

*Methods of Hospital Financing and How  
Hospital Financing May Affect Equity and  
Efficiency*

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## ***INTRODUCTION***

Aaron Wildavsky's Law of Medical Money can be paraphrased to: 'medical costs will rise to equal the sum of all available funds'. Western Europe, Canada, and the United States have been estimated to spend between 5 and 16 percent of gross national product on health care.<sup>1</sup> Of these, hospital services are the most expensive part of health care services.<sup>2</sup>

Funding for hospital services evolved from social assistance and charity welfare law. Hospitals in countries such as Britain, Norway, Poland, Sweden, France, and Switzerland, were first established by charitable institutions and were almost exclusively originally utilised by travellers, the military, or those who could not afford to have home visiting medical assistance. Mostly beginning from the mid-nineteenth century, hospital services gradually began to be regarded as a public service to be provided for the entire community. Since it was understood that many patients would not be able to pay for these services, governments – provincial and federal – as well as the private sector, began to make separate provisions to fund hospitals and their staff.<sup>3</sup> These facts are significant because it both demonstrates a historical commitment to hospital services planning in these countries, national beliefs in extending universal access to health care, as well as an interest in mechanisms for how services should be funded.

In the late twentieth century, health care became a political priority for the United States and most countries of the European Union. Worldwide, health care spending has risen from approximately 3 percent in 1948 to 7.9 percent in 1997<sup>4</sup>, with no apparent intrinsic

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<sup>1</sup> Aas, I. H., "Incentives and financing methods," *Health Policy* **34** (1995), p. 205.

<sup>2</sup> Abel-Smith, B. (1994) *An Introduction to Health: Policy, Planning and Financing* p. 134.

<sup>3</sup> Abel-Smith, B. (1994) *An Introduction to Health: Policy, Planning and Financing* p. 65-68.

<sup>4</sup> "Who Pays for Health Services," *The World Health Report 2000 - Health Systems: Improving Performance*, Geneva: WHO, June 2000, p. 95.

mechanisms to stabilise costs. Proof that healthcare cost containment is an occupying issue globally, international non-government organisations are also engaged in encouraging both developing and developed countries to seek cost containment of health expenditure to improve equity of access and financial risk protection of nations and individuals.

In June 2000, the World Health Organization released *The World Health Report 2000*, a ranking of country health systems by measures of ‘goodness’ (quality of services) and ‘fairness’ (equity of services). The report emphasised that countries develop healthcare financing methods “that ensure that people are not denied access to care because they cannot afford it,” as well as strategic purchasing to improve health system outcomes and responsiveness.<sup>5</sup> If patient satisfaction is indeed of interest to a system’s payers, then the method of payment must be considered carefully. Providers of hospital services, as are service providers in other industries, are subject to financial incentives, and “the system of paying providers has a major influence on the cost of services and also on the attitudes of providers to users.”<sup>6</sup>

Methods of paying hospitals may be retrospective or prospective or a mixture of these. Methods generally assume one of three forms. Financing may be accomplished by macroeconomic measures such as a fixed global hospital budget, or microeconomic intervention such as per-case reimbursement, or, a hybrid of these two methods. This paper will discuss which measures of paying for hospital services have contributed most significantly to containing health care costs and if that method of cost containment adversely affects efficiency, equity, responsiveness and choice for health services.

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<sup>5</sup> “Who Pays for Health Services,” *The World Health Report 2000 - Health Systems: Improving Performance*, Geneva: WHO, June 2000, p. 93.

<sup>6</sup> Abel-Smith, B. (1994) *An Introduction to Health: Policy, Planning and Financing* p. 191.

## ***METHODS OF PAYING FOR HOSPITAL SERVICES***

Remuneration for hospital services can be described as following two general themes: allowing the money to follow the patients, or encouraging the patients to follow the money. Both have implications for demand for, and satisfaction with, health services.

### ***Global budgets***

In global budget schemes, the patients follow the money. Global budgets act as expenditure ceilings and usually fall into one of two classifications: 1) forecasts estimated by evaluating historical spending patterns and incorporating adjustments for inflation, or 2) capitation plans. Under global budget circumstances, hospital managers are given a set amount of funds with which to pay for patient expenses, medical staff salaries, and hospital technology. Costs exceeding the global budget are not ordinarily reimbursed to the hospital, and hospital managers are incentivized to contain hospital costs within the parameters of the hospital budget.

System financing for global budgets may be sourced from state taxation schemes, compulsory social insurance schemes, or non-governmental organisation donations. Generally speaking, limited and/or target global budgets are “particularly effective” at controlling costs<sup>7</sup>, but are not necessarily allocatively or technically efficient. Global budgets may not be *technically* efficient particularly in state taxation-funded schemes because there may be productive inefficiencies – especially if provider services are salary compensated and the financial reward for increasing individual worker productivity is perceived as limited. On a system level, although administrative costs are low, low services productivity may be encouraged by a lack of competition for services under state financing. Conversely, under

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<sup>7</sup> Abel-Smith, B., Mossialos, E., “Cost containment and health care reform: a study of the European Union,” *Health Policy* **28** (1994), p. 90.

schemes that are financed by compulsory social insurance, productive inefficiencies may result from the overprovision of services as there is generally little enforcement of budget restrictions.<sup>8</sup>

In global/target budget schemes where the budget is established by historical review of costs, hospital managers are incentivised to consume the entirety of the budget to avoid finance reductions for the following year – a ‘use it or lose it’ form of budget management. Hospital services may also gradually become centralised. There may be incentives for managers to close hospitals that do not operate within budget distributions and, if the budget is financed via local taxes, as in Denmark, there may be little incentive for hospitals to accept patients from outside of its provincial revenue area.<sup>9</sup> State-financed global budget systems may not be considered equitable because they may result in undertreatment for some patients and the over provision of services for others.

Additionally, global budgeting may adversely affect *allocative* efficiency by inadvertently encouraging patient waiting lists for services. Because hospital stays may be more expensive in the first few days of treatment than in the last few days, physicians may be tempted to retain patients longer than is necessary for treatment. As hospital beds remain occupied, it may mean that other patients have to wait for their health care services. Short waiting periods have been associated with higher system costs overall by encouraging the use of hospital services, so hospital system processes inadvertently adapt to contribute to waiting times.<sup>10</sup> All of these potential factors mean that these types of global budgets may have negative implications for both patient satisfaction and responsiveness to consumer preferences.

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<sup>8</sup> LeGrand, J. “Health Systems,” lecture November 14, 2000.

<sup>9</sup> Abel-Smith, B., Mossialos, E., “Cost containment and health care reform: a study of the European Union,” *Health Policy* **28** (1994), p. 100.

<sup>10</sup> Abel-Smith, B. (1994) An Introduction to Health: Policy, Planning and Financing p. 199.

Global budgets may also be organised under capitation plans. Capitation-structured global budgets provide the majority of hospital services in Greece, Denmark, France, Ireland, and the UK.<sup>11,12</sup> In capitation schemes, providers receive periodic fee payments based on the number of subscribers, regardless of the level of use by the members of those services. The monies are usually distributed on a monthly or per annum basis and may be based on geographic population estimates, historical references, or actual registries. Supplemental budget adjustments may occasionally need to be made to compensate for disproportionate distributions of the elderly or the chronically ill that might exceed the average per member estimate of compensation, but otherwise the administration of capitation plans is usually uncomplicated.

Capitation modelling of global budgets can enhance or detract from the efficiency of global budgets. When capitation is technically *efficient*, providers respond with fiscal responsibility to deliver care to the maximum number of subscribers within the means of the budget and the available human resources. Providers may also be allowed to retain excess funds. This gives a financial incentive for providers to manage the inputs for the delivery of services and a *disincentive* to provide excess services. But these incentives may also motivate providers to deliver “the lowest level of care possible,” and lead to ‘undertreatment,’ or the “underutilization of health care.”<sup>13</sup> Under these circumstances, capitation arrangements may not be responsive to consumer preferences, and are not likely to be considered allocatively efficient.

### ***Per-case reimbursement***

Per-case reimbursement schemes may also be retrospective or prospective. Under fee-for-service schemes, money for the hospital services follows the patients. Charges are assessed

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<sup>11</sup> Abel-Smith, B., Mossialos, E., “Cost containment and health care reform: a study of the European Union,” *Health Policy* **28** (1994), p. 92.

<sup>12</sup> Kanavos, P., “Paying Hospitals,” lecture November 22, 2000.

<sup>13</sup> Aas, I. H., “Incentives and financing methods,” *Health Policy* **34** (1995), p. 207-208.

for hospital services based on the services consumed during the visit and are generally summarised when a hospital stay is concluded (i.e., “fee-per-item”)<sup>14</sup>. This type of payment for health services exists in various social insurance forms in Belgium, France, Germany, and Luxembourg.<sup>15</sup> In the United States fee-for-service exists primarily as private insurance.

Fee-for-service schemes provide financial incentives to encourage provider productivity via increasing the use of hospital services, but are generally not considered efficient in terms of cost containment. Hospitals have little incentive to control costs unless there are negotiated capitations on the level of reimbursement. Hospitals may be incentivised to overtreat patients and/or experiment with investigative drug and expensive technology prescribing practices “as long as this can be delivered profitably to the patients.”<sup>16</sup> Obviously though, this permissiveness is likely to have benefits to patients in terms of responsiveness and choice. Since hospitals do not usually have incentives to avoid patients who either consume a lot of services (e.g., trauma patients or the terminally ill), or frequently consume services (e.g., the elderly or chronically ill patients), under fee-for-service schemes hospitals are likely to be responsive to patient needs and physician treatment preferences.

In per diem situations, hospital charges are incorporated into a prospectively determined standardised allotment. Health maintenance organisations in the United States often employ per diem allotments for hospital services. While inefficient hospitals may have incentives to institute corrective measures, per diem schemes may actually adversely affect efficiency for otherwise fiscally responsible hospitals by encouraging the use of hospital services.

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<sup>14</sup> Aas, I. H., “Incentives and financing methods,” *Health Policy* **34** (1995), p. 210.

<sup>15</sup> Abel-Smith, B., Mossialos, E., “Cost containment and health care reform: a study of the European Union,” *Health Policy* **28** (1994), p. 92.

<sup>16</sup> Aas, I. H., “Incentives and financing methods,” *Health Policy* **34** (1995), p. 210-213.

Higher cost first days of a hospital stay may be subsidised by the lower cost later days. Additionally, hospitals may be likely to admit some patients for services that could be conducted on an outpatient basis.<sup>17</sup> Other problems inherent in the application of this scheme include that, 1) there are no ‘average’ patients, and 2) case-mixes may vary considerably between hospitals (i.e., trauma centers vs. ambulatory care hospitals).

A fully prospective per-case reimbursement system might involve the utilization of payment by diagnostic-related-group, or ‘DRG’. DRGs are prospectively determined bundles of services characterized to treat similar illnesses, and then assigned a lump sum compensation. This reimbursement model was developed in the United States, initially for Medicare patients (a type of social insurance for the elderly), to encourage cost-containment and to standardise care for analogous diagnoses.

DRGs have been successful in improving efficiencies and containing costs in several ways. Studies of DRG systems have demonstrated that the quality of medical care improves with the application of DRG systems by establishing a minimum routine level of medical care. Since the standard of care per episode of illness is pre-determined, hospitals should be encouraged to improve technical efficiencies of services for admitted patients. Reimbursement rates are predictable and there is no strong incentive to lengthen hospital stays. DRGs are not always efficient at controlling costs though and there are disadvantages to patient and provider satisfaction. DRGs may not control total health system costs because they are administratively cumbersome.<sup>18</sup> DRG systems require quite complicated coding, and administration costs are known to rise over time.<sup>19</sup> Although providers are not directly induced to avoid costly patients, since expenditures are predictable according to diagnosis, physicians may in fact be

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<sup>17</sup> Aas, I. H., “Incentives and financing methods,” *Health Policy* **34** (1995), p. 209-210.

<sup>18</sup> Aas, I. H., “Incentives and financing methods,” *Health Policy* **34** (1995), p. 211.

<sup>19</sup> Kanavos, P., “Paying Hospitals,” lecture November 22, 2000.



inadvertently encouraged to apply the most severe diagnosis possible to ensure the maximum level of repayment (“DRG creep”). It may be difficult to define the end of one episode and the beginning of another, and there may also be tendencies for some physicians to discharge patients early, which may, in turn, cause high hospital re-admittance rates.<sup>20</sup> Finally, the responsiveness to patient needs with per diem remuneration may also vary based on provider perceptions of the fairness of the rates of compensation.

### *Some hybrid combinations...*

Hybrid combinations of global budget-setting and per-case reimbursement mechanisms may approach greater levels of patient satisfaction and fiscal efficiency than either single option. For example, capitation combined with fee-for-service payments allows for system responsiveness to the patient’s choice of treatment, while providing some protection for tendencies for overtreatment.<sup>21</sup> Norway has combined per-case reimbursement with global budgets for health care. For this hybrid, the majority of the financing (60 to 70 percent) is provided via a global budget which should cover all fixed hospital costs. The remaining financing provides incentive for increasing productivity, via the increased utilisation of services within the budget.<sup>22</sup>

### *SOME CONCLUSIONS*

Worldwide, national expenditures for health care have been rising since the 1970s, and at times at a greater rate than national GDPs.<sup>23</sup>

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<sup>20</sup> Aas, I. H., “Incentives and financing methods,” *Health Policy* **34** (1995), p. 211.

<sup>21</sup> Aas, I. H., “Incentives and financing methods,” *Health Policy* **34** (1995), p. 212.

<sup>22</sup> Aas, I. H., “Incentives and financing methods,” *Health Policy* **34** (1995), p. 212.

<sup>23</sup> Abel-Smith, B., Mossialos, E., “Cost containment and health care reform: a study of the European Union,” *Health Policy* **28** (1994), p. 89.

Macroeconomic measures, such as global budget setting, have demonstrated cost-containment, but some inadvertent unwanted implications may also result. Technical considerations include the potential for productivity to be affected by the provider's perception of the fairness of compensation, or there may be lowered incentives for relatively responsible hospitals to increase or maintain their efficiency – particularly if there are little consequences. Allocative efficiencies may be adversely affected by low patient choice and lowered physician autonomy. There may also be issues with health care equity as an outcome of both types of inefficiencies. Microeconomic measures developed to contain costs such as DRG systems may score highly on scales of patient choice of treatment and provider as well as physician autonomy, but they may do little to contain health care costs and needless services or overtreatment.

All methods of studied health care systems have positive and negative implications for equity and quality. Although little is known about the possible health impact of financing options on patients,<sup>24</sup> commitment to the concept of a universal right to basic health care for citizens, coupled with the need for the containment of spiralling health care costs, have provided strong incentives for many Western and industrialised nations to explore a variety of health care financing options and study their implications. The ultimate goal of all nations is to achieve the best attainable mix of actions to improve health and satisfy community expectations.<sup>25</sup>

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<sup>24</sup> Aas, I. H., "Incentives and financing methods," *Health Policy* **34** (1995), p. 216.

<sup>25</sup> "Who Pays for Health Services," *The World Health Report 2000 - Health Systems: Improving Performance*, Geneva: WHO, June 2000, p. 113.