Hospital Performance and Health Quality Improvements in São Paulo (Brazil) and Maryland (USA) by Andre Medici and Robert Murray

Why Evaluate Hospital Performance?

Hospitals are the most essential and most costly component of health systems. They account for up to two-thirds of health spending. As a result, they greatly influence the overall quality of health care. As governments search for the best ways to monitor and evaluate hospital performance, policy-makers must identify the best ways to maximize hospital outcomes, patient satisfaction, and operational efficiency. Recent increases in healthcare costs have generated a number of proposals for the organization of publicly financed hospitals. These include new management models, new payment systems and clinical guidelines and disease treatment protocols inspired by evidence-based guidelines.

Management can profoundly affect the quality of healthcare delivery. Certain public management processes in healthcare institutions lacking flexibility, budgetary autonomy and performance based incentives, have become associated with poor health outcomes, and inefficiency. However, new management models that emphasize autonomy in contracting, human resources, and budgeting can improve efficiency, outcomes, and customer satisfaction. This note discusses two models for hospital management innovations: the state of São Paulo’s state social organization (OSS) model and the state of Maryland’s diagnostic related groups (DRG) classification system. Both were presented in a Seminar organized by the São Paulo State Secretary of Health (SES) and the World Bank in November 2009.

Hospital Management Innovations in São Paulo

The São Paulo state government uses a variety of hospital management arrangements. The public universal health system (SUS) has contracts with 614 public (under state or municipal management) and private hospitals. Of the public hospitals, 70 are state-owned; 45 are directly managed by the SES; and 25 (some of which are teaching hospitals) are managed under the OSS model. The remaining hospitals are either under municipal management or private (for-profit or philanthropic).

In the late 1990s, São Paulo’s state government began contracting private entities to manage public hospitals under the OSS model. This model is based on three elements: (1) the use of management partnerships, (2) management contracts with the SES, and (3) regulation by state government. Hospital management partners are institutions with recognized capabilities to manage hospitals, such as universities and philanthropic organizations. The management contracts are comprehensive and include distinct evaluation and reporting requirements. The model began with 15 hospitals in regions with the neediest populations and lowest health coverage. The contracts impose the following requirements:

- The bidding institution must submit to a verification process to confirm compliance with certain prerequisites.
- Management contracts specify the kind of assistance and services to be delivered and the agreed health goals.
- OSS hospitals may only serve populations that use the SUS.
- A special state commission, chaired by the SES, supervises and evaluates the outcomes achieved against the contract’s stated goals.
- OSS hospitals must publish their accounts and other information in the official state newspaper. In addition, the State Accounting Tribunal (TCE) audits OSS financial and accounting statements.

Using Management Contracts

OSS management contracts are important instruments of accountability and transparency in the use of public funds. The contracts give managerial autonomy to hospitals, which are expected to meet higher levels of responsibility and accountability. Contracts also govern OSS hospital data

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interfaces with central health information technology (IT) systems, where a core set of indicators common to all hospitals are available on line and monitored by the SES. Hospital management is expected to address problems identified by the core indicators monitored by the SES. Management teams also work toward service production goals of quality assurance and customer satisfaction. To facilitate financial audits, the SES receives monthly health production cost reports and financial statements, which are sent to the TCE, and allow a comparison between expenditures and goals achieved.

OSS hospitals contribute to a more robust health system and increased patient satisfaction. They are active participants in local health systems and participate, as directly-administered public hospitals, in deliberative bodies of both the local health councils. The new managerial tools also improve the quality of healthcare, encourage social participation, and enhance the relationship between citizens and hospital management. Most patient complaints are solved and customer satisfaction increases without the need for SES intervention.

**Comparing Health Outcomes between OSS and Traditional Public Hospitals**

Two World Bank studies (see Table 1) show that hospitals administered under the OSS model produced better outcomes than directly-administered public hospitals. The OSS hospitals produced more patient discharges; used hospital facilities more intensively, contracted fewer medical services, and had lower average costs per patient. At the same time, the OSS model improved quality by guaranteeing patient integrity and accomplishing medical quality protocols. OSS hospitals are also employing a higher number of qualified personnel and making more efficient use of existing hospital facilities. At the same time, OSS hospitals have lower costs for some specific medical services (La Forgia and Couttolenc, 2008).

Better outcomes in OSS hospitals are attributed to several of the model’s characteristics. OSS hospitals have more autonomy in selecting and contracting managers, allocating budgets, hiring and firing personnel, defining and paying for performance incentives, and managing contracts with suppliers. They are financed mostly by global budget schemes and provide for better monitoring and evaluation of contracts, and flexible bidding processes. At the same time, the OSS model provides more space for better monitoring and evaluation by the central government, by providing electronic data on outcomes linked with health goals agreed between the OSS and the SES.

### The Maryland Hospital Management System

In the late 1970s, Maryland faced many of the same challenges now confronting policy-makers in São Paulo. The state’s hospital and health units included public and private institutions, some of which were “world class,” while others provided substandard care, particularly to the poor and uninsured. Maryland’s hospital costs were more than 25 percent above the national average. Yet, there were few sources of reliable data on performance or evaluation tools sufficient to hold hospitals accountable for their operating performance. In response, the Maryland legislature established the Health Services Cost Review Commission (HSCRC) a politically independent government agency, with broad powers to collect data, disclose information on hospital performance, and establish hospital payment levels.

At the same time, the state government developed a unique hospital evaluation and payment system based on the use of Diagnostic Related Groups (DRGs). DRGs are a classification system that groups hospital patients with similar clinical conditions into 314 diagnostic categories. Clinical conditions are defined by both the patient’s principal diagnosis—the main problem requiring care—and other secondary diagnoses.

The HSCRC collects data on the costs, volumes, and the financial condition of the hospitals, and detailed clinical and cost data for every inpatient and outpatient case. It establishes service-specific payment levels for all inpatient, hospital-based outpatient, and emergency services. Its rate setting

<table>
<thead>
<tr>
<th>Indicators</th>
<th>OSS Model (12 hospitals)</th>
<th>Direct Management Model (10 hospitals)</th>
<th>Difference (%)</th>
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</thead>
<tbody>
<tr>
<td>Average hospital discharges per bed per year</td>
<td>60 discharges</td>
<td>46 discharges</td>
<td>30.4</td>
</tr>
<tr>
<td>Average days of stance (2003)</td>
<td>3.3 days</td>
<td>5.2 days</td>
<td>-36.5</td>
</tr>
<tr>
<td>Rate of C Sections in total birth deliveries</td>
<td>25.50%</td>
<td>77.10%</td>
<td>-66.9</td>
</tr>
<tr>
<td>Contracted medical hours/staff medical hours</td>
<td>3.6</td>
<td>5.1</td>
<td>-29.9</td>
</tr>
<tr>
<td>Average cost per inpatient (2003)</td>
<td>R$3,300</td>
<td>R$3,600</td>
<td>-8.3</td>
</tr>
<tr>
<td>Average number of skilled nurses per bed</td>
<td>0.33</td>
<td>0.28</td>
<td>17.9</td>
</tr>
<tr>
<td>Average number of employees per bed</td>
<td>4.28</td>
<td>4.48</td>
<td>-4.5</td>
</tr>
<tr>
<td>Rate of bed occupancy (2006)</td>
<td>80.90%</td>
<td>72.10%</td>
<td>12.2</td>
</tr>
<tr>
<td>Average cost of Intensive Care daily rate</td>
<td>R$978</td>
<td>R$1,197</td>
<td>-18.3</td>
</tr>
<tr>
<td>Average cost of a CADSCAN exam</td>
<td>R$133</td>
<td>R$394</td>
<td>-66.2</td>
</tr>
<tr>
<td>Average cost of a breast cancer exam</td>
<td>R$33</td>
<td>R$44</td>
<td>-25</td>
</tr>
</tbody>
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authority applies to over 50 general acute, specialty, and private psychiatric hospitals with regulated annual revenues in excess of $13 billion. A robust auditing and compliance mechanism ensures conformity with charging and data submission requirements. The HSCRC distributes publicly available annual reports on hospital operations. These reports are available in the page [http://www.hscrc.state.md.us](http://www.hscrc.state.md.us)

DRGs enable the HSCRC to establish a fair price for a bundle of essential hospital services. This has implications for both allocational and operational efficiency. First, the price established for each DRG reflects the cost of the resources used in treating each patient. This accuracy in pricing ensures appropriate provision of resources and ensures appropriate supply level of services. Second, the use of DRGs for payment places hospitals at some degree of financial risk because their reimbursement is based on the average cost for all cases in a particular DRG. This, however, provides strong incentives for hospitals to actively manage the care of each patient, assuring both quality and cost containment. Finally, DRGs are the starting point for the development of more expanded service bundling and stronger incentives for efficiency and effectiveness.

The success of the Maryland system is largely a function of two important activities: 1) the collection and publication of consistently reported data on hospital operations; and 2) the use of the DRGs as the basis for hospital payment and to evaluate hospital performance. The usefulness of the cost and quality dimensions emanates from their ability to provide meaningful product definitions (DRG categories) of hospital care. These product definitions have enabled policy makers to develop meaningful comparisons of relative hospital performance on efficiency and quality.

Quality Comparisons and Communication Value
From a quality perspective, the clinical data required for DRG payments are also useful in establishing outcome measures, which can be used in comparative evaluations of mortality rates, complication rates, readmission rates, and the like. The DRG tool facilitates comparisons because it works as a powerful standardizing or risk adjustment mechanism that enables the evaluation of quality outcomes across different hospitals.

DRGs are much more than a pricing or comparative quality evaluation mechanism. They also provide a “language” that links the clinical and financial aspects of care. The “language” provides hospital managers and clinicians a meaningful basis for evaluating both the processes of care and the associated financial impact. The use of DRGs in Maryland for payment purposes also provides hospital management with increased autonomy and clear incentives to reduce unnecessary resource use and improve outcomes per patient.

**Maryland System Performance**

**Cost Containment:** Between 1976 and 2007, Maryland experienced the lowest rate of increase in cost per admission of any state and much slower hospital cost growth than experienced in the nation as a whole (see Figure 1).

**Access to Care:** The costs of uncompensated care, associated with the coverage of no insured individuals, are included in the payment levels of all hospitals. All payers, public and private, are mandated by law to pay the prices established by the HSCRC, and, thus, all payers contribute equally to the financing of care for the uninsured. Because of this system, hospitals have a mechanism to finance the care provided to those who cannot afford to pay, and the uninsured have access to all hospitals including private community facilities and the state’s two large and renowned academic medical centers.

**Equity and Fairness:** Maryland has consistently maintained the fairest hospital payment system in the United States. Both public and private payers pay the same amount for the same care at a given hospital.

![Figure 1](source: American Hospital Association Statistics Cost per Equivalent Inpatient Admission (EIPA))
Financial Stability: The Maryland system has also enhanced the financial stability of the hospital industry. The state has consistently had the highest proportion of hospitals rated “investment grade” by U.S. municipal bond rating agencies of any state.

Public Accountability and Managerial Autonomy: Maryland hospitals are also characterized by a high degree of public accountability and transparency. This transparency is achieved through the publication of numerous reports on hospital cost, financial, and quality performance. All HSCRC data are available to the public.

Improvements in Quality of Care: The use of DRGs for hospital payments provides strong incentives for hospitals to document thoroughly all relevant clinical information about patients and the care they receive. Thus, DRG based payment systems have facilitated the development of meaningful metrics to measure and evaluate hospital quality and outcomes. As a result, Maryland is a leader in the development of quality measurement and the evaluation of hospital performance on preventable complications rates, mortality rates, and preventable readmission rates.

Conclusions: Relevancy for Health Reform in Middle Income Countries

São Paulo has achieved impressive and internationally recognized progress in public hospitals management. The bid for more hospital autonomy in selecting and contracting managers, allocating budgets, hiring and firing personnel, defining and paying for performance incentives, and managing contracts with suppliers has improved the performance of OSS hospitals over the traditional public hospitals in a number of outcomes. It has also resulted in greater patient satisfaction, more transparency and accountability with public funds, and better opportunities for monitoring and evaluation by the SES.

However, the challenge to implement an effective evaluation and performance based payment system will depend on the ability to improve information systems and incentives associated with payment for performance. To that end, São Paulo is considering adopting a hospital payment system based on DRGs.

The Maryland experience shows how hospital efficiency and quality performance can be enhanced through the development of rigorous evaluation and payment mechanisms based upon diagnostic classification systems. These systems allow for the development of effective cost and quality comparisons across hospitals. When used for payment, DRGs can result in clear and consistent incentives for improved efficiency.

The DRGs can also increase the transparency and accountability of a hospital system, while at the same time increasing the decision-making autonomy of hospital managers. Given sufficient public accountability and the establishment of clear financial incentives, hospital managers can be given increased flexibility in decision-making to respond to the clear incentives in the system to improve quality and reduce cost.

DRGs can also be the starting point for expanded bundling of services for evaluation and payment purposes. When linked to payment, greater bundling of services results in even stronger incentives for providers to control service use and cost.

Finally, DRGs are also a powerful communication tool for hospital managers and policy makers alike. The success of any payment and quality improvement system is highly dependent on how effective their incentives are communicated. The fact that DRGs provide a good clinical description of a patient’s care has been central to the success of Maryland’s hospital payment system. Finally, the simple categorical nature of DRGs creates a nomenclature that links the clinical and financial aspects of care for physicians and managers and allows for more effective responses to established financial and other incentives in the system.

Bibliography


