Pilot	No	Some
<b>USES OF PROFILING REPORTS</b>						
Feedback to Physicians	Yes	Yes	Yes	Yes	Yes	Yes
Quality Improvement	Yes	Yes	Yes	Yes	Yes	Yes
Linked to Financial Incentives	Yes (HEDIS measure performance)	Yes	No	Yes	Yes	Yes
Frequency of Reports	Monthly utilization reports. Annual member surveys and HEDIS reports.	“Regular”	Reports annual or semi-annual	Quarterly utilization & cost reports. Annual quality incentive reports.	Monthly for basic list of reports.	
<b>TYPES OF PERFORMANCE MEASURES USED</b>						
Access			Yes		Yes	
Clinical Quality	Yes <sup>1</sup>	Only HEDIS	Only HEDIS	Yes <sup>2</sup>	Only HEDIS	Yes
HEDIS Measures	Yes	Yes	Yes	Yes	Yes	
Utilization	Yes	Some	Yes <sup>3</sup>	Yes	Yes	Yes
Financial	Yes	Yes	Yes	Yes	Yes	Yes
Consumer Satisfaction	Yes <sup>4</sup>	Yes <sup>5</sup>	Yes	Yes	Yes <sup>6</sup>	Yes <sup>6</sup>
Consumer Complaints	Yes			Yes		
<b>DATA SOURCES FOR PROFILING</b>						
Administrative Data/Claims	Yes	99%	Yes	Yes	Yes	Yes
Medical Records	Yes	Yes	Yes <sup>7</sup>	Yes	No	No
Electronic Pharmacy and Laboratory Info Systems	Yes	No	Yes		Yes	
Member Surveys	Yes	Yes	Yes	Yes	Yes	Yes
Who Makes Decisions on Physician Profiling?	Clinicians and analytic personnel	Finance Dept. with Medical Director input	Medical Director for clinical measures & member satisfaction; Finance Director for costs	Medical Directors for clinical measures	Medical Management Committee	Interdisciplinary working group
Confidentiality of Reports	Physicians agree to share information on quality & utilization when they become providers	No formal policy	Written policy governs distribution and use of reports & confidentiality	No formal policy	“Need to know” policy	Reports blinded to MD name except for those sent to individual MDs and supervisor

<sup>1</sup> Includes analysis of transfers out of a physician’s panel because of quality concerns

<sup>2</sup> Quality Incentive Program that scores each physician having a panel size > 50 members. Score based on organizational participation, quality management, and member satisfaction.

<sup>3</sup> Assesses resource use for episodes of care for specific acute and chronic conditions

<sup>4</sup> Surveys PCPs with panels >100 members

<sup>5</sup> Conducts telephone survey of 25-40 members per PCP per year

<sup>6</sup> Patient satisfaction feedback at practice level because of sample size limitations

<sup>7</sup> Uses electronic medical records

**TABLE 10: PERFORMANCE MEASURES CURRENTLY USED TO PROFILE PHYSICIANS IN AMBULATORY PRACTICES**

	A	B	C	D	E
<b>DEMOGRAPHICS</b>					
Age	x	x	x	x	x
Gender	x	x	x	x	x
Panel Size	x	x	x	x	x
<b>CLINICAL OUTCOMES</b>					
Readmission within 15 or 30 days	x		x	x	
Avoidable admissions			x	x	
Treatment complication rates	x		x	x	
BP control in hypertensives			x	x	
Inhaled steroids for asthma		x			
Stage at diagnosis of cervical and breast cancer				x	
Vascular surgery outcomes				x	
<b>HEDIS MEASURES PREVENTION/EARLY DETECTION</b>					
Mammography rates	x	x	x	x	x
Pap smear rates	x	x	x	x	x
Diabetic retinal exams	x	x	x	x	x
Immunizations (adult/pediatric)	x	x	x	x	x
Well-Child Visits (3-6 y/o)			x	x	x
Adolescent Well Visits (12-21 y/o)			x	x	x
Prenatal Care in 1st Trimester	x		x	x	x
<b>OTHER HEDIS MEASURES</b>					
Post-partum Care	x			x	
Child Check-ups After Birth			x	x	x
Beta Blockers After MI	x	x	x	x	x
Follow-up After Hospitalization for Mental Illness	x		x	x	x
<b>MEMBER SATISFACTION SURVEY</b>	x	x	x	x	x
<b>MEMBER COMPLAINTS</b>	x			x	
<b>DISEASE SPECIFIC UTILIZATION RATES</b>			x		x

**TABLE 10: ~ CONTINUED**

	A	B	C	D	E
<b>IN-PATIENT ADMISSION RATES/COSTS</b>					
Medical	x	x	x	x	x
Surgical	x	x	x	x	x
OB	x	x	x	x	x
LTC/SNF/Rehab	x		x	x	x
LOS by DRG/Diagnosis			x	x	x
Costs (actual vs. budgeted)	x	x	x	x	x
<b>OUTPATIENT ENCOUNTER RATES/COSTS</b>					
Primary care	x	x	x	x	x
Specialty referrals			x	x	x
ER utilization	x		x	x	x
Radiology	x		x	x	x
Laboratory	x		x	x	x
Pharmacy	x		x	x	x
Costs (actual vs. budgeted)	x	x	x	x	x
Same-day surgery				x	
<b>ACCOUNT SUMMARIES</b>					
Member months	x	x	x	x	x
Costs PMPM	x	x	x	x	x
Costs (actual vs. budgeted)	x	x	x	x	x

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All respondents indicated that profiling results are used as educational tools and to stimulate quality improvement among individual physicians and practice groups. It was difficult, however, to identify specific examples of quality improvement initiatives that could be attributed to this feedback. All but one respondent indicated that reports on resource use and cost patterns are used to create financial incentives. The degree of emphasis placed on financial incentives seemed to vary widely, however. One health plan uses HEDIS results to create “incentive initiatives” for the following year. The frequency of reports also varies. Member surveys and HEDIS reports are generated annually, while utilization and cost measures are reported more often. At the extreme, one organization generates its “basic list of reports,” including utilization and costs, monthly.

All organizations monitor consumer satisfaction, resource use, costs, and at least some measures of clinical quality. Measures of clinical quality include clinically oriented HEDIS measures, disease- or procedure-specific measures of mortality or morbidity, selected complication rates, and “inpatient occurrences that hit screening thresholds.” Methods for assessing consumer satisfaction vary widely in terms of the survey instrument used, reliance on mailed or telephone surveys, and consumer sample sizes. Consumer satisfaction results are reported at the level of the individual physician in three organizations and at more aggregate levels in the other three. Two organizations give special emphasis to assessing access to care, and two others to assessing consumer complaint rates. All organizations pay close attention to consumer complaints, so the difference, most likely, is in the formality of reporting.

The performance measures that are currently being used by five of the six organizations are shown in Table 10. Because the format and completeness of information received varied, these results may understate profiling activities in some organizations. Consistently high priority is given to measuring hospital admission rates and a variety of outpatient utilization measures and their associated costs. This emphasis is reflected by the frequency of measurement, the wide variety of measures, and the meticulous attention given to analysis and reporting. Member satisfaction surveys and a broad array of HEDIS measures are recorded at least annually. The greatest differences appear to be in the amount of attention devoted to measuring clinical outcomes such as early readmissions after hospital discharges, avoidable admissions, treatment complications, and

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disease-specific process or outcome measures. Analytic rigor varies widely, ranging from raw frequencies to the use of sophisticated risk-adjustment and statistical techniques.

The data sources used differ with the type of performance measure and from one organization to another. Administrative and claims data are used in all sites. Four organizations indicated they use medical records, and three use electronic pharmacy and laboratory information systems.

In most organizations, decisions on physician profiling are made either by interdisciplinary groups or are shared with physicians having responsibility for clinical quality measures and consumer satisfaction, and the financial department for resource use patterns or costs. An exception is one organization in which the Finance and Contracting Office has central authority. Data collection and analysis are centralized in a single unit in two organizations and are divided among three or more distinct units in two others.

Steps taken to ensure the privacy of reports vary. Only one organization has a written policy that guides the distribution and confidentiality of reports. Others have a more informal “need to know” policy. Physician names are not generally blinded during internal use of reports, though distribution is often limited to individual physicians and their immediate supervisors.

## Benefits of Physician Profiling

The driving forces for most physician profiling in managed care organizations are cost control and the need to satisfy NCQA's accreditation requirements. The most frequently mentioned specific benefits were improved practice efficiency and improved HEDIS performance. In one organization, reduced variable inpatient costs per case, and reduced variance in the ambulatory care use of ancillaries, pharmacy, and visits were attributed to profiling. In both instances, clinical outcomes were stated to be excellent and stable. Improved mammography rates were thought to be due to profiling in two health plans, either because of the incentives offered to physicians for better performance or more active involvement of administration in reminding members about overdue tests. One respondent summarized the benefits of profiling by stating, “There is no question that shared financial risk creates peer pressure for efficiency and quality.” Multidisciplinary collaboration during profiling was felt to facilitate development of “best

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practices.” Several respondents indicated that management decisions have been positively affected by profiling and that more attention is now being given to developing improved information systems. Increasing consumer satisfaction has been documented in some organizations, but another points out that satisfaction is “too high to see much change.”

There is no question that profiling has attracted the attention of physicians. “It is unusual for data to be ignored,” says one respondent. Most physicians are interested in examining differences between their practices and those of their peers and in seeking ways to improve their performance. They are particularly interested in clinical quality measures and respond positively to “management tips” that grow out of consumer satisfaction surveys. Concerns about profiling stem from the feeling that “big brother is watching” and the fear of economic credentialing. Problems with the accuracy of data, the adequacy of risk-adjustment, and “low scores” over which they have control are also negatives. Two respondents emphasized the importance of creating a sense of partnership in which physicians’ input is valued and results are framed to improve practice rather than highlight “bad apples.”

## Looking to the Future: Desired Changes in Profiling

The provider organizations were asked a series of questions aimed at identifying changes in profiling activities that would enhance their value. Questions related to control, standardization of performance measures, new measures, implementation issues, reduplication of efforts, the use of reports, and payment for profiling. Our goal was to develop a “wish list” that might help guide future activities.

Vigorous responses to the question about control of physician profiling emphasized the need to develop a spirit of partnership between clinicians and plan administration. Physician involvement in the planning and implementation of profiling was deemed essential, and the development of trust in those who compile and analyze data was felt to be a key ingredient.

Most respondents favored moving toward a standardized set of core measures of clinical quality, consumer satisfaction, and patterns of resource use. Standardization of financial measures was felt to be more difficult because of the wide variety of contractual arrangements. One respondent, however, stressed that its physicians would prefer to focus on internal improvement activities and would not want statewide activities.

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Reduplication of effort is a significant problem. This is felt at the physician or practice level in the need to provide data to multiple health plans or insurers. It is also felt at the health plan level through NCQA's requirement for distributing clinical practice guidelines and monitoring results for two of them each year. Elimination of reduplicative reporting requirements is a high priority. Highest priorities for new performance measures included the assessment of specialists, emergency department utilization, hospital readmissions, and a focus on complex, high cost patients. Access to appointments for urgent and non-urgent problems was also thought to be important.

Poor data quality and inconsistent data definitions and retrieval strategies were identified as major impediments to accurate profiling, as were inadequate risk-adjustment strategies. The poor quality of administrative and claims data is a particular problem. Several respondents emphasized that centralization of measures, information systems, and data collection and analysis functions would enhance the accuracy and efficiency of profiling. Adequate risk-adjustment was recognized as being essential to achieving valid comparisons among individual physicians, practices, or health plans. At present, physicians who care for sicker patients tend to be penalized while those who treat less sick patients benefit. The problem of small sample sizes is particularly difficult in the case of specialists. Suggested approaches include "rolling up" results to more aggregate levels and pooling information for physicians who practice in more than one managed care plan or more than one hospital. The latter will require a unique identifier for each physician, or some other cross-walking strategy.

Finally, respondents offered comments on the distribution of reports and payment for profiling. The "need to know" was the universal response to the question about distribution. A clear definition of this phrase, however, is elusive. Use of reports in quality improvement activities received the most support. The public release issue is "huge." One respondent, however, emphasized the importance of ensuring that the public and purchasers have adequate information to guide their choices of provider. The question about payment for profiling stimulated mixed responses ranging from "the plan and providers should share the cost" to "everyone should share the cost" to distinctions based on the use of the report in which internal use would be paid for as a part of the cost of doing business, while payment for external reporting would depend on what the profiles are used for.

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## CONCLUSIONS

The principles described in this report have been accepted by the Massachusetts Medical Society as the basis for guiding the Society's participation in the development of physician profiling activities in the Commonwealth of Massachusetts. The Society believes these principles will well serve the interests of physicians, their patients, and health care organizations.

A task force has been appointed that will take the lead in developing a profiling system based on these principles. Specific tasks of the Task Force will be to

- examine performance measures and methods currently being used
- obtain physicians' views on the values and burdens and values of current profiling activities and suggestions for improvements
- develop a framework for physician profiling that will emphasize use of standardized performance measures and methods and cover the full spectrum of clinical care

To these ends, the Task Force will explore opportunities for collaborating with leading health plans and provider organizations, consumer groups, insurers, and regulators. It will also work closely with national organizations such as the American Medical Association through its Accreditation Program (AMAP), the National Committee for Quality Assurance (NCQA), the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), and medical and surgical specialty societies.



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## ABOUT THE AUTHORS

This report was written by an ad hoc committee composed of representatives from the three committees of the MMS that are most involved in issues of health care quality. These include the Committees on Quality of Medical Practice, Medical Services, and Managed Care. Members were

Bruce S. Auerbach, M.D., F.A.C.E.P., *Vice President and Chief, Emergency and Ambulatory Services, Sturdy Memorial Hospital, Attleboro, Mass.*

Karen Bell, M.D., M.M.S., *Medical Director, Blue Cross Blue Shield of Massachusetts*

Mark Bloomberg, M.D., M.B.A., *President, The Bloomberg Healthcare Group*

Christopher M. Coley, M.D., *Chief of Medicine, Harvard University Health Services, Associate Physician, Massachusetts General Hospital*

Alan S. Diamond, M.D., *Retired General Surgeon, AtlantiCare Medical Center, Lynn, Mass.*

Norbert I. Goldfield, M.D., *Medical Director, 3M Health Information Systems, Wallingford, Conn.*

Marise S. Gottlieb, M.D.

Stephen A. Metz, M.D., Ph.D., *Department of Obstetrics and Gynecology, Tufts University School of Medicine, Baystate Medical Center, Springfield, Mass.*

Joel J. Rubenstein, M.D., *Chief of Cardiology, Newton-Wellesley Hospital*

Harry P. Selker, M.D., M.S.P.H., *Chief, Division of Clinical Care Research, New England Medical Center, Professor of Medicine, Tufts University School of Medicine, Boston, Mass.*

William B. Stason, M.D., M.Sci., *Chair, Lecturer, Harvard School of Public Health and health care consultant*

Christie L. Hager, J.D., M.P.H., *Senior Health Policy Analyst, Massachusetts Medical Society*

The task force was chaired by Dr. Stason, whose research interests are in the cost-effectiveness of health care services and technologies, health care outcomes, and clinical quality improvement. He has authored two books and numerous articles, reports, and chapters on these topics.

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