OFFICE OF THE
MINSTER OF HEALTH

MEMORANDUM TO THE CABINET SOCIAL POLICY AND HEALTH COMMITTEE

DISTRICT HEALTH BOARD FUNDING: STRUCTURE OF THE POPULATION-BASED FUNDING FORMULA

Paper 3 of 3

PROPOSAL

1. In this paper I propose the structure of a population-based funding formula (PBFF) which will determine each DHB's share of available health and disability funding.

EXECUTIVE SUMMARY

2. The aim of the PBFF is to fairly distribute available funding between DHBs according to the relative needs of their populations and the cost of health and disability support services to meet those needs.

3. According to the PBFF, each DHB's share of health and disability funding will be determined by:

   i. its share of the projected New Zealand population, weighted according to the national average cost of the health and disability support services used by different demographic groups;

   ii. an additional 'policy-based' weighting for unmet need which recognises the different challenges which DHBs face in reducing disparities between population groups; and

   iii. a rural adjustment and an adjustment for overseas visitors, each of which redistributes set amounts of funding between DHBs to recognise unavoidable differences in the cost of providing certain health and disability support services.

4. The PBFF will give each DHB the same opportunity, in terms of resources, to respond to the needs of its population. The PBFF will recognise, for example, the additional costs of providing services to elderly people, Maori, Pacific people and people who live in the most deprived areas in the country.

5. The PBFF will be similar in purpose and structure to the population-based formulae which have previously been used to divide health funding between regional health authorities, area health boards and hospital boards.

BACKGROUND

6. Population-based funding formulae (PBFFs) have been used in the health sector in New Zealand since 1982 and are currently used to divide funding between four regions of the HFA. When the legislation is passed, the HFA will cease to exist and DHBs will be formed. DHBs will be funded using a new PBFF [CAB (00) M 2/4 refers] which will divide funding between the 21 districts.

7. In a paper submitted concurrently to the Committee (*Paper 2: Structure of DHB Appropriations*) I have proposed that there should be one appropriation for each DHB. The corollary is that there should also be only one PBFF, which will cover all service areas and apply to all available health and disability funding. In another paper submitted concurrently to the Committee (*Paper 1: Implementation of Population-Based Funding*), I have proposed that the new DHB PBFF should first be used in the 2002/03 year.

PURPOSE AND AIM OF THE PBFF

8. PBFFs are formulae which determine the share of funding to be allocated to different parts of the country, based on the population which lives in each part. When it is completed, the DHB PBFF (hereafter just referred to as 'the PBFF') will determine each DHB's share of available health and disability funding.

9. The aim of the PBFF will be to fairly distribute available funding between DHBs according to the relative needs of their populations and the cost of providing health and disability support services to meet those needs. The PBFF will give each DHB the same opportunity, in terms of resources, to respond to the needs of its population.

10. The PBFF is simply an allocation formula, however, and it does not:

    i. influence how DHBs spend their allocated funding. Directions and incentives for the use of funding will be included in the funding agreements between DHBs and the Minister of Health

    ii. determine the overall amount of health and disability funding which will be available. I will, however, be proposing to Cabinet the establishment of a Task Force to consider the level and sources of funding for the public health system.

    iii. deal with issues of capital funding. Funding for major investments will be on the basis of business cases put forward by DHBs [CAB (00) M 20/3 refers]. DHBs will also inherit the assets and liabilities of the current Hospital and Health Services [CAB (00) M 2/4 refers].

POPULATIONS

11. The relative size of the population which each DHB will be responsible for will be the major determinant of their PBFF share of funding. For each

funding year, the PBFF will use population projections for the mean (average) resident population in each DHB for that year.

12. The subnational and ethnic-specific population projections required for the PBFF are not part of Statistics New Zealand's normal suite of projections and will have to be specially produced. These projections will be commissioned at least after each Census. Interim projections could also be commissioned if there has been an unexpected significant population change affecting certain parts of the country. The population estimates which Statistics New Zealand produce each year can be used to check for significant population changes.

13. However, while population projections should be based on up-to-date information there is also virtue in using a stable set of projections. This minimises any 'surprises' for DHBs, in terms of adjustments to their funding paths, when the population projections are revised.

POPULATION WEIGHTINGS

14. The PBFF will weight the population of New Zealand according to the national average cost of providing health and disability support services to people in different demographic groups. It will then divide funding between the DHBs according to their share of this 'cost-weighted' population. If a DHB has five percent of the weighted population, for example, it would get five percent of available health funding. (The adjustments which are discussed later in this paper would change this percentage very slightly.)

Constructing the population weightings

15. Population weightings will be based on the results of technical modelling work which is currently underway. The best empirical data which is available will be used in calculating these population weights. The quality of information on costs by different demographic groups, however, varies markedly across the range of health and disability services which DHBs are likely to be responsible for.

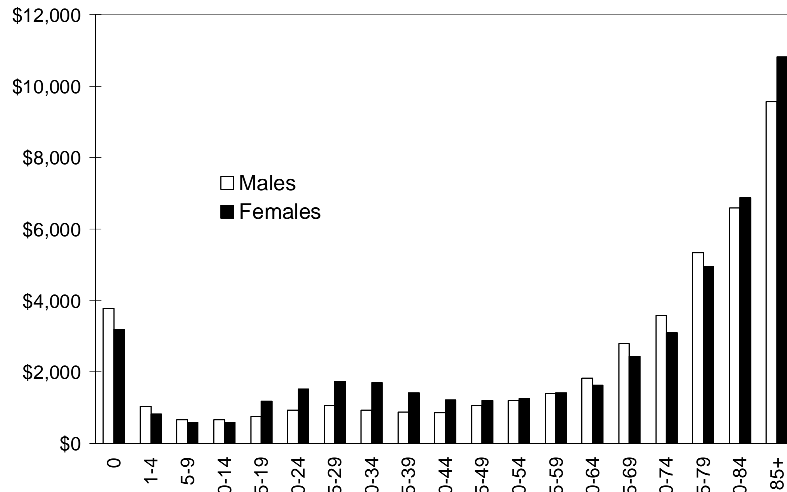
16. Information on hospital admissions, for example, is good, and each patient's age, gender, ethnicity and area of residence is known. In contrast, there is little information on the demographic characteristics of people who use mental health community services. Where demographic information at the patient level is extremely poor, estimates of population weights will have to incorporate other sources of information. In the mental health area, for example, it may be appropriate to use information such as the Mental Health Commission's targets.

Demographic groups which are likely to be included

17. Age and gender will be included in the PBFF as demographic groups to which weightings will be applied. An example of these weightings is shown in Figure 1. In particular, Figure 1 shows that it costs more to provide

services for an average older person than for an average younger person. A DHB with a high proportion of older people in its population would therefore face greater costs in meeting the needs of its population than a DHB with a low proportion of older people, all else remaining equal. Table 1 shows that older people are not evenly distributed across all DHB districts. By giving older people a higher weight than younger people in the PBFF, this uneven distribution across DHBs is accounted for.

Figure 1. Estimated per capita health and disability costs by age group and gender, 1997/98



18. As well as weighting different age groups, the PBFF is also likely, wherever possible, to weight demographic groups according to ethnicity and deprivation (as defined by NZDEP). This is because a greater amount of health funding, on average, goes to a Maori or Pacific person than to a person of another ethnic group (as Maori and Pacific people tend to have greater health needs) and the PBFF should reflect this. For the same reasons, a greater amount of funding goes, on average, to a person living in a more deprived area than to a person in a less deprived area.

19. The PBFF will therefore ensure that:

    i. a DHB with a high proportion of elderly people will get more funding than a DHB with a low proportion of elderly people (all else remaining equal);

    ii. a DHB with a high proportion of Maori and Pacific people will get more funding than a DHB with a low proportion of Maori and Pacific people (all else remaining equal);

    iii. a DHB with a high proportion of people living in the most deprived areas will get more funding than a DHB with a low proportion of these people (all else remaining equal).

20. Table 1 shows how the proportions of these demographic groups differ between DHBs. For some DHBs, the different population factors will affect

their funding in opposite ways. South Canterbury, for example, has the highest proportion of older people in New Zealand but the lowest proportion of Maori and Pacific people.

Table 1. Proportion of population groups by DHB district

DHB district	Percentage of people aged 65+	Percentage of Maori or PI	Percentage of people in NZDEP quintile 5
Northland	12	31	36
Waitemata	11	15	5
Auckland	11	21	21
South Auckland	9	33	31
Waikato	11	22	24
Lakeland	10	35	36
Bay of Plenty	14	26	26
Tairawhiti	11	44	42
Taranaki	13	15	18
Hawke's Bay	13	24	27
Wanganui	13	23	31
Manawatu	12	15	16
Capital Coast	10	18	16
Hutt	11	20	19
Wairarapa	14	17	18
Nelson-Marlborough	14	9	8
West Coast	12	9	21
Canterbury	13	8	13
South Canterbury	16	6	9
Otago	14	7	14
Southland	11	12	12
NZ average	**12**	**19**	**20**

Notes
1. Light shading indicates the lowest proportion amongst the DHBs; heavy shading indicates the highest proportion.
2. People in NZDEP quintile 5 are those living in the most deprived 20 percent of areas in NZ.

ADDITIONAL WEIGHTING FOR UNMET NEEDS

21. The greater population weightings for Maori, Pacific people and people in the most deprived areas reflect the greater health needs of these groups, to the extent that these needs are currently being met by health services.

22. There are still significant health disparities, however, between Maori and Pacific people and other New Zealanders. There are also significant health disparities between people who live in the most deprived areas in New Zealand and those who live in the least deprived areas. For example, in all age, gender and ethnic groups, people living in more deprived areas in New Zealand have higher mortality rates than those living in less deprived areas. Maori and Pacific people are heavily over-represented in the most deprived areas, but socio-economic factors do not explain all of the differences between Maori and Pacific people and other New Zealanders.

23. These persistent health disparities indicate that Maori, Pacific people and people in the most deprived areas have needs for health services which are not currently being met. The New Zealand Public Health and Disability Bill gives DHBs the objectives of reducing health disparities between Maori and other New Zealanders and reducing other health disparities between population groups. These are also key objectives in the New Zealand Health Strategy.

24. There is an opportunity in the PBFF to *further* increase the population weightings for Maori, Pacific people and/or people in the most deprived areas to recognise that they have unmet needs which the Government wants DHBs to address. This additional weighting for unmet need would help to equalise the opportunity across DHBs to address health disparities.

25. Such a factor in the PBFF would give DHBs with an above-average proportion of Maori and Pacific people, or people in the most deprived areas, more funding than they would otherwise receive, at the expense of DHBs with a below-average proportion of these population groups. Whether the additional weighting applied to Maori and Pacific population weights, to high deprivation population weights or to a combination of these weights, the results would be similar. An additional unmet need weighting would favour DHBs such as South Auckland, Northland, Lakeland and Tairawhiti, at the expense of DHBs such as Canterbury, Otago, Nelson-Marlborough and Waitemata.

26. Unmet needs adjustments are a feature of current New Zealand funding formulae, although they have not been used in the funding formulae of other countries such as the UK and Canada. The current personal health formula in New Zealand has an adjustment for Maori unmet need which effectively takes about $4 million from the Southern and Northern regions of the HFA and adds this amount to the Midland region.

27. I propose that an additional weighting for unmet needs adjuster be included in the PBFF. Exactly which population weightings to increase, and by how much, will be included in my report to the Committee in the New Year (see 'Continuing Work' below). The Committee should note that an additional weighting for unmet needs is a forward-looking, policy-based adjustment to the PBFF. There is no one 'right' level for this adjustment, since it is not based on existing observable patterns of service use, as is the rest of the PBFF.

TOP-SLICED ADJUSTMENTS

28. The PBFF is based on each DHB's share of the weighted population of New Zealand, as described above. However, DHBs also face some costs in meeting the needs of their populations which are more easily dealt with through a simple 'top-slice' or adjustment of funding. In these adjustments, a set amount of funding is taken off the total pool of available funding and redistributed between the DHBs. I propose two such adjustments to the PBFF, which are discussed below.

Adjustment for overseas visitors

29. All overseas visitors are eligible for acute care for personal injuries (through ACC). Visitors from some countries have reciprocal rights to certain publicly-funded health services in New Zealand, and New Zealand citizens living overseas (including those from the Cook Islands, Niue and Tokelau) are eligible for all services. DHBs should bear the costs of treating overseas visitors who use services within their geographically-defined district, as the four HFA regions do now, and the regional health authorities and area health boards did before them. The majority of the costs incurred in treating overseas visitors will be hospital costs.

30. Overseas visitors, however, are not part of the resident population of New Zealand on which the PBFF will be based. This would not matter for funding purposes if the use of services by overseas visitors was reasonably evenly distributed across the country. This is not the case, however, and the main entry points for visitors (Auckland and Christchurch) and popular tourist destinations (like Rotorua and Queenstown) have more overseas visitors than the rest of New Zealand. The DHBs in these places are therefore more likely to incur costs, relative to their overall budget, in treating eligible visitors. Eligible visitors from the Cook Islands, Niue and Tokelau use hospital services almost exclusively in Greater Auckland.

31. There should, therefore, be an adjustment in the PBFF for the unavoidable differences in costs that DHBs face in providing services to eligible overseas visitors. This adjustment should be made by estimating the actual costs which would have been incurred by DHBs in providing these services over the most recent year or years. The total sum of these costs should be top-sliced off the available funding for all DHBs and distributed to individual DHBs according to where the costs are expected to fall.

Rural adjustment

32. DHBs will face unavoidable costs in providing or funding some community services to rural communities because the population in these communities is widely dispersed. Examples of these are the rural practice bonuses paid to rural general practitioners and the unproductive travelling time spent by district nurses in isolated areas. DHBs will also face unavoidable costs in providing some hospital services to rural communities because of the diseconomies of scale involved in maintaining a reasonable level of access to hospital services for these communities.

33. There should therefore be an adjustment in the PBFF for the unavoidable differences in costs that DHBs face in providing services to rural populations. This adjustment should be made by estimating the actual costs which would have been incurred by DHBs in providing these services, as estimated from the most recent year or years. The total sum of these costs should be top-sliced off the available funding for DHBs and distributed according to a measure of the remoteness of each DHB’s population.

34. There are a number of precedents for a rural adjustment. The current Personal Health PBFF, which divides available personal health funding between the former regional health authority regions, has a 'geographical adjuster' which adjusts for the extra costs of a rural population. The prices paid by the HFA to HHSs also reflect these extra costs of rurality.

CONTINUING WORK

35. In a paper submitted concurrently to the Committee (*Paper 1: Implementation of Population-Based Funding*), I discuss the timetable for continuing work on the PBFF. The final formula will be reported to the Committee by 30 June 2001, after consultation with DHBs and a review of the formula by an international expert.

36. As a result of consultation with DHBs it is likely that other examples of differences in need, over and above those due to differences in the age, gender, ethnic and deprivation structure of the population, will be raised. These will be investigated if they can be quantified and shown to be material.

37. For example, it may be that clusters of high-need patients exist due to the existence of an institution in a particular area in the past (for example, on the West Coast due to the deinstitutionalisation of Seaview intellectual and psychiatric hospital). This particular issue is already being investigated, but there is at present no firm evidence to support an adjustment to the PBFF (which in any case would only apply if non-age-related DSS funding was devolved to DHBs).

CONSULTATION

38. The Treasury, the Health Funding Authority, Te Puni Kokiri, the Department of Prime Minister and Cabinet, the Ministry of Agriculture and Forestry (Rural Affairs) and the Ministry of Pacific Island Affairs have been consulted on this paper.

FISCAL IMPLICATIONS

39. This paper has no fiscal implications.

LEGISLATIVE IMPLICATIONS

40. This paper has no legislative implications.

HUMAN RIGHTS ACT 1993

41. This paper has no Human Rights Act 1993 implications.

REGULATORY IMPACT STATEMENT

42. A regulatory impact statement is not required.

PUBLICITY

43. Any publicity on matters related to this paper is being managed as part of the Communications Strategy on the health sector changes.

AT THE MEETING ON 18 DECEMBER 2000, FOLLOWING REFERENCE FROM THE CABINET SOCIAL POLICY AND HEALTH COMMITTEE, CABINET:

CAB (00) M 42/5 C

DISTRICT HEALTH BOARD FUNDING: STRUCTURE OF THE POPULATION-BASED FUNDING FORMULA

a **noted** that on 31 January 2000 Cabinet agreed that DHBs will be funded using weighted population-based funding formulae [CAB (00) M 2/4 refers];

Purpose and aim of the population-based funding formula (PBFF)

b **agreed** that there be one population-based funding formula (PBFF) that will determine each DHB's fair share of available funding for health and disability services;

c **agreed** that the aim of the PBFF will be to fairly distribute available funding between DHBs according to the relative needs of their populations and the cost of health and disability support services to meet those needs;

d **noted** that the PBFF itself cannot influence how DHBs spend their allocated funding, and that directions and incentives for the use of funding will be included in DHB funding agreements;

e **agreed** that, according to the PBFF, each DHB's share of health and disability funding will be determined by its share of the cost-weighted New Zealand population, plus a limited set of adjustments which will redistribute funding between DHBs;

f **noted** that the PBFF will be similar in purpose and structure to the population-based formulae that have been used in the past to divide health funding between regional health authorities, between area health boards and between hospital boards;

Populations

g **agreed** that, for the purposes of the PBFF, each DHB's population in a particular financial year will be the projected mean resident population for that year;

h **agreed** that the population projections used in the PBFF will be sub-national and ethnic-specific population projections from Statistics New Zealand, based on the most recently available Census population;

Population Weightings

i **agreed** that the weightings given to different demographic groups in the PBFF will be based on the estimated national average cost of providing health and disability services to people in those demographic groups, as estimated from the most recent year or years;

j **noted** that the final choice of which demographic groups to weight will be determined by the results of technical work currently underway, but that these groups are likely to be based, where possible, on age, gender, ethnicity and deprivation;

k **agreed** that the population weightings will include an additional 'policy-based' weighting for the unmet needs of demographic groups such as Maori, Pacific people and people living in the most deprived areas, in order to equalise the opportunity across DHBs to address health disparities;

Adjustment for Overseas Visitors

l **noted** that overseas visitors are eligible for some publicly-funded health and disability services but that overseas visitors are not part of the 'resident population' on which the PBFF is based;

m **agreed** that DHBs should bear the costs of treating overseas visitors who use services within their district;

n **agreed** that there will be an adjustment in the formula for the unavoidable differences in costs that DHBs face in providing services to eligible overseas visitors, and that this adjustment will be based on the actual extra costs incurred by DHBs in providing these services, as estimated from the most recent year or years;

Rural Adjustment

o **agreed** that there will be an adjustment in the PBFF for the unavoidable differences in costs that DHBs face in providing or funding some community services to rural communities, and for the diseconomies of scale involved in maintaining a reasonable level of access to hospital services for rural communities;

p **agreed** that this rural adjustment will be based on the actual extra costs incurred by DHBs in providing these services, as estimated from the most recent year or years;

Further Work

q **noted** that Cabinet has agreed that a final formula will be reported to SPH by 30 June 2001, after consultation with DHBs and a review by an international expert have been completed [CAB (00) M 42/5A refers];

r **noted** that the issue of clusters of high-need patients in some DHBs is currently being investigated, and that DHBs may raise individual examples of differences in need between districts;

s **directed** officials to report back to the Cabinet Social Policy and Health Committee on the extent to which the PBFF would lead to significant changes in funding for DHBs between years and to make recommendations on ways any significant funding decreases might be phased in to allow DHBs to enter into longer-term funding contracts with local providers.