Alberta Health Services' Step-Wise Approach to Improving Allocative Efficiency in Health Care

Presentation

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by

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Thank you for this invitation to address this important conference. Obviously as an economist I am interested in how we allocate resources in conditions of scarcity. I am pleased to have the opportunity to talk to you about my thoughts on what might be an appropriate path forward for Alberta Health Services in this important area.

Economists have a lot to contribute towards understanding how to improve the efficiency of the health care system in terms of allocative, technical and dynamic efficiency.

Consideration of how to achieve allocative efficiency is core to the discipline of economics. This is not just a theoretical endeavour but has real meaning in terms of priority setting and the work of managers such as me. The work economists have undertaken in developing the techniques associated with allocative efficiency can help to assist managers and policy makers to ensure that there is an optimum allocation of resources within the health sector so that there is appropriate investment in prevention vs curative services, in cardiology vs orthopedics, in diabetes care vs social marketing. In general terms allocative efficiency can be defined as ensuring that there is an optimum allocation of resources so that the marginal dollar spent on any program yields the same level of marginal benefit as the last dollar spent in any other program.

Although there is sometimes a distinction made between allocative efficiency and technical efficiency; in fact, we cannot achieve allocative efficiency without also achieving technical efficiency. Unfortunately much of the focus of health economists in the English speaking world has been on further and further refinement of ways of measuring outcome and ways of undertaking economic evaluation to the relative neglect of pursuit of technical efficiency. As an aside, most of my academic work has been focused on technical efficiency and in particular the economics of hospital care. The good news for me, at least, is that there is considerable work to do on improving technical efficiency in Alberta and I will discuss that later in this presentation.

But allocative efficiency goes beyond technical efficiency to incorporate a focus on improving effectiveness. This combination of improving both technical efficiency and effectiveness can be most obviously demonstrated in a simple decomposition. Effectively allocative efficiency is concerned with the outcomes achieved per unit of input, and what you are about is evaluating the marginal benefit for the marginal investment or that the last unit of input yields better outcomes than investing that input elsewhere. But a simple decomposition shows that outcomes per unit of input is a function of inputs per unit of output and outcomes per unit of output. Of those two terms the first, inputs per unit of output, is the stuff of technical efficiency in the health sector, most commonly measured as cost per patient treated in acute care. Technical efficiency improves, for example, as cost per patient treatment goes down, and as technical efficiency improves so too does allocative efficiency.

Improvement in technical efficiency most obviously requires that you can measure the units of output and here the work done by Bob Fetter at Yale in the 1970s provided the theoretical underpinning to allow us to measure and improve technical efficiency across the world (Fetter et al 1991). Fetter's work, which led to the development of Diagnosis Related Groups as a way of measuring hospital activity, set the scene for the introduction in the United States of prospective payment for Medicare patients in 1983 and subsequently for the introduction of case mix budgeting or activity based funding internationally (Kimberly et al 1993, Kimberly et al 2008).

Australia, where I led the introduction of case mix funding in Victoria in 1993, was one of the earlier international adopters. There are significant differences between the design of activity based funding as we introduced it in Victoria and the scheme introduced in the United States. Most notably, we had to develop methods of budget capping because the funding allocated by parliament in Victoria was capped (Duckett 1995). It also required the development of ways of ensuring that we measured all the "products" of hospitals: inpatient activity, outpatient activity, teaching and research.

Introduction of activity based funding is designed to ensure that hospitals receive a fair allocation of funding from government sources. In the Albertan context, this would mean that Alberta Health Services would pay the same amount to its hospitals for undertaking an appendectomy at every hospital in the province. In turn, hospitals would be held to account to ensure that, over all their patients, service lines and other funded activity, they lived within their means. Simply put, that would mean that, on average, they would need to ensure that their costs for treating patients were no greater than the costs of other hospitals treating similar patients. Introduction of a system such as this would mean that arguments about overfunding, unfair treatment, favorites etc. would be wiped away and would also reduce the likelihood of service reductions as a budget strategy. Holding hospital Vice-Presidents to account through activity based funding would enable Alberta Health Services to measure their progress in improving the efficiency of the services for which they are responsible. In the way we could help to ensure the sustainability of Alberta health services.

Activity based funding would not only apply to acute hospital care but can also be applied to nursing homes and continuing care generally. It is important, of course, to ensure that at the same time as we pursue improvements in efficiency through activity based funding we also ensure that we focus on quality.

Earlier this month I announced a new organizational structure for Alberta Health Services. Within that structure we created a new organizational unit headed by a vice president responsible for activity based funding. The principal task of this unit will be to explore the feasibility of implementation of activity based funding in Alberta

Health Services. This will involve foundation work such as working with other groups such as finance, health information and reporting units to ensure consistency of financial allocation practices and of recording and coding of activity. It will also involve design of a Made-in Alberta, activity based funding and audit system, suitable for our context based on appropriate case mix measures such as CMG+ for acute care, RUGs III for continuing care and so on.

In a time of tight budgets, it is critical that we pursue all potential opportunities for efficiency improvement and reduce variation in efficiency across the province. It is therefore important that this consideration of the potential for activity based funding is completed relatively quickly so that we will be able to address efficiency variations by introduction of an activity based funding model for the 2010/2011 financial year.

I turn now to the issue of effectiveness, the second component in the decomposition of allocative efficiency. But first some context about policy levers. In essence we have three broad levers to effect policy change: financial incentives or market-based mechanisms, legal structures or organizational structure reform and culture change (Tuohy 1999). As an aside, economists mostly focus on the first of these, although those working within the tradition of the new institutional economics (such as Williamson 1975) have added a focus on the second.

There are a number of strategies to promote effectiveness which can be used and in terms of financial incentives, there has been some discussion in Alberta about delisting ineffective or unnecessary treatments. It is not my intention to stray into the political realm nor is it in Alberta Health Services' mandate and so I won't discuss that strategy.

Importantly though, there are a number of other ways that can be used to promote effectiveness, more based on the other two levers and it is on these that I want to concentrate today.

A key approach to improving effectiveness is to ensure that clinicians use what is known; that is that we, as managers and policy makers, promote application of the evidence into practice. Individual clinicians can't possibly keep up to date with the latest on every aspect of their practice without assistance. We need to strengthen the guidance we provide to our staff and physicians about what evidence-based best practice might involve.

As part of the organizational structure announcement earlier this month we identified that one of the key roles of corporate operational policy support units will be to develop and publish guidance about what we termed "Alberta Service Models". That is, we want to ensure that where best practice is known, where there is evidence about what works and how care should be provided, then we ought to ensure that this is applied and implemented systematically across the province. We

would thus develop, collaboratively with clinicians, agreed approaches to setting priorities and to treatment interventions that are appropriate for a patient's or client's particular circumstances. These Alberta Service Models would then be rolled out across the province.

Alberta Service Models could also be seen as a particular case of a general issue of strengthening care paths across the province, i.e. developing standard ways in which the "normal" patient would be treated. Of course we need to recognize that every patient is different and their circumstances, priorities, relative valuations of different types of treatment will vary. Thus, although we will develop/validate and publish standard care paths, we also need to recognize that this individual variation will lead to legitimate variation from the standard path.

Of course variation from the standard path needs to reflect and emphasize patient choice. Different patients will have different valuations of their fear of surgery, for example, and so they may place a different weight on whether surgical intervention is the most appropriate in their particular case vs watchful waiting or medical management of their condition. This valuation for an individual patient may also change over time.

So part of what we need to be on about, if we are to be true to developing a patient-focused health system, is to strengthen patients' abilities to make choices about their care. This in turn means we need to be more open with patients about what the likely outcomes are for different treatment pathways or different treatment choices. Ideally we would be able to say to patients that the experience in this particular hospital of a patient your age and condition for the treatment that you are about to undergo is this. This would, of course, require us to become more sophisticated in terms of our use of data and putting those data in the hands of clinicians, providing feedback to clinicians about the outcomes of their treatments and providing that information to patients in a timely and useful way. In this way patients would be much better informed and much better able to make their priority decisions and to progress appropriately along any particular care path. This individual focus will become more relevant with developments in individualized medicine stemming from genome research. As an aside, I think development of individualized medicine will present a real challenge to the contemporary paradigm of research including the large scale randomized controlled trial (RCT) and typical approaches to the application of cost effectiveness analysis in technology assessment. It will present a similar challenge to the "go – no go" approach involved in economic evaluations which rely on RCTs. Hence my inclination toward the more nuanced approaches possible with an emphasis on guidance to clinicians and support for patients to enhance their involvement in shared treatment decision making.

But of course in order to introduce a system such as I've just described where you provide localized information about outcomes, we need to be able to say what the

outcomes of care are. We need to be able to say to patients that we do indeed focus on measurement of outcomes of the kind which are meaningful to you.

It is important to note here that typically we provide a service which may not be described in the same way a patient would describe it. So a patient presents to us with joint pain, for example, and what we offer them is surgery. What is important to the patient is whether the joint pain is relieved, not particularly whether the surgery was technically perfect. So the measurement of outcomes needs to be undertaken not only in terms of how well a clinical procedure was performed but also in terms of how the patient assesses the value of their total experience, the surgery and the rehabilitation.

Patient assessed value and the skill and quality of clinical procedures are in fact two different dimensions of value, although often in my view inappropriately conflated (Duckett & Ward 2008). Thus it is important for us to develop further our ability to define outcome measures from a patient perspective, not simply the clinical outcome measures that we have routinely collected. The good news is that the technology to do this is improving and standardized measures, such as the SF12, are increasingly available to be used in this way.

Finally, and obviously in a conference such as this, I need to refer to technology assessment, key to promoting a third type of efficiency, dynamic efficiency. Despite the methodological challenge from genome research, technology assessment is an absolutely essential part of ensuring dynamic efficiency of the health care system. We need to ensure that technologies are appropriately evaluated prior to implementation or introduction into the health system. Clearly Alberta Health and Wellness has a key function in this regard as part of listing decisions and setting the fee schedule to remunerate physicians. But of course physicians are not the only ones who are involved in new technologies. There are clinical developments occurring within the purview of practically every health profession.

To some extent the technology assessment process might best be incorporated within and effected by the development of Alberta Service Models outlined above. But clearly Alberta Health Services must decide whether we wish to see new technologies proliferate across the province, or be focused in one or more of our specialized facilities. So it is important for Alberta Health Services to develop and strengthen its own technology assessment capacity. This would enable us to identify the real costs associated with new technologies against which we can evaluate the real benefits that may accrue. The potential to link the technology assessment process to Alberta Service Models significantly enhances the sophistication of our implementation process as it allows a more nuanced and tailored evaluation of the benefits of new technologies. Economists are well aware of the so-called law of diminishing marginal returns. In health care one way in which that plays out is that, for example, the yield from a new diagnostic test declines the wider the patient

group tested. An Alberta Service Model will allow us to move from "go – no go" type decisions to facilitate guidance to clinicians about the appropriate use of new technologies in specific groups of patients, at what stage of disease, how often etc. and for the guidance to be reassessed regularly as new evidence comes to hand.

The overall message of my talk today then, is that I do not want to see us put all of our eggs in one basket in terms of improving allocative efficiency across the province. We need to pursue different strategies including improving technical efficiency and improving effectiveness.

The simple summary message though is this: we need to recognize that the health system is changing, and changing rapidly. In our draft strategic plan we have identified access, quality and sustainability as key goals for the Alberta health care system. We can only achieve sustainability if we have appropriate mechanisms to promote allocative efficiency and I have sketched for you today a pragmatic, stepwise approach to achieving that within our organization.

Thank you.

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