Casemix Funding for Acute Hospital Care in Victoria, Australia

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Introduction

Victoria was the first State in Australia to introduce casemix funding for all public hospitals. It has continued to be recognised as the leading Australian practitioner of casemix management of health care. The Victorian Department of Human Services introduced the casemix funding system on 1 July 1993 while managing significant funding cuts to the health budget.

Prior to this, public hospitals in Victoria were funded on a historical basis and subject to detailed input controls. Moving from historical to casemix funding has enabled hospitals to make more informed decisions on the best and most appropriate use of their resources. Casemix funding encourages more efficient patient treatment, and recognises the costs associated with different procedures.

The casemix funding system for acute health services continues to be refined and monitored. This ensures that acute health remains a vital and dynamic sector providing carefully targeted services. Recently, new casemix applications have been introduced to support rehabilitation patients and ambulatory services for all major hospitals and will soon cover the whole episode of care and incentives for better care after hospital.

This article sets out the background to casemix and related output based hospital funding and describes how current service purchasing for acute care works in the State of Victoria, Australia.

The Department of Human Services' Acute Health program managed outlays of around AUD $4 billion in 2000/01 which 70% was expended in casemix payments for hospital inpatient services. These services involved in excess of 1.2 million patient separations in 2000/2001 There are around 90 acute health casemix funded hospitals in Victoria.

The Concept of Diagnosis Related Groups (DRGs)

When a patient is discharged from hospital, their diagnosis, and the care they have received, is recorded as in the form of a principal diagnosis (which may include a specific procedure) and, as well, any secondary diagnosis(es) or complications.

This diagnostic recording is governed by the International Classification of Diseases (ICD). The ICD system is universal, but not static. It is constantly modified, with the most significant recent change being the introduction of its 10th iteration ICD-10. There are currently around 15,000 possible JCD-l0 principal diagnoses, so, with secondary diagnoses and complications, the number of patient-specific diagnostic permutations is enormous.

Diagnostic recording was established as an epidemiological tool, to allow health systems to understand the nature of acute hospital care. Its complexity, however, limited its usefulness.

In the late 1970s, Professor Robert Fetter, of Yale University, developed the concept of Diagnosis Related Groups (DRS) to simplify the complexity of patient specific diagnoses, by grouping similar diagnostic categories into clinically meaningful diagnostic clusters, where resource use was also similar.

US authorities quickly perceived the potential value of DRG as a payment tool. Thus, in 1980, the New Jersey State introduced the first casemix funding system. Other systems moved, at first slowly, but subsequently much more rapidly, so that, today, casemix is becoming the standard inpatient funding mechanism across the globe.

There are three rules for a competent DRG system. These are that:

- each DRG must be clinically meaningful - that is that the diagnostic clusters must be accepted by clinicians;
- each DRG must be resource homogeneous - that is that the type of resources used, and their amount, should on average be the same for each episode of care within the DRG; and
- within each DRG, the specific diagnostic episodes should "map" to that DRG alone, and not to multiple possible DRGs.

There are complex coding rules and audit procedures, which ensure that these fundamental rules are followed. They rest, however, on the underlying ICD system and the DRG profile in use in each system.

The DRG profile varies from health system to health system. For example there are many hospitals treatments categorised as inpatient events in Australia, which in other countries would be "office-based procedures". There are currently around 760 DRGs (VIC-DRGs) in use in Victoria, which, while consistent with Australian National DRGs (AN-DRGs) vary according to local practice. VIC-DRGs are constantly reviewed as are AN-DRGs, which have strong Victorian input. Most importantly, both AN-DRGs and VIC-DRGs are reviewed each year by clinician panels

The Victorian Casemix Funding System

The overall aim of casemix funding was to enhance and expand the hospital system in Victoria through a process that was free from centralised bureaucratic control, engendered competition and economic incentives for hospitals, and rewarded efficiency and growth in services while at the same time guarded quality. Turning DRGs into casemix funding works as follows:

- as soon as possible after discharge, the diagnosis(es) for each patient is recorded according to ICD-l0. The patient-specific information is then coded to a DRG;
- each DRG has a particular "weighting" set around a notional value of 1. The weighting is derived through annual costing studies which compare, in participating hospitals, the relative resource consumption of each DRG against all others. Intra-hospital costing systems are fundamental to casemix. While they vary between

hospitals, the relativity in resource consumption for each DRG within each hospital produces a reliable weighting, or index series;

- the aggregate number of DRGs in any time period, multiplied by the weighting of each, results in a number called a weighted separation (a separation is a discharged patient event);
- because DRGs are resource homogeneous on average, the system recognises outliers, when the length of stay is abnormally long, or abnormally short - according to agreed statistical parameters. Short stay outliers receive a reduced payment and long stay outliers an increased payment. These payments can be converted into the equivalent of DRG weights. This conversion, initially unique to Victoria, collapses all DRG payments into a single number - the Weighted Inlier Equivalent Separation, or WIES;
- WIES are then multiplied by the price (set annually for each grouping of similar hospitals) per unit of WIES (the price paid for a notional DRG with a weighting of 1) to determine the funding available within any time period.

So, for example, a simple endoscopy with weight 0.3, multiplied by current unit WIES price of around $2,400 results in funding of $720. A liver transplant with weight 40, results in funding of $96,000.

The Victorian casemix funding system is deliberately clinically neutral. That is, the price paid for each inpatient episode is determined solely by the relative weight of the relevant DRG, and the unit WIES price. Clinical neutrality was a touchstone for clinical acceptance of casemix, and remains paramount for clinicians.

The system for inpatient payments, therefore, is highly complex - or sophisticated - but has the net effect of reducing an incomprehensibly complex set of patient-specific episodes of care into a relatively reliable and predictable payment and communication structure.

Current Purchasing Arrangements for Acute Care In Victoria, Australia

The term "purchasing" is something of a misnomer as it implies specified price and volume arrangements for particular service types. In fact, casemix and related output funding approaches are designed only to achieve uniformity of price and improvement in technical efficiency (as desired from time to time). They are, in reality, a mechanism to relate funds to the outputs of care and to improve accountability, rather than to purchase services on behalf of particular clients of the health care system.

A fundamental feature of current arrangements is subsidarity. The principle of subsidarity means that the services provided to any given individual should be decided as close as possible to the interface between that individual and their carer. In other words, the choice of clinical care is dictated by local consideration, with casemix entirely neutral about the relative price advantage or disadvantage of particular forms of care.

Hospitals, in the context of a capped annual acute health budget, are provided with capped annual budgets. These capped annual budgets are broken down into streams of care funding for the different components of casemix, other acute outward funding systems, subacute, mental health, etc. Thus in the case of inpatient casemix a hospital knows in advance the total number of WIES it will have available in a year and must

undertake planning, to the best of its ability, but with no capacity for additional funding in the event of budget overrun.

The amount of money provided, and the price paid for any given component, will depend on a complex set of considerations which ultimately boil down to the level of total resource available, required savings, additional funding in the form of wage growth, funding for specific initiatives and/or general growth, etc.

Variation of individual hospital or network total funding is based on the historical allocation of resource; any planned growth or reduction due to initiatives; the level of available resources; and whether the hospital is in an area with lower or higher than average age, sex and socio-economic adjusted population utilisation of hospital services.

The system does not provide resources such that a given hospital has a defined population and provides all services to that population. In broad, community hospitals are expected to obtain levels of 65% and 75% self sufficiency, but can not be expected to be fully self sufficient in all services - for example there are obvious needs for referral to specialists and other treatment services.

Patient choice is also a fundamental feature of the public hospital system and that choice is exercised, particularly in relation to specialist care. Therefore while hospitals and networks continually argue for increased resource on the basis of the population that they serve, a more appropriate and robust comparator is whether the people in a defined population are receiving an equivalent range and level of services as those in any other defined area.

It should be noted, that, while the principle of subsidarity operates at the individual patient/carer level the system is not laissez-faire. Budget caps and the need to ensure that emergency and urgent care is always provided dictates a series of planning measures at hospital, network and whole of system level. In addition the system utilises capital and recurrent resource restrictions to ensure that duplication, particularly of highly expensive high technology care, is minimised. Finally there are specific price signals, such as through bonus and penalty arrangements, which encourage desired policy outcomes - such as meeting emergency and elective surgical waiting time targets.

Conclusion

Casemix is *not* a health policy in its own right. It is a benchmark pricing system designed to ensure that the same price is paid for the same work by like hospitals - no matter where it is undertaken (within planning parameters). It emphasises technical (cost) efficiency and, to this end, has been instrumental in transforming Victoria's hospital system from arguably Australia's least efficient, to a highest level of efficiency.

Casemix has in the eyes of some, particularly treasury officials, encouraged the view that health care financing, and management of the hospital system, is simple, if not easy. The sophistication of the concept of WIES (as previously described, an abstract derivative number) has led some elements of central government to the view that, not just casemix, but WIES alone, can be used to determine health policy. While cognisant of other parameters, there is a danger that WIES can be disproportionately focussed upon as the only measure of hospital performance.

In fact WIES, indeed casemix applies to only two-thirds of acute funding in Victoria. The remaining third (in context, almost $1 billion p.a.) goes to a variety of non-inpatient, or grant-based funding - where casemix is not appropriate, or adequate.

Finally, it needs to be observed that acute hospital care in Victoria, as indeed in the rest of Australia, is becoming more acute, and with less and less discretionary capacity, in a continuous manner. At the present moment, in adult general metropolitan public hospitals, approximately fifty percent of all admissions are emergency admissions. Of the remaining fifty percent, thirty percent are described as non discretionary, that is their diagnoses are such that the patients predictively would have to become emergency admissions within days or weeks if not admitted. This leaves approximately twenty percent of all admissions which can be said to have a discretionary element. The great majority of these patients are urgent and semi urgent elective surgical and medical patients. Thus genuine discretion in the current acute public hospital system is tiny. This is reflected in the nature of surgical waiting lists, as well as pressures on emergency and other admissions.

2000/2001 marks the eighth year of casemix funding in Victoria. The success of casemix funding since its introduction has been impressive and there have been ongoing improvements to established policies for inpatient and outpatient funding and refinements to major access and performance programs. Victoria is now recognised nationally and internationally as being at the forefront of output based hospital funding.