Inform

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New Zealand Institute of Health Management Auckland Branch Newsletter

Should cost effectiveness be part of funding decisions?

In the United States, Medicare has begun paying for a major lung operation, costing about $US60,000, for some people 65 and over who have severe emphysema. The operation, lung volume reduction surgery, involves cutting away diseased parts of the lungs to help the remaining healthy tissue work better. Up to 30 percent of the lungs may be removed.

The Medicare cover is for two groups of patients: those who have severe emphysema in the upper lobes of their lungs, and those who have both severe disease elsewhere in the lungs and a poor ability to exercise. In addition, such patients would be checked to make sure they were not at high risk of dying from the surgery itself. Patients will also be required to undertake an extensive exercise and education program to improve lung function both before and after the surgery.

Two million Americans have emphysema, but only a small fraction - perhaps as few as 10,000, researchers say - would qualify for the surgery. The disease, which destroys the air sacs in the lungs, makes it increasingly harder to breathe. Smoking is nearly always the cause. Emphysema is incurable and it causes or contributes to 100,000 deaths a year in the United States. Caring for people with the disease costs more than $US2.5 billion a year.

The decision to begin covering the lung reduction surgery is based on the findings of a controversial government-sponsored study published in May in The New England Journal of Medicine. That study, called NETT, (National Emphysema Treatment Trial) found that in about 25 percent of participants, the operation improved both quality of life and length of survival. In others, it did not prolong life but did improve exercise capacity or overall quality of life. In another 30 percent, the operation was either too risky or simply did not help.

This decision, typical of many faced by health funders world wide, was this August the focus for a debate in the pages of the New York Times on the cost effectiveness of new treatments. Health economists and medical experts agreed that the LRS treatment, however alluring, is part of an unsettling trend of new and ever more expensive treatments for common medical conditions that are part and parcel of aging. While these procedures could potentially benefit tens of thousands of patients, the total cost would far exceed the available funding.

"If your parents had this condition, you would seek this operation for them," said Dr. Joel Cooper, a lung surgeon at Washington University in St. Louis who developed the operation. However, others say the NETT study indicated that its benefits are modest, at best. All agree that the patients are severely ill with no other options and that the operation is expensive. An analysis showed that patients who had the operation had medical bills averaging nearly $63,000 the first year, compared with $13,000 for similar patients who had not had it.

Complicating the LRS treatment issue is that other similarly expensive procedures are on the horizon or have recently been approved. For example, Medicare has also to decide on devices for patients with congestive heart failure, whose hearts are so damaged they can barely pump.

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The devices, known as L.V.A.D.'s, for left ventricular assist devices help failing hearts pump. Dr. Annetine Gelijins and Dr. Alan Moscowitz of Columbia University, who undertook an economic analysis, said they expected about 5,000 Medicare patients a year to get the devices at first, but that as many as 60,000 have heart damage so severe that they might need them. At $60,000 per device, and with an additional $150,000 in hospitalisation charges, the price for L.V.A.D.'s could range from $1.05 billion to $12.6 billion a year.

A recent clinical trial involving very sick people indicated that the devices were effective. But Dr. Alan Garber, a physician and economist at Stanford University, said the question was not whether they worked. "The big question is, in whom else does it work?" he said. "The people in the trial had extraordinarily severe congestive heart failure and were being kept alive in intensive care units. That's the tip of the iceberg in congestive heart failure."

"We seem to be getting new technologies that are effective for common conditions, like congestive heart failure and emphysema," he went on. "If you are talking about a treatment for a rare genetic disorder that affected 500 or even 1,000 patients a year it would not make much difference. But in the case of L.V.A.D.'s, or with lung volume reduction surgery, the potential number who will get it is quite large so it will force the issue. How are we going to make it available to Medicare beneficiaries without wrecking the Medicare budget?"

Dr. Tunis, of the Medicare services centre, says he understood that the costs of new technologies could be staggering, but cost has traditionally not been a consideration in deciding what to cover. "If the technology was effective, we would find a way to pay for it," he said. "There is no dollar value per life per year at which Medicare would decline to pay."

Opinions differ on how long Medicare can sustain mounting costs. The agency recently approved implantable defibrillators, which can shock a failing heart, preventing sudden death. They cost $30,000 per patient. Medicare restricted the devices to patients with specific patterns of disease, denying payment for them to about half of the million or more patients who could benefit. Now it is under intense pressure from doctors, patients and professional societies to expand its coverage to all those who met the study's criteria.

Then there are coated stents, tiny cages coated with drugs to prop open arteries and prevent the blood vessels from closing again. Each costs $3,200, compared with about $1,000 for the older, uncoated stents. The million patients a year who get stents typically get more than one, with some getting four or five. Dr. David Hillis, an interventional cardiologist at the University of Texas Southwestern School of Medicine, called the increased use of defibrillators and coated stents "a good way to bust the budget wide open."

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Medical experts say that in addition to the legitimate costs of each of these procedures, they fear technology creep — an increasing use of expensive procedures to wider and wider groups of patients, many of whom may not benefit and may even be harmed.

"I think it is huge, I think it is pervasive. And it is a major driver in Medicare's cost growth," said Dr. Scott Ramsey, a health economist at the University of Washington who analysed the cost of lung volume reduction surgery. "The reason Medicare is cutting payments to doctors is that its expenses for technology are expanding so fast."

The lung volume reduction surgery for emphysema sneaked up on Medicare about a decade ago. None of the contractors in the Medicare system was aware that the operation was becoming more popular until it began being reported in journals. In 1996, Medicare learned that it had paid for 3,000 patients and the numbers were growing fast, yet there was a 17 percent mortality rate and no good evidence that the operation worked.

In response, the federal government started the NETT clinical trial involving 1,218 patients. Medicare would pay for the operation only if patients participated in the trial, and if they joined the trial there was a 50 percent chance that they would be assigned to a control group that did not get the operation. Dr. Ramsey, the University of Washington health economist, said the agency never stopped to consider "what would happen if the trial came out with uncertain results."

The published NETT data was not quite the ringing endorsement that many had hoped for. The study found a subgroup that seemed to benefit — patients with emphysema located mostly in the upper lobes of their lungs and little ability to exercise. They survived longer and could exer-

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cise more after they had the operation.

That is not rigorous evidence, since any set of data will include small subgroups that benefit and others that are harmed. However, a second trial of the lung operation is unlikely as many doctors would not participate, saying it would be unfair to their patients to deny them the surgery if they fell into the control group.

"We felt it was not possible for us to look a patient in the eye and say, `We honestly don't know whether you are better off with this operation or without it,' " said Dr. Cooper of Washington University. He encouraged his Medicare patients to sue. "I went to court 28 times and won 28 cases," he said.

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Dr. Ramsey and others worry that if Medicare approves the operation for the restricted group of patients like those in the subgroup, technology creep may lead to many more having the surgery. Seventy percent of the nation's estimated two million emphysema patients have upper lobe damage. How will Medicare know whether a particular patient also has poor exercise capacity?

There is pressure from patients, doctors and hospitals to cover expensive new procedures, even if their benefits are modest. That is understandable. If the patient is insulated against the cost consequences of their decision, why not get the latest and greatest? However, there is a price to be paid and that is almost guaranteed to lead to overuse.

One solution would be to greatly increase Medicare's budget. That would mean tax increases. Another would be for Medicare to consider cost-effectiveness, rather than just effectiveness. Dr. Tunis said, every time that has been proposed, the agency has had to back down. "This is the fundamental problem hidden behind the broader discussions of health care reform. At the end of the day, somebody has to make the decisions one at a time about what people are going to get. The reality is that we can't afford to pay for absolutely everything that provides some benefit."

Medicare, like all other funders, is in a bind. How can they inform the public better that, when they want to have access to health care, someone will pay and it will be them?

Drugs (often) don't work, says Glaxo chief

Most British papers picked up a story from *The Independent* on December 8 where Allen Roses, the worldwide president of genetics at GlaxoSmithKline (GSK), is reported as telling a recent scientific conference in London: "The vast majority of drugs — more than 90 per cent — only work in 30 or 50 per cent of the people. Or put another way, most prescription medicines do not work on half the patients who take them. GlaxoSmithKline is one of the largest pharmaceutical and healthcare firms in the world, with a turnover last year of £31.8 billion.

"I wouldn't say that most drugs don't work. Drugs out there on the market work, but they don't work in everybody," Dr Roses said. He is a pioneer in the branch of medicine that is studying the relationship between our genes and our response to individual drugs. He quoted research published three years ago by Brian Spear, an expert in medical diagnostics, which found that different drugs had vastly different success rates in treating patients.
Common painkillers worked for up to 80 per cent of patients, but chemotherapy treatments for cancer had an efficacy rate as low as 25 per cent. Most drugs had an efficacy rate of 50 per cent or lower.

Dr Roses predicted that in a few years scientists would be able to give patients a simple genetics test that would predict which medicines would work for them. Drugs companies could use the information to tailor new drugs aimed at the 50 per cent of people not helped by existing medicine. If you can determine who is going to have a response to a drug and who is not going to have a response, you can take your next molecule and aim it specifically at the people who haven't had a response with the first one."

The New Zealand Institute of Health Management

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A branch of the Australian College of Health Service Executives, NZIHM has active branches in Auckland, Wellington and Christchurch. We provide a wide variety of information services to keep members abreast of current developments and thinking in Health Services Management. These include:

- Information provided through National and Branch Offices
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- Access to a comprehensive ACHSE Library offering extensive resources in health services management and planning is available free of charge to members. The College Librarian will assist you with your needs via phone, fax, or E-Mail.
- Annual conference incorporating sessions on a variety of topical issues, sector developments and research.

NZIHM website launched

NZIHM now has a direct presence on the web. Previously we have been part of the ACHSE site — a path many of our members and supporters found difficult to navigate.

Our new site offers a shop window for NZIHM and still links to all the features on the ACHSE site. Parts of the site are open to all - others are restricted to members.

Take time to visit the site link and tell us what you think, what you would like to have included and how we might make it easier for you to use.

The site has been developed by our webmaster **Bisam** e-mail with assistance from our National Office Manager Linda McKay but the content is the responsibility of a sub committee led by National Councillor Stuart Francis.

The Auckland Branch Committee wish all our members, associates, supporters, friends and their families a period of peace, plenitude and pleasure at some time during this summer holiday season.

Thank you for your support during the year. Make a new year resolution to take full advantage of all our seminars, conferences and other networking and learning opportunities.

Travel well - the force is with you

Does income influence health or is it a marker for something else?

Michael Marmot, Professor and head of the Department of Epidemiology at the University College London discusses this issue in Health Affairs vol 21 no 3 pp31-46. He questions, does money matter for health? Or is it possible that the causal direction is the other way around and health matters for money.

The evidence is quite clear that poor people have worse health, but is this because they have insufficient money or for some other reason. Similarly, a society characterised by a high degree of income inequality could have poor average health for reasons other than the distribution of income. Countries that spend more money on health services may have better health because they are democratic. In each of these cases, money appears to matter because it is a marker for something else. Marmot argues that the distinction between really mattering and appearing to matter is important. If it really matters, a policy devoted to income redistribution could have health benefits. If it only seems to matter, such a policy, whatever other positive or negative features it might have, will not benefit health.

Marmot identifies two components of low income: poor material conditions; and lack of social participation. Material conditions, such as clean water and good sanitation, adequate nutrition, and adequate housing and warmth are necessary for good health and they can be correlated with income until a threshold is reached. Then, when for example clean water is available, improvement in material conditions will no longer have any plausible connection with pathology. On the other hand, depending upon how society is organised, opportunities for social participation and leading a fulfilling and satisfying life could show a direct link with individual income. In this case income would be causally linked to health.

Sir Michael Marmot

Infant mortality has traditionally been viewed as the measure of ill health most sensitive to poverty. Marmot quotes Rowntree's study of 1901 where he compared infant morality rates in three income based working class areas and York's servant keeping class. While Rowntree attributed the high mortality rates in the poorer areas to overcrowding and poor quality housing, this did not explain the different rate between the highest working class group and the servant keeping class. Rowntree concluded the difference was caused by ignorance in the feeding and management of infants. This view, that there is no relation between poverty and health – it is all due to ignorance, was, Marmot claims, still being propounded by government ministers in England in the 1980s.

One hundred years on the infant mortality rates for the "bottom class" is ten times lower than it was for the servant keeping class of 2001. One can assume that the servant keeping class, although privileged economically, were deprived of the conditions for low infant mortality: - good sanitation, nutrition and medical care. Two conclusions can be drawn from this example. First, individual incomes should not be viewed in isolation from the community in which people are located. Second, factors exogenous to income have been responsible for much of the health improvement in the twentieth century.

The problems of ill health due to material deprivation have, to a large extent, been solved in today's industrial countries. Why then do such countries continue to suffer from large inequalities in health? A study of 16 US communities found the probability of a 15 year old male surviving to 65 was 77%. In New York the probability was 37%. The three major causes of death were HIV related factors, homicide and heart disease. Describing coronary heart disease as a disease of poverty, rather than a disease of affluence, requires a re-evaluation of what we mean by poverty.

Marmot looks to the "Whitehall studies" on British civil servants for a proposition that for rich countries today the problem is inequality in health, rather than poverty and health. The civil servants in this study, all in stable office based jobs in and around London, exclude the richest and poorest in society. Amongst these men there is a clear social gradient in health that runs from top to bottom of the social hierarchy and a twofold difference in mortality rates between the top and bottom employment grades. Studies in US and Canada show a similar correlation – the higher the income, the lower the mortality ratio, with one important qualifier – education significantly flattened the ratio slope. This suggests that income is measuring something that is causally linked to mortality throughout the range of incomes. Once education is included in the model, the effect of income on mortality is markedly reduced. This may be because educa-

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New Zealand Institute of Health Management
A Branch of the Australian College of Health Service Executives

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Inform Editor Bruce Parkes

Seminar Programme

February 23rd
Location to be confirmed
5:30p.m. for 6p.m.

Managerial effectiveness in the health sector: what it means in 2004

Rod Perkins

Non Members Welcome

Cost

Members	$20
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Our seminar programme is supported by

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tion affects health precisely because those with more education have higher incomes. It could however be because education is a better indicator than income of some of the social factors, linked to social position that are important to health.

This view is consistent with income's defining position in a hierarchy relative to the prevailing standards of society. It may not be income itself that matters except insofar as it determines ability to participate in the way defined as acceptable as society. Put another way, income is an impoverished way of capturing the conditions of life that gives rise to health differences. Important as money might be, there is a need to go beyond absolute measures of income to understand the relation between social position and health – to understand how social factors affect the position in which people find themselves and hence their health.

Ten years into the Whitehall study, with which Marmot is involved, measures were added to address questions of self perceived health and symptoms of depressive illness. Both these turned out to be related to household income – the higher the income the more likely people were to report themselves in good health and less likely to report depression. Perhaps more importantly, position in the occupational hierarchy (grade of employment) is a far stronger predictor of ill health and depression than is income. From this one could conclude that income is important as a predictor of ill health because it measures where a person is in the social hierarchy, rather than the dollars in the person's pocket.

Marmot suggests that as wealth was correlated with optimism and a sense of control, it may convey psychosocial benefits . Wealth may reflect an accumulation of advantage and disadvantage over the life course that may affect health, or wealth may be simply acting as a marker for other unmeasured dimensions of socio-economic position.

Marmot quotes with approval papers by Richard Wilkinson, Angus Deaton and Nancy Ross from research in Canada and the United States that support his view that income is a marker for social environment, economic segregation, racial inequality and an erosion of social capital. These were all shown to be predictors of ill health, although less so in Canada, where public goods such as schools, transportation, health care and housing were more available than in the United States where the market place has a more central role in the provision of higher education and health care.

Finally, Marmot addresses the crucial question, would income redistribution matter to health? For him, despite the inefficiencies of income redistribution (described as the "deadweight" loss) the answer is yes. But his is an indirect yes because he sees a lack of income as hindering full participation in society and it is participation in society which is the predictor of health status. In a "support led" society with sharing and public provision of goods and services, income would matter less to social participation and receipt of services.

What can we in New Zealand draw from Marmot's paper? Social capital as a "buzz word" has gone out of favour since Jim Bolger left the Beehive. Major income distribution has little appeal to the electorate and our current government is busy increasing healthcare subsidies for low income groups. While commendable and perhaps necessary in the short term, such policies will never eliminate relative differences in health status in our society.

Bruce Parkes

Contributions Welcome

1. The Auckland Branch welcomes contributions to **Inform** on subjects of interest to managers in the health and disability sector. Articles may be longer researched contributions, comments on current practice, or shorter notes and/or reviews. The range of possible subjects is very wide.
2. The maximum length is generally 3000 words. Shorter contributions are very welcome. Please include an e-mail address so authors can be contacted and a brief list of key points or an abstract.
3. Copy should be provided by e-mail or on a computer disk.
4. Contributions may be passed to the Editorial Committee for consideration.
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