

Reflections on Caring Externalities in New Zealand - 25 years on

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Preamble

Traditional cost effectiveness analysis is a special case of a general relationship between the impact of a health care intervention and social welfare. In this special case, social welfare is a linear additive function of incremental costs and incremental health gains. I used a stylized impression of New Zealand as an example to illustrate the plausibility of an alternative function in which social welfare is assumed to be non monotonic in costs. I also assume an interaction term between costs and health gains. The purpose of the example is to make this rather abstract proposition somewhat more intuitive and accessible. It is not the intention to offer proof of the precise form that the relationship takes in New Zealand.

1. Introduction

The primary purpose of this paper is to consider whether traditional priority setting techniques, as described for example in the World Bank review¹, are suitable to all societies. To demonstrate the contrary case, I illustrate the arguments using my impression of New Zealand.

Just over twenty-five years ago Professor Culyer came to Otago as Visiting Professor. While here, he gave a series of lectures. They are recorded in three discussion papers entitled 'The caring economy'². At that time Professor Culyer illustrated his talk with one interpretation of 'altruistic caring preferences'. Since then, theory and practice appear to have followed that path. I will consider the implications of a somewhat different path within, what may be, a 'family' of 'caring' approaches.

Neither wishing to imply that Professor Culyer is obliged to support his former beliefs, nor yet wishing to deny him the debt due to his having expressed them, I quote verbatim.

'To summarise, then: the specification of the ends of the system will determine some of its characteristic features. To postulate a set of ends defined in non-altruistic preferences implies a basically market-based system of medical care with collective action of the nightwatchman sort, and to control the inefficiencies of insurance. If, on the other hand, the ends are defined in altruistic or caring preferences

then, in so far as the preferences relate to health service consumption, the appropriate health care system has selective subsidies related to income and may limit benefit. If altruistic caring preferences relate to health status, then the health system will be seen as a part of an interlocking set of systems, and will itself be characterised by absence of significant user prices and will relate consumption to a notion of need.'

Professor Culyer pointed out that he was

'not engaged in advocating the adoption of one set of preferences rather than another.'

but that his intention was

'... to expose the consequences of supposing alternative preferences to exist.'

I take Professor Culyer's general point as implying that caring preferences can materialise in a variety of ways and that the aim of social policies should be adjusted accordingly. At this point, we take our leave of Professor Culyer. His thoughts were influential to many and possibly to those who followed the trail that led to the Oregon experiment (in which an attempt was made to apply cost per QALY calculations to the prioritisation of health care interventions³).

After much criticism and the abandonment of the original cost per QALY prioritisation list in Oregon, the Oregon experiment appears to have been regarded as something of a failure by policy makers in New Zealand. The National Advisory Committee on Core Health and Disability Support Services (later the National Health Committee) was established in 1992. Dr David Hadorn, a fervent critic of the original Oregon list, became its special projects manager. The committee adopted a 'principle based approach', in which four principles were identified: effectiveness, equity, acceptability (the intervention should be consistent with community values) and efficiency (an intervention should offer good value for money). The four principles continue to underpin prioritisation in New Zealand.

New Zealand has experienced a maelstrom of institutional change in the health sector, with moves to market and back again⁴. During its 'purchaser-provider split' phase, the purchasing authority attempted to introduce cost-utility analysis into priority setting, however this move was effectively quashed by the National Health Committee.

This committee's latest reports show continued concern with the issues raised by the Oregon experiment and continued scepticism with 'technical' approaches to prioritisation. The committee was sceptical of the view that they ascribed to other authors (that the problem with the Oregon experiment could be resolved by simply obtaining improved information). Such views, are regarded as,

'... missing the point at best and actually dangerous at worst' ⁵

The report summarises what it considers to be the current situation in this way,

‘... there can be said to exist a common international approach to priority setting – one emphasising the explicit identification of principles, the creation of robust processes rather than technical solutions, the need for continued clinical flexibility, the pursuit of evidence based medicine and increasing stakeholder involvement.’

Thus, principle based decision making continues to be the norm in New Zealand. (There are two notable exceptions: the attempt to specify weighting list priorities and the use of cost effectiveness analysis to inform, but not to define, priorities in the funding of pharmaceuticals.)

Topics covered in the following sections of this paper are as follows: Section 2 considers my perception of societal values in New Zealand, and how they might be modelled. Section 3 considers whether it is plausible to characterise New Zealand in the way that I have. The final section discusses some of the issues raised.

2. Modelling New Zealand values

2.1. *My impression of New Zealand society*

I have taught and discussed the provision of health care with a non representative sample of New Zealanders (predominantly, but not exclusively, academics, health service managers, undergraduate and postgraduate students, the latter predominantly drawn from health care professions) for five years. My impression of New Zealand is of a society that cares for others, but expects them to help themselves when they can. I think of this as a ‘neighbourly’ society. Neighbours help one another out when the need arises, but they don’t want to be bothered with trivial requests. As a model, this must be an approximation. Perhaps it is a gross caricature. If it is unacceptable to New Zealanders, then I ask the reader to suspend disbelief and to suppose that it might be true of some imaginary land.

2.2. *Externalities in health, the traditional welfare map and QALY maximisation*

First, briefly and by way of contrast, consider the beliefs that appear to underlie the traditional linear independent cost and health gain maximisation approaches to prioritisation.

Externalities are assumed to arise in proportion to patients’ health gains. This implies that we can model the public as having a ‘scaled down’ version of the utility that patients receive from treatment. The patient gains welfare from treatment, and the public gains welfare (albeit to a lesser extent) from the knowledge that the patient gains welfare (I like it that you don’t have a broken leg, but I’m sure you like it even more!). In this case patient and public preferences are congruent, with simple scaling factor relates public welfare and patient welfare. This leads to the typical welfare mapping of the cost

effectiveness plane, and the notion that we maximise health gain (perhaps as QALYs) while minimising cost.

2.3. *The social welfare map in taxation and health care gains in a 'neighbourly' society*

If externalities arise from a more complex set of motives, then we may have a more complex maximisation problem. If you will excuse me for stating the obvious, the fact that it is more complex does not necessarily make it wrong.

If we deviate from a simple health maximisation problem, we can no longer assume congruence between the patient and the public. The two welfare streams diverge. The public get one set of benefits from providing health care to the patient, and the patient himself gets another set. To illustrate the arguments made by this paper we suppose that it is the externalities of the public that matter in publicly funded health care and focus on those. (This is the assumption that appears to underlie the conventional view that the public rather than the patient should value health states). Public welfare is assumed to depend on the gains they get when helping others, however there is an important caveat. Those gains are conditional upon patients helping themselves when they can. (Because of this caveat, there is a complex interaction between cost and health gain in the determination of public welfare, as described below). Valid reasons for not being able to help themselves could include such things as facing unforeseen costs and excessive hardship. Let us also assume (as we usually do) that welfare is, at least in part, negatively affected by the costs.

We can map social welfare as a function of cost and health gains. This appears similar to a traditional cost effectiveness plane, however note the following:

1. It is explicitly mapping out the externalities of the public rather than the welfare of patients.
2. Since we are concerned with how the individual is affected by the cost they would face if an intervention were/were not publicly provided, the mapping represents health gains and costs for the individual patient. It does not represent health gains and costs for treating the entire population at risk.
3. Welfare is not linear in costs.
4. Welfare is not necessarily linear in patient health gains.
5. Cost and health state are not independent determinants of social welfare.

To simplify, consider the example of a typical citizen and his views in relation to a typical patient (assumed to be capable of making his own decisions; special cases would arise in the case of those unable to make their own decisions). I refer to citizens rather than taxpayers to emphasise the dual nature of the relationship with patients, ie, one of paying and caring. We consider a situation in which the citizen is asked to pay taxes to fund treatments of varying costs and health gains. The citizen thus shares with others in the costs of treating the patient.

We use a hypothetical 'factual' (hereafter just referred to just as the 'factual') that considers what happens to the welfare of citizens when treatments are publicly funded. The hypothetical 'counterfactual' (hereafter referred to just as the 'counterfactual') is what would happen to the welfare of citizens, if treatments were not publicly funded. Incremental costs and effects are the difference between costs and effects under the factual compared with the counterfactual.

This provides us with the conceptual tools to consider what sorts of intervention might be publicly provided (ie, to address the kind of question that confronted the Oregon Health Services Commission).

We assume that externalities can be assessed through an acceptable political process.

The situation is illustrated in Figure 1, with some cross sections shown in subsequent figures. Let us trace out some relationships in social welfare space by tracking across it.

Figure 1 Citizen welfare in tax spend and patient health gains

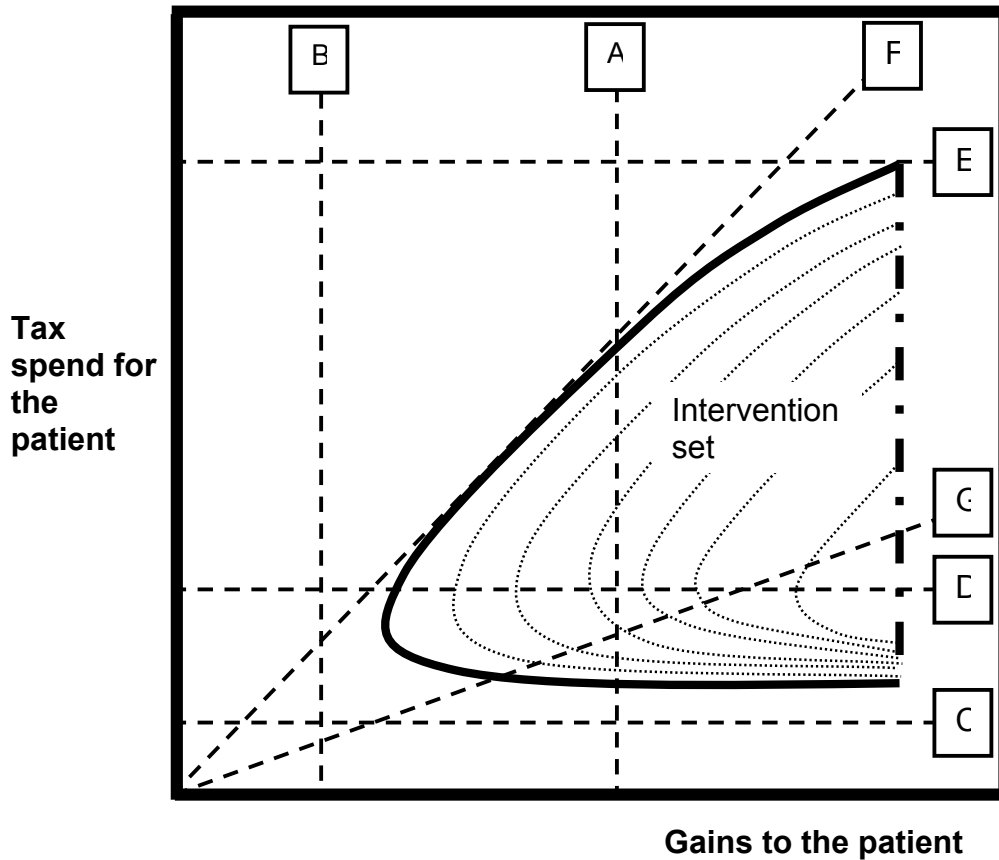
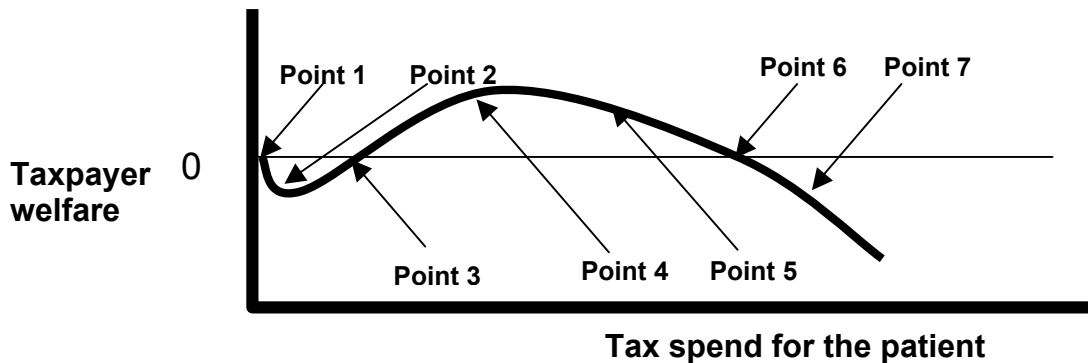


Figure 2 Utility across section A



2.4. The relationship between taxes and externalities for moderate gains in health.

Consider an intermediate state of health illustrated by line A in Figure 1 and the cross section shown in Figure 2. These figures are alternative representations of the same relationship. Citizen utility is shown as contour lines in Figure 1 and as a cross section of 'hills' and 'valleys' in Figure 2. If the

health state costs nothing to cure (point 1 in Figure 2), the citizen receives no welfare gain in comparison with the counterfactual. He is probably entirely unaware that the treatment has taken place. He suffers no disutility from paying taxes, since he pays none. He suffers no utility from witnessing the patient's cure, since the sensible patient would obtain the costless treatment without even asking him. If the patient chooses not to accept treatment, the citizen respects that choice.

Now consider a move upward along section A in Figure 1. A small movement along section A might take us to a point such as that illustrated by point 2 in Figure 2. If that health state costs little to cure, yet the citizen is required to pay tax for that cure, the citizen is irritated and experiences a negative utility compared with the counterfactual. The fact that the patient receives a health gain makes no difference to his welfare, since, under the counterfactual, the patient would have obtained the same health gain (albeit having paid for it himself).

Now consider point 3 in Figure 2. We are considering the same health state as before. Now that costs/taxes are higher, the citizen is beginning to feel less irritated by the request for help. However, on balance, the citizen feels that the patient should be able to find the relatively small amount of money required for the treatment.

At point 4 in Figure 2, the citizen realises that the patient is struggling to find the resources to pay for treatment. Under the counterfactual, the citizen would not pay for the patient's care and would experience no disutility in that respect, however under the factual the citizen feels the request for help to be justified and wishes to contribute. The citizen gains utility from contributing when he sees that contribution is helpful. At such points the citizen wants to contribute to the patient's care through taxation. In relation to the health gain, under the counterfactual the patient would probably find the money for his own treatment, and so in terms of the actual health outcomes, there might be no difference in the welfare of the citizen.

At point 5 in Figure 2, we imagine that the costs are now so high that the patient would not have been able to afford them himself. Under the counterfactual the patient would have gone untreated. Under the factual, the citizen gains from the knowledge that the patient receives treatment that he would otherwise not receive. He does not benefit from the fact that he has helped the patient financially, since under the counterfactual the patient would not have paid for treatment. In effect, health gain has taken over from financial assistance as the source of the citizen welfare gain. Compared with the counterfactual, the citizen again suffers a welfare loss from the tax he pays.

At point 6 in Figure 2, the citizen feels that his taxes are beginning to hurt. The citizen is assumed to have diminishing marginal utility in wealth (as is usually assumed), consequently his tax payments become progressively more onerous as they increase. His own loss of welfare is beginning to outweigh the welfare gain to the patient (a care that at these high levels of cost the patient would not have been able to purchase under the counterfactual). However, he does wonder whether the taxes are worth the benefits that the patient receives.

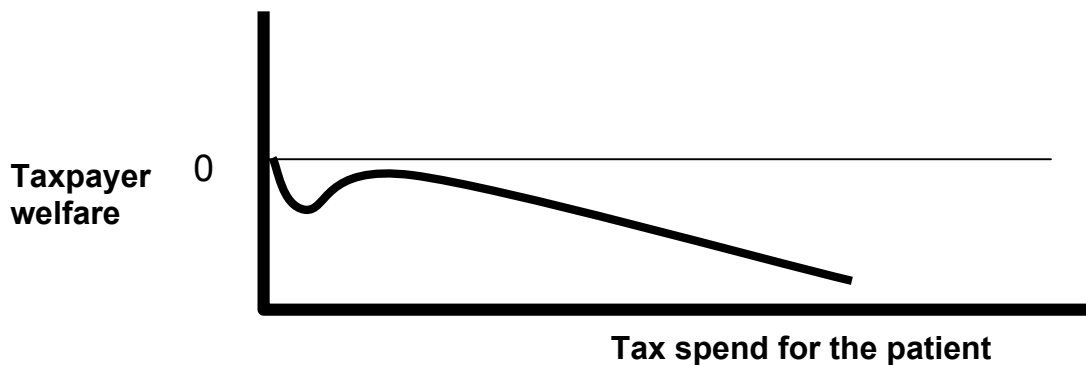
At point 7, the utility, derived from the knowledge that he could improve the patient's health in comparison with the counterfactual (when the patient could not find the money himself), is outweighed by the loss of consumption he would experience from that level of taxation compared with the counterfactual in which he pays no tax.

It seems likely that a section slightly to the left of section A (ie when the health gain the patient would enjoy is smaller) would, if anything, exhibit a somewhat lower utility for the typical citizen in comparison with the counterfactual. Accordingly, the threshold cost at which net welfare gains would arise is shown as increasing. (The citizen feels less charitable towards the patient the more trivial are the patient's health gains.) The intersection of such a section with the upper boundary to the area of net welfare gains would be lower. The citizen would not be prepared to spend as much in taxes if the health gains that would accrue to the patient are smaller.

With sections to the right of section A, the minimum cost that the citizen considers would be a reasonable may be slightly lower if the greater health gain elicits a greater charitable feeling in the citizen. The upper boundary of the intervention set is higher, reflecting the fact that the citizen would pay more to obtain greater health improvements.

2.5. The relationship between cost and externalities for small gains in health.

Figure 3 Utility across section B



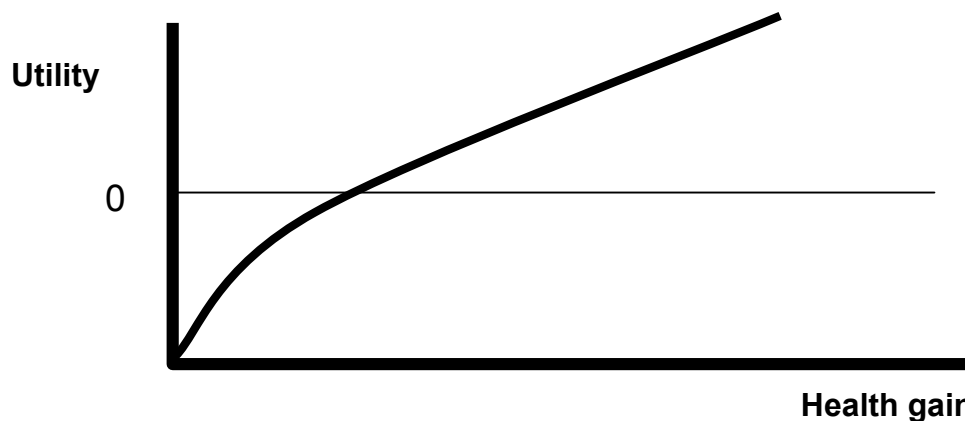
Consider section B in Figure 1 (shown in cross section by Figure 3) and begin by considering a point below the intersection of section B with line F. (Line F represents a boundary at which the value of health gains is equal to the cost of achieving them.) Under the counterfactual no tax would be raised. Because the value of the health gains exceed the cost, we might suppose that the patient would purchase his own health care. At points above the intersection with boundary line F, under the counterfactual, the patient would not purchase care for himself. Under the factual, the citizen would resent being taxed to pay and provide for care that the patient does not consider worthwhile. Accordingly, there is no point along section B where net welfare gains would accrue to the citizen.

2.6. *The relationship between health benefits and externalities for low costs.*

This is illustrated by section C in Figure 1. Here the citizen would always experience a welfare loss relative to the counterfactual (ie, if obliged to pay taxes). This may be somewhat mitigated if the patient experiences large health gains, however, at these low levels of cost, the citizen feels that the patient should be well able to purchase his own health care without hardship.

2.7. *The relationship between health benefits and externalities for intermediate costs.*

Figure 4 Utility across section D



This is illustrated by section D in Figure 1. A cross sectional representation of the same information is shown in Figure 4. This section illustrates a reasonably 'well behaved' relationship. Here the citizen would experience a welfare loss if the health gains are small. He would see no point in contributing towards the patient's health care, if the patient gains little benefit from it. As the welfare gains increase (at constant costs), so the benefits that the citizen derives increase. At points to the right of the intersection of section D with boundary line F, under the factual, the citizen pays taxes, but he knows that the value of the health intervention exceeds the tax spend. He knows that under the counterfactual, it would be a significant financial burden for the patient to have to bear by himself. Accordingly he experiences a relative welfare gain under the factual. This welfare gain increases steadily as the health gain increases.

In some respects, the area within the intervention set and above section D resembles traditional cost effectiveness space, however, notice that it is defined strictly in terms of per capita costs and gains. The citizen is assumed to feel very differently about contributing \$10 each towards health care for 1,000 people and contributing \$10,000 to the care of one person. In the former case, he assumes the 1,000 should be able to find \$10 for themselves, whereas in the latter case, he assumes that \$10,000 would impose quite a strain on the patient's resources.

2.8. *The relationship between health benefits and externalities at high costs.*

At some point the citizen will consider that the taxes he pays to assist the patient become too onerous in comparison with the counterfactual, even for the greatest feasible health gain that the patient might obtain. This is illustrated by section E in Figure 1. One interpretation of this level of tax spend is the contribution that the citizen would be prepared to pay to save a life. At points above section E, no interventions would be considered worthwhile.

2.9. *The intervention set*

Because the area within the 'ellipsoid' in Figure 1 shows where publicly funded interventions would be considered worthwhile, we refer to it as the 'intervention set'. Welfare contours are shown inside the set. With local minima outside the intervention set, the interpretation is more complicated. It might help to visualise the intervention set as an island 'hill' in the middle of a sea. The sea would then represent areas in which interventions are not worthwhile. If society becomes generally less prepared to contribute to health care, we can picture sea level rising and the intervention set shrinking accordingly.

The intervention set is bounded above by the limits that citizens are prepared to pay to achieve health gains of varying size. The boundary is concave as a result of increasing marginal disutility of taxation. The intervention set is bounded below by the amount for which the citizen considers it reasonable that the patient should pay for their own care.

The intervention set is bounded to the right by the maximum achievable health gains for the patient. If health gains are measured in QALYs, this might be full health for the full life expectancy.

3. Is it reasonable to characterise New Zealand as a 'neighbourly' society?

3.1. *Health care funding*

Under both QALY maximisation and neighbourly preferences, the North West boundary is likely to be characterised by a trade-off between costs and health gains. The principal observable difference between QALY maximising, and externality maximising under 'neighbourly' preferences is likely to be in the Southern boundary of the intervention set. Under QALY maximisation any intervention that is cost effective would be funded. Under 'neighbourly' preferences, the cost of an intervention must also exceed a threshold criterion. If New Zealand has this sort of 'neighbourly' preferences, we would expect there to be an observable threshold below which health care expenditure would be regarded as a personal responsibility. We now consider the plausibility of such a boundary.

3.2. The Southern boundary of the intervention set.

3.2.1. Primary care funding

Primary care funding in New Zealand is somewhat complicated. Until recently GPs received a subsidy per consultation. The subsidy varied according to the income and age of the patient (with additional special rates for frequent users). New arrangements are being phased in (see Table 1) whereby an increased subsidy is paid without means testing and on a per capita rather than per consultation basis. GPs decide how much to charge the patient and deduct the subsidy from their fee. Thus the system is a hybrid of capitated subsidy and fee for service.

Table 1 General practice subsidies.

Age group	Access PHO / practice
Under six years	\$37.40
6 years and over	\$26.75

The mean co-payment by people without a community services was estimated in 2004 to be \$42-97⁶. Deducting the notional subsidy of \$26.75 and assuming that GPs do not increase their charges, under the new arrangements, people aged 6 years and over should pay an average of approximately \$16 per consultation. A survey reported by the New Zealand Ministry of Health in the latest version of its Primary Health Care Strategy⁷ reports the average adult New Zealander making four visits to their GP each year, a figure that rises to 5.1 visits per year for those aged 65 and over⁸. Thus we might expect a typical adult under the age of 65 to pay approximately \$64 per year for visits to the GP.

3.2.2. Pharmaceuticals

The system of subsidies towards the purchase of pharmaceuticals is quite complicated. To quote from Government advice,

'Pharmaceutical drugs or medicines are generally free for children under six years old but everyone else who is eligible for publicly funded healthcare pays a co-payment. The cost will depend on the particular drug.

The maximum charge for prescribed medicines that are listed on the Pharmaceutical Schedule is either the price of the item or \$15, which ever is the lesser amount. The Schedule lists around 2600 prescription medicines and related products subsidised by the Government.⁹

3.2.3. Dental care funding

To quote again from Government advice,

'General dental care for people over 18 years is not funded by the Government in New Zealand. Any person in New Zealand can choose any dentist and receive treatment as a private patient. Basic dental care for eligible school children is free up to 18 years of age.¹⁰

3.2.4. Ophthalmology funding

Primary optometry and ophthalmology services are not publicly funded.

3.2.5. Maternity care

All maternity care, including both prenatal and antenatal are provided free.¹¹

3.2.6. Secondary care

An attempt was made in 1991 to introduce charges for elective surgery¹². This was extremely unpopular, was strongly resisted and had to be rescinded in 1993. No charges are presently made for secondary care.

3.2.7. Summary of access to health care

It seems that, after the recent reforms, New Zealanders are content that their 'neighbours' might pay somewhere in the region of \$64 per year (approximately £25) for their general medical services. They are content to allow their neighbours to pay for cheap pharmaceuticals (less than \$15), and to contribute to the cost of more expensive ones. They are also content to let people pay for their own dentistry, and optometry. Maternity care and secondary care are free. One interpretation of this is that New Zealanders do operate with the idea that people should pay for the less expensive aspects of their health care, but not for expensive health care.

4. Discussion

4.1. Comparing 'neighbourly' social welfare map with the traditional map

Traditional social welfare in cost and health gain is represented by the cost effectiveness plane. It is composed of a set of parallel, equidistant indifference lines aligned approximately South-West to North-East (exactly so if they are scaled commensurably). In such a representation of social welfare, a reduction in cost of \$X increases welfare by \$X and an increase in health valued at \$Y increases welfare by \$Y. It seems almost perverse to suggest otherwise. Indeed, leaving aside diminishing marginal utility of wealth, this would probably be a reasonable approximation to the patient's welfare map in his own wealth and health. However, we are not mapping patient utility in health, we are mapping the utility of externalities that accrue to others, arising from a policy of taxation to purchase health gains.

Social welfare to the citizen is far more complex than it is to the patient. It is so, primarily because the cost function is the combination of two superficially contradictory sets of motives. Citizen welfare is diminished by taxation, since it limits personal consumption, however, citizen welfare increases with size of taxation because greater taxation implies a greater benefit to the recipient. Thus the relationship between welfare and cost per person is complex.

4.2. Prioritisation

This sort of welfare mapping has implications for prioritisation. To illustrate, consider what happens when a budget constraint is tightened (assuming the

simplest case of divisibility, constant returns to scale etc). Under traditional QALY maximisation, a tighter budget constraint would force us to forgo projects with the highest cost per QALY. Under neighbourly preference a tightened budget constraint would result in contraction in the size of the intervention set, and quite plausibly, a Northward displacement of the Southern boundary. The effect would be to increase the amount that patients have to contribute to the cost of their care. Public funding might be withdrawn from cheap interventions, even if those interventions are highly cost effective. Under neighbourly preferences, the patient would be expected to pay for those things themselves.

4.3. *Similarities between neighbourly preferences and insurance motives.*

There are similarities between the implications for the selection of interventions for public funding under neighbourly preferences and under insurance motives. Perhaps as a result of the diminishing marginal utility of wealth, the gains that accrue from the insurance of small losses to many people are less than the gains that accrue from insuring against the same amount as a single larger loss to one person. As a result, people are less likely to insure against small losses. If the motive behind the public provision of health care were to provide insurance, we might expect it to exclude low cost care. We might also expect some contribution to the cost of care as a way of combating consumer moral hazard. Under the insurance motive we might observe, a similar Southern boundary to that which might arise under both neighbourliness. This could make it somewhat difficult to decide whether neighbourliness or insurance is the dominant motive behind the public provision of health care. However, we would expect there to be some differences in the way that society treats people with different personal attributes. Neighbourliness is more likely to provide care on the basis of ability to pay, and more likely to provide care for people with uninsurably high risks of requiring care.

4.4. *Additive utility*

Some critics of QALY maximisation feel there is a problem with it, because it feels wrong that small gains for many people can provide the same welfare gain as big gains for few people. They locate that problem within utilitarianism. We have no certain way of knowing whether the summation of utilities is legitimate or not. All we can hope is that, given our tautological definitions of what we mean by utility, it might be. However, the analysis of the 'neighbourly' society suggests an alternative explanation. The problem might not lie with aggregating utilities per se, but rather with the question of whose utilities are being aggregated. If we aggregate the utilities that the patients derive from their health gain, then a lot of small welfare gains might indeed sum to one large one. If, however, we aggregate the utilities of the citizen, the payment for lots of small health gains (that patients might well afford for themselves) do not necessarily aggregate to one large health gain. At the extreme, consider an intervention that lies on the Southern boundary of the intervention set. Even though it might provide large health gains, it does not add to social welfare. We could provide such interventions for 100 people and the effects

would still be to add nothing to the welfare gains that accrue from caring for one's neighbours.

Fundamentally the question is not whether utilitarianism is correct or incorrect. The important policy question is not whether we should or should not derive social preferences from individual preferences, for someone has to. The question here, as elsewhere, is of whose preferences should be considered, ie whose utilities should be aggregated. If the aim of public policy is to substitute for the decisions that the patient would make; buying what rational patients would buy; considering the transport costs, and costs to relatives, that rational patients would consider, then we aggregate the utility of patients. If the aim is to articulate the voice of the caring society, then we need to consider how externalities arise. If they arise from simple health maximisation, the situation reverts to previous case and society 'lines up' exactly behind the patient's aims. If society has different aims, perhaps relating to equity, (for allowing some ordinary members of society to suffer large financial losses or allowing them to forgo health gains that they might not otherwise be able to afford is an equity issue), then maximising externalities becomes more complex. If society's aims diverge from the aims of patients, we also need to consider how important each might be and how discrepancies might be resolved. This issue is not addressed in this paper.

4.5. Resolving one of the Oregon paradoxes

If our 'neighbourly' welfare map were appropriate to Oregon, it might help explain and resolve some of the apparent paradoxes observed there¹³. The fact that two health care interventions lie on the same radial from the origin (have similar cost effectiveness ratios) implies little about their relative social desirability in externalities. This is illustrated by line G in Figure 1. Depending upon where we are along this line, interventions can either contribute negatively to externalities (where citizens are made to pay for cheap interventions) or they can be extremely worthwhile (where citizens pay for interventions that can provide massive health gains at moderate cost).

Hadorn suggested that cost per QALY decision rules fail because they ignore the moral imperative of the 'rule of rescue' (to preserve life if at all possible). In a 'neighbourly' society, we do not need to explain the lack of public acceptability for the original 'cost per QALY' Oregon rankings in this way. In 'neighbourly' societies, cheap interventions fail to attract a high public rating because citizens regard it as less important to provide public care for things that they feel others should be able to buy for themselves. It need not be the case that people would fund appendectomies in preference to tooth capping because of the 'rule of rescue'. It is sufficient to acknowledge that people are concerned to help those who would find it difficult to help themselves.

Unlike the implications of the rule of rescue, there may well be situations in which life is too expensive to save. This is particularly true where that life might be short or of low quality.

4.6. Equity

At the very heart of 'neighbourly' preferences lie considerations of equity. In the absence of support, people who need expensive treatment can suffer

catastrophic loss of wealth. We see this in the number of bankruptcies resulting from poor health in the United States¹⁴. The 'neighbourly' society will tolerate some inequalities in wealth, but offers help when things get really bad.

Social preferences are described in the way that they have been because people want to care for those who cannot help themselves. This might be a simple insurance motive, but it may arise from deeper human compassion (or to the cynical, perhaps a 'hard wiring' of the insurance motive into our very nature). When maximising health gain through cost per QALY prioritisation we have shut out this motive. As a result we need to open a back door through which equity can enter, perhaps by applying weights to QALYs. (As I show, this method is unequal to the task.) If social preferences actually take the sort of form that is postulated here, then equitable aims (in so far as society wishes to avoid catastrophic financial losses to patients) are incorporated into the decision making problem.

4.7. *Weighting QALYs is no solution to all equity issues.*

If the welfare structure of this 'neighbourly' society is as illustrated, it is clear that weighting QALYs cannot address all distributive issues. Weighting QALYs would 'smear' the intervention set to the right, however, it would have little effect on the parameter that is perhaps of most acute importance to poor families, that is to say, the height of the Southern boundary of the intervention set in Figure 1. Accessing low cost care, such as a visit to a GP would remain problematic.

The equitable treatment of young families is achieved, not by weighting QALYs, but by adjusting the threshold that they might be expected to contribute to their care (as had been the case in New Zealand until the latest changes to primary care funding).

4.8. *Indirect costs*

The conceptual approach of explicitly considering the counterfactual may be useful in analysing the somewhat thorny issue of indirect costs. Some economists consider the earnings of the well paid to reflect their greater contribution to society. It would follow that the benefits from restoring them to full health are correspondingly greater than the benefits of restoring people on low (or no) incomes. By implication we would give preference to the treatment of the well paid. To other economists it seems paradoxical that we provide public health care to ensure that poor people get the same health care as the rich, then give greater value to the treatment of the rich.

This paradox arises because we fail to properly consider the counterfactual. Unless the counterfactual to the public provision of health care is that no-one is allowed to purchase health, then, if untreated publicly, the rich would pay for themselves. The welfare gain that society derives from paying for their treatment is not their health improvement (for they would have bought that anyway) it is the gain that society gets from knowing that the wealthy do not suffer the financial loss of paying for their care. Under normal assumptions of diminishing marginal utility of wealth, we would assume that the welfare loss from a somewhat poorer person having to pay the same amount would in fact

be greater. The welfare gain (in comparison with a counterfactual of not providing the care publicly) is actually less when we pay for the care of the rich than when we pay for the care of the poor. This result addresses the “salt and sand??” paradox to which Alan Williams drew our attention {reference missing}.

4.9. *The decision making process*

The decision about where the boundaries to the intervention set lie is a decision that may well be informed by economists, but is likely to be made by others with greater political legitimacy. The result of this might be that economists lose the power and mystique of a formula that is unfathomable to many. This may not be a bad thing¹⁵. The specification of the boundary to the intervention set must rest with people who have the legitimacy to identify it. Their objectives must be transparent, their actions must be accountable, but theirs is the task of identifying the boundary.

4.10. *Personal concerns about the model*

While recognising the right of New Zealanders (and Oregoneans) to specify their own social welfare objectives, I do fear that there may be important objectives that are lost in a ‘neighbourly’ society. Perhaps we want everyone to receive all their health care publicly to achieve greater social cohesion. Perhaps we fear that subsidies will stigmatise the poor. Perhaps we feel that the rich will care less about a system that they themselves do not use. These may all be reasons for us wishing to have a society in New Zealand that is better than merely ‘neighbourly’.

I fear also that the argument for the acceptance of some limited personal responsibility for health might appear as the thin end of a wedge; a wedge that ends with everyone completely responsible for their own health care. To date this does not appear to be what New Zealanders want. New Zealand was the first country to introduce free universal health care entitlements; they did so in 1938. Even during the economic crisis that occurred following Britain’s entry into the European Community, at a time when New Zealand was trying desperately to reduce public expenditure, the government had to withdraw its attempt to enforce payment for elective secondary care. New Zealanders refused to pay, even under threat of legal actions. It is not the case that New Zealanders are indifferent to the health care needs of others, but it does seem that, for many years, they have accepted that some individuals should retain some responsibility for some of their health care costs.

My concerns would be somewhat assuaged if savings from not treating people for the cheap things that they might afford themselves, are used to provide expensive things that they could not. We should remember that while we might offer (relatively) cheap GP care to all in the UK we place restrictions on the availability of expensive care, with the result that poor people do have to wait for elective surgery until their condition has deteriorated sufficiently. Cost per QALY prioritisation might provide the relatively cheap care to all (including care that even the poor could afford to pay for themselves), but effectively exclude the poor from the same access to expensive elective surgery as the rich.

4.11. Extra Welfarism

More than one person has commented that I need to address the issue of extra-welfarism. I don't really follow why this should be the case, however, to state my position, I don't believe that we should be maximising health any more than I believe we should be maximising health care. Both are but routes to welfare (maybe that makes me 'welfarist'). Neither do I believe that we should be trapped into non intervention by the implication of Paretian welfare economics that we should only follow a course of action if we fully compensate all who would lose by that course of action (maybe that makes me 'extra-welfarist', if so, then so be it). Redistribution is at the heart of social welfare policy. If not everyone feels the same way about helping their neighbour, that is sad; but part of living in a democracy is to play by its rules or argue for a change in them.

4.12. Social welfare

Transferring the emphasis from the welfare of the patient to the welfare of the citizen has been advocated by other authors, most cogently by Ubel et al¹⁶. The views expressed by those authors emphasise the need to consider citizen preferences concerning, for example, welfare gains to patients with lower health starting points, or welfare gains to citizens whose potential for gain is limited, for example by disability. The same authors have commented that the Oregon paradox may be explained in terms of social rather than patient welfare¹⁷. Perhaps the distinct contribution of this paper is to specify a counterfactual in which, in the absence of public health care, the patient might pay for their own treatment, and to identify the consequent possibility of an interaction term between cost and the utility to the citizen of the patients health gain.

This paper has provided one specific example of a more general case. The specific example is my interpretation of how welfare gains arise in New Zealand. I might be wrong. In one way, it does not matter. The general case is of a relationship between patient health gains and cost of treatment, on the one hand, and citizen welfare on the other. Only if citizen welfare is linear, and independent, in both of these arguments, is traditional cost per QALY analysis appropriate to the maximisation of citizen welfare.

This is a very strong assumption.

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¹ Priority setting for health – a literature review
[http://72.14.203.104/search?q=cache:LOYjUSNw8ooJ:www.sesa.ucl.ac.be/hsr/Biblioth%C3%A8que/Economie\(delaSant%C3%A9\)-Syst%C3%A8meDeSant%C3%A9/PrioritySettingWorldBank.doc](http://72.14.203.104/search?q=cache:LOYjUSNw8ooJ:www.sesa.ucl.ac.be/hsr/Biblioth%C3%A8que/Economie(delaSant%C3%A9)-Syst%C3%A8meDeSant%C3%A9/PrioritySettingWorldBank.doc)

² Culyer AJ, The caring economy, University of Otago, Dunedin, 1979.

³ Hadorn DC, Setting health care priorities in Oregon. Cost-effectiveness meets the rule of rescue, JAMA, 265, 17, 1991.

⁴ Gauld R (2001), Revolving doors: New Zealand health reforms, Wellington, Institute of Policy Studies and the Health Services Research Centre, Victoria University of Wellington

⁵ Prioritising Health Services A background paper for the National Health Committee, p14, Wellington, October 2004)

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[http://www.moh.govt.nz/moh.nsf/0/1BF9A9B04AA23B8ACC256EF4000D3A8A/\\$File/FeeSurveyReportCBG.doc](http://www.moh.govt.nz/moh.nsf/0/1BF9A9B04AA23B8ACC256EF4000D3A8A/$File/FeeSurveyReportCBG.doc)

⁷ http://www.moh.govt.nz/moh.nsf/wpg_index/-Primary+Health+Care+Funding

⁸ http://www.moh.govt.nz/moh.nsf/wpg_index/-Primary+Health+Care+Funding

⁹ http://www.moh.govt.nz/moh.nsf/wpg_index/About-Eligibility

¹⁰ http://www.moh.govt.nz/moh.nsf/wpg_index/About-Eligibility

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<http://www.immigration.govt.nz/migrant/SettlementPack/Health/MotherAndChildCare/MaternityCare.htm>

¹² Gauld R, Revolving doors: New Zealand's health reforms, Victoria University of Wellington, 2001.

¹³ Hadorn DC, Setting health care priorities in Oregon. Cost-effectiveness meets the rule of rescue, JAMA, 265, 17, 1991.

¹⁴ Appleby J, "More Insured Workers Unable to Pay Medical Bills," USA Today, 29 April 2005.

¹⁵ Coast J, Is economic evaluation in touch with society's health values?, BMJ, 329, 2004.

¹⁶ Ubel, Peter A. MD *; Nord, Erik PhD +; Gold, Marthe MD ++; Menzel, Paul PhD [S]; Prades, Jose-Luis Pinto PhD [P]; Richardson, Jeff PhD Improving Value Measurement in Cost-Effectiveness Analysis. Medical Care. 38(9):892-901, September 2000.

¹⁷ <http://www.nyu.edu/gsas/dept/philo/courses/bioethics/Papers/HCR28Feb99.PDF> (accessed 2005-10-29).