

**Health Care Management**  
**A Health Care Professional-Centric Approach**

**Author:** Ahsan Ahmad & Douglas Sacks  
**Email:** info@drsir.com

## CONTENTS

Introduction .....	3
Historical Background .....	3
Health Care Issues in the U.S. Today .....	4
Major Problems Confronting Hospitals .....	4
Solution to Health Care Issues in the U.S. ....	5
Efficiency Measurement .....	6
Monitoring and Tracking .....	7
Measuring Performance .....	8
Performance Evaluation .....	8
Conclusion .....	8

## Introduction

Much emphasis is given to the Patient-Centric approach in order to resolve multifaceted problems faced by healthcare today. But the pertinent question is whether this approach is the only way to solve the existing healthcare problems? Patient-Centric systems such as EHRs (Electronic Health Records), EMRs (Electronic Medical Records), and Hospital Management Systems are extremely beneficial for the customer (i.e. patient) and may be for the administration, but do they make a healthcare facility more efficient and productive? The care is delivered by the healthcare professionals such as nurses, specialists, residents. What systems are available to gauge their professional competencies and performances? Surprisingly, not much headway has been made in this vital segment of the health care system.

In this paper, we will review the existing system and will propose how to improve the efficiency and performance measurement of a health care setup; the meaning of fair and just "Pay for Performance", standardization of activities, its benefits, necessary changes as well as challenges and how by adopting the innovative technology of Dr-SIR these objectives can be achieved.

## Historical Background

The technical progress made in the medical industry has been extremely beneficial to the quality of healthcare in general, but the cost has increased tremendously. New diagnostic technologies and treatment methods have changed hospital environments dramatically. Present day hospital management has become more complex as the technical, legal, economic, demographic and social variables have changed significantly during the last century and are still improving and changing. For hospital managers, it has become imperative to maximize the existing resources while optimizing the quality of care.

While technological advances continue to progress rapidly, many health managers feel that the progress in managerial and commercial supervision of the health care professionals is still not satisfactory which may retard sustained institutional growth.

There has been a renewed emphasis on systems development for management diagnostics of healthcare facilities, which can provide and identify areas where the healthcare unit is deficient, so that improvement can occur. Various initiatives have been undertaken through which diagnostic and management tools have been developed focused on different activities of the healthcare sector. Resource Relative Value Scale (RBRVS) is applied to find out the efficiencies of physicians but this scale does not provide as complete a picture of the entire healthcare system as many facilities may need. The existing systems such as RBRVS focus on individual areas of physician and nurse practitioners productivity only. But there is no single tool available which uses a unified basis of assessment (i.e. Work Units) which can have a universal application for all of the healthcare professionals individually and as a group.

## Health Care Issues in the U.S. Today

The World Health Organization has placed the U.S. 37<sup>th</sup> in overall health system performance. Throughout the nation, similar procedures with similar outcomes can cost 400% more in one region than another. And among the 30 OECD countries, the U.S. ranks at the bottom in terms of life expectancy. (California HealthCare Foundation study, reported in Health Affairs, November, 2005.)

In the U.S. patients spend more money for less care. For example in 2003, among nine industrialized OECD nations, the U.S. spent more per capita for all healthcare services (US\$5,635) than any other, and more than twice as much as the median amount (US\$2,280). In addition, the U.S. spends more than any of the 30 OECD member countries for public and private health insurance, with its citizens paying the most out-of-pocket. (Organization for Economic Co-operation and Development. Health at a Glance: OECD INDICATORS 2005).

## Major Problems Confronting Hospitals

In its annual survey of top issues confronting hospital CEOs, the American College of Healthcare Executives (ACHE) asked respondents to rank the three most pressing issues affecting their hospital and identify specific areas of concern.

In 2007, 70 percent of respondents cited financial challenges as one of their top three concerns, compared to 72% in 2006 and 67% in 2005. The greatest change occurred in those including quality and patient safety among their top three concerns. Quality was included by 33%, increasing from 23% in 2005. Similarly, concerns with patient safety as one of the top three concerns increased to 29% from 20% in 2005.

Performance appraisal directly impacts healthcare quality and efficiency. Any healthcare environment, which does not maximize the use and analysis of performance measures and standards, may find that healthcare quality and efficiency suffers as there is little motivation to deliver upon these parameters. Therefore a lack of a justified performance appraisal is much more than a human resource and staff issue. It directly impacts the quality of care delivery and treatment.

Anything less than using all possible benchmarks for performance appraisal may lead to less than optimum care delivery as all relevant standards or checkpoints are not in place to ensure that the most effective and safe patient treatment is given. According to the second National Health System Scorecard released in 2008, "Closing performance gaps would bring real benefits in terms of health, patient experiences, and savings. For example: Thirty-seven million more adults would have an accessible primary care provider, and 70 million more adults would receive all recommended preventive care."

The relative poor performance by the U.S. on quality, coupled with the highest spending on healthcare in the world, also suggests an inefficient system—one that doesn't achieve the expected value from the investment in resources.

The crucial missing link here is accountability. Most healthcare environments will benefit from improved accountability measures, needed to ensure the best possible patient treatment. But improved accountability measures cannot be put into place unless some uniform and universal standard exists regarding treatment or professional performance. Such additional accountability would set a standard for how much can be delivered within a fixed set of inputs and how much should have been achieved. Low performances in a hospital lead to higher costs of a treatment or procedure.

It is primarily a productivity issue where a lower amount of input (physician time) should be used to generate a higher amount of output (patient treatment).

According to Thomas C. Dolan, PhD, FACHE, CAE, president and Chief Executive Officer, American College of Healthcare Executives, "Creating, implementing and monitoring the systems to improve quality and patient safety has become a major focus of hospital CEOs. No longer treated as a delegated responsibility solely for clinicians, the entire hospital team—senior management, physician leaders and the board—are now actively working together to improve care."

The process of care delivery can only be improved when all of the right medical practices are being followed and there is a standardization of medical procedures as well as measures which ensure that professionals with lower misdiagnosis rates are hired.

Accountability measures can only be put in place after a performance evaluation system based upon the right performance benchmarks, which rewards the right individuals and penalizes those that consistently make mistakes, is established and implemented.

Another issue in hospital performance appraisal is the Group Performance. Since the process of care delivery requires that health-care practitioners perform in a group to achieve a result, it's a challenge to isolate the individual performance of a clinician in a group setup.

## **Solution to Health Care Issues in the U.S.**

Dr-SIR is a knowledge-based, hospital efficiency measurement software system, which generates powerful reports and analysis for healthcare administrators and stakeholders in the following areas:

- Accurate efficiency measurement
- Cost reduction
- Resource planning
- Performance evaluations

These benchmarks can be quantified for the entire hospital, a department or for an individual in a department. It is healthcare management software, facilitating pay for performance, hospital assessment and auditing. It can dramatically reduce the running cost of a hospital and increase margins by enhancing productivity. This unique hospital management information system quantifies in statistical terms on a unified scale (Work Unit), the professional services being rendered in a hospital setup by all categories of

professionals. It calculates the optimum capacity of “Work Unit” generation as against what has actually been generated and then it analyzes the reasons both for negative and positive variances.

Dr-SIR is a first-of-its-kind healthcare efficiency measurement toolkit which helps to ensure quality and increased efficiency in a health care environment. This healthcare system is a result of an eight year research initiative involving 104 doctors. The performance appraisal benchmarks specified by these experienced and eminent professionals form Dr-SIR’s knowledge base, enabling its cutting edge analytical functionalities which range from performance measurement to hospital planning. Dr-SIR makes healthcare administration more effective and easier.

Dr-SIR has been designed to address all of these hospital concerns and bring overall improvements to a hospital’s efficiency and ensure the optimal performance of its professionals by implementing efficiency benchmarks. Dr-SIR’s efficiency benchmarks will ensure that proper procedures are being followed in the hospital which will ultimately reduce the misdiagnosis rate and ensure the best possible patient care.

## Efficiency Measurement

In Dr-SIR, we define efficiency as an attribute of performance that is measured by examining the relationship between a specific product of the healthcare system (also called an output) and the resources used to create that product (also called inputs). Under our definition, a provider in the health care system (e.g., hospital, physician) would be efficient if it was able to maximize output for a given set of inputs or to minimize inputs used to produce a given output.

$$\text{Efficiency} = \frac{\text{Actual Work Generated}}{\text{Work Generation Capacity}}$$

Efficiency Measurement (EM) is able to undertake a full scope “capability due diligence” of healthcare institutions using international quality and performance benchmarks.

EM provides the means to take any activity or participant within a framework and translate its functions onto a leveled platform to enable measurement of the adequacy of output in terms of efficiency and capacity. Therefore, for every activity that is passed through this system, there would be an ideal output and actual output both stated in the common denominated units of measurement. It is this basic concept which forms the cornerstone of this system.

The most effective way to measure the efficiency of any service is by establishing a basis by which different services can be quantified into a common, or unified measurable unit of output. This baseline becomes a benchmark of efficiency to be achieved by medical professionals, departments or entire hospitals.

Dr-SIR’s efficiency measures count the amounts of different inputs used to produce an output (patient treatment) and help to answer questions about whether the output could be produced faster, with fewer people, less time from medical professionals, or fewer supplies.

In economic terms, the focus is on whether the output is produced with the minimum resources and cost.

Dr-SIR will help to achieve work flow standardization as all treatments, operatives and diagnostic activities in a hospital setup have been standardized and quantified on a unified scale in terms of time frame, acceptable rate of complications or misdiagnosis, etc.

The DR-SIR efficiency measurement system helps to increase work output and decrease cost per unit. The system identifies the deficiencies and reasons for the positive or negative variances for decision makers. Accordingly, administrators will be able to forecast and take preventive measures to better manage the healthcare system. Thus a complete Decision Support System is available to healthcare decision-makers that allows for the quantification of professional efforts and thus ensures the accountability and efficiency standards which are so instrumental to ensure healthcare quality in patient treatment.

### Monitoring and Tracking

Dr-SIR can monitor better patient care in all clinical and diagnostic departments through acceptable limits of standard deviations or variance for each module of activity of which there are 3,554 in total.

Dr-SIR's capacity to monitor and analyze the effectiveness and efficiency of various departments, units and staff in a hospital setup will result in an increase in work output, decrease in cost per unit and increase in potential and staff satisfaction. This should create a better working environment in the hospital and most importantly assist the physician and the hospital manager to improve his/her decision-making.

Dr-SIR ensures hospital quality as it incorporates a logical and systematic pattern of work contribution by all categories of professionals in all the 3,554 modules of activity involving all the clinical and diagnostic departments in a hospital. It monitors and evaluates the work output in terms of 'Work Units' within a specified period of time. The negative or positive variances in work output helps to pinpoint the reason why! It also helps to monitor the provision of best quality medical care to the patients by virtue of highlighting the various indicators like the probable rate of misdiagnosis, complications etc. for various treatment and diagnostic procedures.

One of the major objectives of 'Dr SIR' is to create a unified universality of approach in terms of patient care, while standardizing the level of expertise, treatment time frames, and technology, so as to attain optimization of returns, both in terms of professionals involved and financial investment.

Dr-SIR enhances efficiency in a hospital as it provides the tool-kit with which the financial aspects of all treatment processes are analyzed both on vertical and horizontal planes. Ex. the average number of "work units" required for any treatment process and the cost per "work unit" generated. Similarly, it provides the facility to assess the optimum staffing pattern required for each department/ specialty depending upon the actual or the estimated work load. As a result, better budgetary utilization is achieved thus helping to improve overall hospital efficiency.

## Measuring Performance

An April 2004 paper published by the American College of Physicians noted, "Performance measures offer an opportunity for physicians to regain some control of a payment system that does not adequately compensate them for their efforts. At the same time, performance measures directly target the quality deficiencies in our current healthcare system that are of increasing concern to the public. The importance of performance measures in tracking our progress toward improving quality of care cannot be overestimated."

There are many ways to view healthcare performance. For example, one can base measurements on outcomes or processes; absolute standards of care or relative standards that differentiate providers; group or individual healthcare performance.

Unified performance measures in healthcare have not been established comprehensively as there are only physician performance measures regarding costs (RBVU"s). But even these performance measures don't take into account the delivery and effectiveness of services and therefore fail to address the concern of healthcare quality.

## Performance Evaluation

However, Dr-SIR provides comprehensive performance benchmarks for all categories of medical professional in work units. These benchmarks take into account the acceptable rate of misdiagnosis and quantify an individual clinician's performance in work units and provide a comparative performance analysis against industry benchmarks to separate the lemons from the peaches, vastly improving healthcare management.

Dr-SIR performance evaluation solutions offer timely analysis of performance against standard professional efficiency benchmarks. Healthcare managers can also access performance and financial reports and interactive analysis to help manage costs, increase productivity, and improve quality of healthcare delivery.

## Conclusion

The healthcare industry is facing tremendous challenges today. Resources are becoming scarcer each day so hospitals must utilize all available ones to the utmost. Dr-SIR is the right tool to determine the accurate potential of the healthcare facility so it can calculate how much is being under or over-utilized. The Dr-SIR system is easy to implement and within days the user will be able to utilize reports that clearly define ways to make substantive improvements to both cost savings and patient care.

Without spending substantial amounts of money or overhauling a hospital's IT structure, Dr-SIR seamlessly integrates with the existing EHR or HMIS. Dr-SIR takes the output of the existing IT system as an input and creates powerful analytical reports for the decision-makers. It is not a replacement of the current IT software. Rather it is an enhancement. A \$500 Million facility can save more than \$5 million by just increasing its efficiency by 1%. And results have shown that efficiency can be improved by double digit figures with Dr-SIR.

Hospital administrators may believe that the resources they have available are not adequate to meet the patient load. This assumption may be based on the fact that when a certain bed occupancy rate or patient load is reached, the concerned healthcare professional seems to be grossly over-worked. Dr-SIR will provide the answers by highlighting the under-utilized and weak medical staff (all categories of professionals including nurses, medical officers, physicians, head of departments, etc.), equipment and group structures. Not only will it highlight the discrepancies, but it will offer suggestions on how to create the best team structures for different departments from the existing medical professional staff. Thus, without spending additional money, any facility can enhance its efficiency which should result in savings worth millions of dollars.

Another major challenge faced by the healthcare industry is a fair Pay for Performance model. This is handled by Dr-SIR in the most articulated way, a way which no other system has offered. By calculating a single Work Unit cost of a hospital, it can be determined if a medical professional is getting fair compensation or not. This calculation can be done for the entire hospital or for the department in which that medical professional is providing the services. As an example, if the single Work Unit cost of the facility is \$1.2/ Work Unit and the average monthly Work Units generated by a medical professional is 15,400 then  $\$1.2 \times 15,400 \text{ WU} = \$18,480/\text{month}$ . If the medical professional is getting a salary less than this amount, he/ she is creating profit for the facility.

For statistical analyses, administrators can compare the:

- Efficiencies of medical staff
- Efficiencies between or among departments
- Financial outcomes from one department to another or even one hospital to another
- Projections and forecasting (and as a result take preventive measures where needed).

With a weakening economy, there is no doubt that the healthcare industry faces daunting challenges. Yet there is a continuing opportunity to thrive as a significant portion of the U.S. population reaches middle age and beyond. But Hospital CEOs have to act quickly to generate resources by saving resources. Tools like Dr-SIR may provide a “miracle cure” for the healthcare industry. Enhancing efficiency, productivity, Pay for Performance are no longer just concepts, but reality.