Needs based resource allocation in primary health care: the current situation

Peter Crampton
Wellington School of Medicine and Health Sciences
University of Otago, Wellington, New Zealand
Acknowledgements

• Jon Foley – Ministry of Health
Outline

• Aims
• In the bad old days...
• Overview of primary care resource allocation
• Needs based resource allocation in NZ
• The PHO funding formulas
• Why are both deprivation and ethnicity included as measures of need?
• The equity effects of the formula
• Groups not catered for
• Conclusions
Aim to explain...

- That New Zealand has a sophisticated and increasingly fair resource allocation mechanism for primary care
- That funding is needs based
- That high needs groups not covered in our current funding formulas have to be catered for
- Why the “needs vs race” language is misleading and confusing
In the bad old days…
In the bad old days...

- Historical funding mechanisms for primary care
  - The main drivers were GP location and patient throughput
  - A few capitation funded practices
- Capitation funding of Primary Health Organisations introduced in 2003
Recent changes in primary care

- Introduction of contracting during the 1990s
- Infrastructure development
  - IPAs
  - HCA
  - Other networks
- Budget holding
- Primary Health Care Strategy 2001
Primary Health Organisations

• PHOs
  – Non-profit umbrella organisations
  – Population approach
  – Capitation funding formula
  – Comprehensive range of services
  – Community involvement in governance
  – Multi-disciplinary involvement in governance
  – Reduce financial barriers to access

• About 77 PHOs (3.7 million enrollees)
Structure of the New Zealand health system

Ministry of Health
- Policy
- Direct Purchasing
- Funding

21 District Health Boards

Hospital Services
- Purchasing Function

ACC
- Direct Purchasing

Maternity providers
- Public Health providers
- DSS (<65)

NGOs

PHOs

Private Providers
Overview of primary care resource allocation
Components of Vote: Health expenditure (2001/02)

Personal health (institutional) 46%
Personal health (community) 30%
DSS 19%
Public health 2%
Independent service providers 1%
Ministry of Health 1%
Other 1%

Primary care related expenditure: public

Primary care related expenditure: private

Needs based resource allocation
in New Zealand
History of needs based funding in NZ (1)

• Fixed allocations introduced for hospital boards in 1967/68
  – Hospital boards funded according to previous year’s allocation with adjustments for changes in population, capital grants, and increases in bed days
• Population-based funding for hospital boards introduced in 1983
• Population-based funding used for AHBs during the 1980s
History of needs based funding in NZ (2)

• Three PBFFs developed for RHAs following 1993/94 - personal health, disability, and public health
• A new PBFF now applies to the 21 DHBs
• Four capitation funding formulas apply to PHOs
Principles of needs based funding...

- To allocate funding according to need
- Need is determined by, for example:
  - Population size (enrolled population)
  - Age / sex
  - Socioeconomic factors (deprivation)
  - Community Services Card
  - High User Health Card
  - Ethnicity
Other rationales for population based funding of primary care services

• Promotes continuity, prevention, coordination
• Facilitates appropriate roles for nurses and other health professionals
• Facilitates other population-based approaches such as chronic disease management and screenings
PHO funding formulas

• There is not one PHO funding formula, but four:
  – First contact (interim and access)
  – Services to improve access
  – Health promotion funding
  – Care Plus funding

• Collectively this is what we refer to as ‘needs based funding’
First contact formulas

- Two different population-based funding formulas for first contact services
  - Interim formula (age, sex, CSC)
  - Access formula (age, sex) [ethnicity, deprivation]
Why are both deprivation and ethnicity included as measures of need?

![Graph showing avoidable mortality rates per 100,000 for males aged 45-64 years, with two lines representing Maori ethnic group and European & Other ethnic groups. The NZDep96 index of deprivation ranges from 1 (least deprived) to 10 (most deprived).]
The equity effects of the formulas
Primary Health Organisation enrolees by age group and funding formula, July 2004

Access Primary Health Organisation enrolment by ethnicity and NZDep2001 decile, July 2004

Interim Primary Health Organisation enrolment by ethnicity and NZDep2001 decile, July 2004

What are the equity effects of needs-based funding for PHOs?

PHO capitation expenditures per person (Jan 05 annualised)
Groups not catered for

- Homeless people
- New migrants and refugees
- Other groups?
Conclusions

• New Zealand has a sophisticated and increasingly fair resource allocation mechanism for primary care
• Funding is needs based
• “Needs vs race” language is misleading and confusing
• High needs groups not covered in our current funding formulas have to be catered for
Reflecting Need in PHO Funding Formulae

April 6, 2005
Overview

• Rationale for population based funding
• Proxies for need
• PHO formula for ‘first contact’ care
• PHO formula for SIA and HP
• PHO formula for Care Plus
• Summary
Rationale for population based funding

• Promotes continuity, prevention, coordination
• Reduces incentive for ‘churning’
• Facilitates appropriate roles for nurses and other health professionals
• Enables equitable distribution of funds
• Facilitates other population-based approaches such as chronic disease management and screenings
Estimating health need

• Reflecting historical experience versus need
• Why proxies are required
• Proxies used:
  – Age
  – Gender
  – Community Services Card
  – High User Health Card
  – Deprivation
  – Ethnicity
mbulatory sensitive hospitalisations, 2001-2003, by ethnicity

All cause mortality by ethnicity within income group, ages 25-77 years, by sex, 1996-1999

Source: New Zealand Census Mortality Record Linkage Study
PHO formulas for first contact care

**Access**
- Historical utilisation by age, gender
- Historic CSC utilisation (children), historic CSC/nonCSC adults
- Elasticity of demand factor (adults)
- $35 per consultation under sixes
- $25 per consultation for remainder
- Plus practice nurse subsidy weighted by historic GP utilisation

**Interim**
- Historical utilisation by age, gender, CSC
- Elasticity of demand factor where ‘low cost access’ applies (6 – 17, 65+)
- $35 per consultation under sixes
- $25 per consultation 6 – 17, 65+
- $15 CSC holding adults
- $0 non CSC holding adults
- Plus practice nurse subsidy weighted by historic GP utilisation
PHO formula for SIA and HP

• First contact Access PHO rates (arrayed by age and gender) plus $2 HP
• Multiplied by weighting based on ethnicity and NZDep quintile:
  – 1.2 Maori/Pacific, NZDep quintile 1 – 4
  – 1.4 Maori/Pacific NZDep quintile 5
  – 1.2 Non Maori/Pacific, NZDep quintile 5
  – 1.0 Non Maori/Pacific, NZDep quintile 1 - 4
• Rationale: Cost of CHW for population of 1200 – 1500 high need
PHO SIA/HP Rate Comparison

$0.00
$20.00
$40.00
$60.00
$80.00
$100.00
$120.00
$140.00

00-04 05-14 15-24 25-44 45-64 65+

$ per head (GST excl)

SIA_HP (M_PI,Q5)
SIA_HP (M_PI,Q<5)
SIA_HP (NonM_PI,Q5)
SIA_HP (NonM_PI,Q<5)

Age Groups

SIA_HP (M_PI,Q5)
SIA_HP (M_PI,Q<5)
SIA_HP (NonM_PI,Q5)
SIA_HP (NonM_PI,Q<5)

$ per head (GST excl)

00-04 05-14 15-24 25-44 45-64 65+

Age Groups
PHO capitation expenditures per person (Jan 05 annualised)

Demographic group

- Maori_Pacific
- Non_Pacific
- Q5
- Q5_Maori_Pacific
- Q5_Non_Pacific
- Q<5
- Q<5_Maori_Pacific
- Q<5_Non_Pacific
- Overall

$ per head (GST excl)
PHO capitation funding by demographic group

- Q5 Maori-Pacific: 16%
- Q5 Non-Maori-Pacific: 12%
- Q<5 Maori-Pacific: 12%
- Q<5 Non-Maori-Pacific: 60%

PHO enrolment by demographic group

- Q5 Maori-Pacific: 10%
- Q5 Non-Maori-Pacific: 9%
- Q<5 Maori-Pacific: 9%
- Q<5 Non-Maori-Pacific: 72%
Care Plus population formula

- Sample of CP eligibles arrayed by age, gender, NZDep (Q5, Q1-4), ethnicity (M/PI, Non M/PI)
- Bring totals to 5% based Dep/ethnicity groupings
- Apply SIA weightings by Dep/ethnicity groupings
### Care Plus population formula

<table>
<thead>
<tr>
<th>% of enrolled pop</th>
<th>Q 1-4, M/PI</th>
<th>Q 5, M/PI</th>
<th>Q 1-4, Non M/PI</th>
<th>Q 5, Non M/PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual</td>
<td>5.5%</td>
<td>5.3%</td>
<td>7.2%</td>
<td>7.2%</td>
</tr>
<tr>
<td>After First Weighting</td>
<td>5.0%</td>
<td>5.0%</td>
<td>5.0%</td>
<td>5.0%</td>
</tr>
<tr>
<td>After Second Weighting</td>
<td>6.0%</td>
<td>7.0%</td>
<td>4.4%</td>
<td>6.0%</td>
</tr>
</tbody>
</table>
Care Plus Eligible Population Percentages

Age Groupings

% of enrolled population

M_PI (M, Q5)
Non M_PI (M, Q5)
Summary

• Age is the most influential determinant
• Significant weightings for ethnicity and deprivation
• Review effects of these policies on access and intermediate health outcomes
• Adjust formulae and weightings based on PHO data