The eternal quest of paying properly for healthcare

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This editorial refers to ‘Acute myocardial infarction and diagnosis-related groups: patient classification and hospital reimbursement in 11 European countries1, by W. Quentin et al., on page 1972

Probably since the first time one human being sought to improve the health status of another, in return for a material reward, there has been head scratching over how best to compensate the would-be-healer and how much. The fascinating paper by Quentin et al. on drug-related groups (DRGs) for acute myocardial infarctions in 11 European countries continues the quest.

The most famous formal expression of concern over paying for healthcare goes back close to 4 millennia, to the Code of Hammurabi promulgated by the Babylonian King Hammurabi’s sometime sometime around 1700 BC. It sets forth a rudimentary malpractice code and a fee schedule for physicians—with fees varying according to the socio-economic status of the patient (see codes 215–225 in the Code of Hammurabi). That feature, incidentally, survives to this day in the USA, where hospital and physician fees for patients covered by the government-run Medicaid programme for the poor are significantly lower than those for the government’s Medicare programme for the elderly of all socio-economic strata and for commercially insured patients, just as they were lower for patients of lower socio-economic status in ancient Babylonia.

Luke 8:43 of the New Testament reports on ‘a woman having an issue of blood twelve years, which had spent all her living upon physicians, neither could be healed of any.’ There is a hint in the language that something was wrong here with how much money physicians extracted from society.

In his Wealth of Nations, however, Adam Smith leans toward the medieval doctrine of just price to defend high physician incomes when he writes on the appropriate level of payment for physician services (albeit not on the method of payment):

“We trust our health to the physician; our fortune and sometimes our life and reputation to the lawyer and attorney. Such confidence could not safely be reposed in people of a very mean or low condition. Their reward must be such, therefore, as may give them that rank in society which so important a trust requires.”

The fee-for-service method of paying providers of healthcare—especially physicians—comes under the gun in Irish playwright George Bernard Shaw’s Preface on Doctors’ to his The Doctor’s Dilemma, where he opines:

“It is not the fault of our doctors that the medical service of the community, as at present provided for, is a murderous absurdity. That any sane nation, having observed that you could provide for the supply of bread by giving bakers a pecuniary interest in baking for you, should go on to give a surgeon a pecuniary interest in cutting off your leg, is enough to make one despair of political humanity. But that is precisely what we have done.”

These misgivings over the way societies pay for healthcare continued throughout the 20th century and, to this day, students of healthcare and health policy-makers have searched, in vain so far, for the ideal way to make those payments. Figure 1 presents the major approaches that could be used in modern times to pay the providers of healthcare for their services.

The columns in Figure 1 represent alternative bases for whose units prices could be established. The letters are just cell designations. For example, Cell A describes the American fee-for-service system in the private insurance sector, and Cell D the payment system for the hospitals of the federal Medicare programme for the elderly.

As we move from the left to the right of the matrix, these base units become ever higher aggregates of what the providers of healthcare actually deliver to patients. The extremes are fee-for-service (alias piece-rate compensation) at one end of the spectrum and budgeted or salaried practice on the other.

Fee-for-service payment provides a close link between effort and reward. Furthermore, it affords payers high transparency on what the providers of healthcare have done for patients, or have claimed to have done. These are two advantages of the method. It is generally suspected, however, to lead to overserving of patients, just as the other extreme, salaries and facilities budgets, is thought to lead to underserving the patient, unless there is strict external monitoring of the quantity and quality of care rendered.

The best compromise between these two extrema is now thought to be the middle two columns, i.e. bundled payments.
for time-limited episodes of clinical care (EoCs) or, for chronically ill patients with multiple conditions, risk-adjusted annual capitation payments, both coupled with close external monitoring of the quality of care delivered. The DRGs studied by Quentin et al. are, of course, partially bundled payments, albeit mainly for hospital care. The current ambition is to extend the bundling of services into one payment for all of the services going into the treatment of acute, time-limited EoCs.

The rows in Figure 1 describe alternatives algorithms for determining the price per unit of whatever base is used to make payment. The first row describes private health insurance in the USA, which accounts for slightly more than one-third of national US spending on personal healthcare. Here prices are negotiated annually between the individual insurer and the individual provider of healthcare, in a manner that Europeans might find bizarre. The result is a highly price-discriminatory scheme, cloaked in secrecy. Prices for an identical procedure within the same state can vary by a factor of 10 for reasons no one has been able to link to either quality or even resource intensity.

Table 1, taken from Chapter 6 entitled ‘Hospital Economics 101’ of a 2008 New Jersey State commission on hospital resources, illustrates this point for the West Coast state of California. Table 2 presents prices paid by one large private insurer in the East Coast state of New Jersey for a standard colonoscopy.

Anyone interested in hospital economics in the USA may find the entire Chapter 6 interesting. Indeed, the full report may be an interesting read for foreigners. It may persuade Europeans that, for all of the variances in hospital pricing practices identified in the paper by Quentin et al., the chaos in US hospital economics and pricing far exceeds anything most Europeans could even imagine.

The second row in Figure 1 presents the kind of fee setting common in some European social insurance systems, notably Germany and Switzerland. In the US they are called ‘all-payer systems’.

Finally, the third row, administered prices set by central government, are used in the US for the federal, government-run

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**Figure 1** Alternative payment systems for healthcare.

**Table 1** Payments by one California insurer to various hospitals, 2007 (wage adjusted)

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Appendectomya</th>
<th>CABGb</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>$1800</td>
<td>$33 000</td>
</tr>
<tr>
<td>B</td>
<td>$2900</td>
<td>$54 600</td>
</tr>
<tr>
<td>C</td>
<td>$4700</td>
<td>$64 500</td>
</tr>
<tr>
<td>D</td>
<td>$9500</td>
<td>$72 300</td>
</tr>
<tr>
<td>E</td>
<td>$13 700</td>
<td>$99 800</td>
</tr>
</tbody>
</table>

*aCost per case (DRG 167).
*CABG: Coronary Bypass with Cardiac Catheterization (DRG 107); tertiary hospitals only.

**Table 2** Minimum and maximum payments made by a large New Jersey health insurer for colonoscopies performed in hospitals or ambulatory surgery centers, 2007

<table>
<thead>
<tr>
<th></th>
<th>Cost per colonoscopy</th>
<th>In-network minimum to maximum range</th>
</tr>
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<tbody>
<tr>
<td>Physician</td>
<td>$178 to $431</td>
<td></td>
</tr>
<tr>
<td>Hospital</td>
<td>$716 to $3717</td>
<td></td>
</tr>
<tr>
<td>ASC</td>
<td>$443 to $1395</td>
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Medicare programme for Americans aged 65 and older. That programme uses for physicians a so-called resource-based fee-for-service fee schedule with fees set for some 9000 items by the federal government, but with input from the medical profession. For hospitals, Medicare has long used the DRG system for inpatient hospital, which was originally developed on the basis of research funded by Medicare and has since been adopted around the world, as illustrated in the paper of Quentin et al.

Two ironies too delicious to gloss over may be noted in this connection with the US DRGs. First, although Americans firmly believe that government never innovates, it in fact was the US federal government that actually functioned as arguably the most profound innovator in methods of paying hospitals. Secondly, the administratively set US DRG prices resemble nothing so much as Soviet-style pricing. However, it was introduced into the US in 1983 by none other than the self-professed free-market devotee President Ronald Reagan, who deemed it superior to the retrospective, full-cost reimbursement of hospitals previously used by Medicare to pay for hospital care.

The paper by Quentin et al. makes fascinating reading for an American health policy researcher. One must, for starters, congratulate the authors for the energy and the sophistication they have brought to the challenge posed them by the ambitious EuroDRG project. The research is timely and will be of use to policy analysts and policy-makers beyond Europe, because, as noted, ‘bundled payments’ now has become the battle cry in universal efforts to bend down the projected trends of future health spending and, at the same time, to enhance the quality and cost-effectiveness of modern healthcare.

The legions now joining that battle often do not seem to appreciate the sheer complexity of any effort to condense the myriad clinical ministrations that occur daily in healthcare into a discrete and limited number of clinical episodes triggered by the myriad complaints patients bring to the healthcare sector. That DRGs have by now been successfully used in so many settings must be scored as a major victory for health services research. As noted above, the next phase in that research will be the full integration of ambulatory and other care going into the treatment of defined clinical conditions, an equally taxing challenge. A good feel for the nature of the challenge can be had by browsing through all of the sections in the tab ‘Bundled Payments’ of the website13 of the US-based Health Care Incentives Improvement Institute. Most other countries undoubtedly have similar efforts underway.

Should one be surprised or perhaps dismayed that Quentin et al. found sizeable differences in the way well-specified EoCs are mapped into DRGs in the various countries they studied, in the overall number of DRGs, i.e. the granularity of the DRG systems used in these countries, in the assignments of cases—here particular acute myocardial infarction cases—to particular DRGs and, related to these assignments, in the estimated prices per EoC—they call them ‘quasi-prices’?

This author is neither surprised nor dismayed by the findings. One would have expected them.

First and foremost, in most of these countries, the introduction of DRGs is relatively recent. It takes time for such a system to work well throughout an entire health system.

Secondly, as the French might put it, ‘le DRG, c’est une chose vivante’. Because best clinical practices change so quickly as a result of learning by doing and of technological innovation in modern healthcare, the DRG weights need to be constantly reviewed and recalibrated. That recalibration has not and may not in the future take place in lock step across Europe, unless a binding pan-European DRG system can be imposed on the various countries. For that reason alone, DRG weights and the associated prices might vary across Europe.

Thirdly, as the authors note in their paper, there are legitimate reasons why practice styles vary across nations. These differences may be rooted in medical education and training and in the availability of resources supporting cardiologists. In the USA, for example, the average length of stay in hospitals varies with the patient’s socio-economic status. Physicians cannot just discharge a low-income patient into a residence that cannot support proper convalescence. Higher income patients usually can be discharged more quickly. There are also well-known cultural differences in the way illness is viewed and, sometimes, how it is diagnosed.14

However, fourthly, it is precisely the kind of research published here that can help bring greater convergence and harmonization of DRG definitions and coding practices across European nations. It is often not sufficiently appreciated that merely presenting to conscientious clinicians and hospital executives data on variances in their practice styles will trigger among them efforts to learn from others. One would imagine, for example, that clinicians, hospital executives, and policy-makers in Ireland will spend a good few moments contemplating the information conveyed by table 4 of Quentin et al.

Finally, it can be asked why busy cardiologists should take time from their work to pore over this paper. Clearly, they should ponder it like Talmudic scholars, because the method by which they and their facilities are paid, the way their work is coded, and, therefore, how and how much they are financially rewarded for their work directly defines their work environment and lifestyle. It also puts a boundary on the quality of the care they can render their patients.

Relative DRG weights for particular procedures that deviate from the actual relative cost of the procedure create profit or loss margins that can in subtle ways influence treatment decisions away from best practices or at least how treatments are coded. In the USA, for example, it was long alleged that the DRG weights assigned excessive profit margins to certain cardiac procedures which then triggered an exodus of cardiac physicians from hospitals to their own, physician-owned cardiac specialty hospitals. In response, the Medicare did recalibrate the DRG weights for these and yet many other procedures outside of cardiac care. Physicians should and in the USA do have occasion to make inputs into the recalibrations process.15

Cardiologists, in this case, and physicians of all specialties have the greatest stake in the policies flowing from the ambitious EuroDRG project. Furthermore, they do have much technical knowledge and practical experience to contribute to the project’s success.
Conflict of interest: U.E.R. serves on the Board of Directors of Boston Scientific, Inc. which makes devices for heart ailments. He also serves as a Trustee of two related closed-end biotech funds, H&Q Life Sciences, and H&Q Health Care. All other boards are non-profit.

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