Healthy Lives, Healthy People: Update on Public Health Funding

Public health exposition book based on ACRA's interim recommendations: technical guide

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Prepared by the Department of Health Resource Allocation Team

Contents

Executive summary

1. *Healthy Lives, Healthy People: Update on Public Health Funding* sets out the interim recommendations of the independent Advisory Committee on Resource Allocation (ACRA) on the formula to set the preferred relative shares of each upper tier and unitary local authority of the new ring-fenced public health grant.

2. The Excel workbook *Public Health Exposition Book based on ACRA's interim recommendations* calculates weighted populations. The preferred relative shares are each upper tier and unitary local authority's share of the total weighted population.

3. Weighted populations are resident populations adjusted for:
   - relative need – areas with higher need have higher shares, all else being equal
   - unavoidable geographical variation in the cost of providing services (the Area Cost Adjustment (ACA)) – higher costs areas have higher shares all else being equal.

4. This Technical Guide supports the workbook *Public Health Exposition Book based on ACRA's interim recommendations* by setting out more detail on the calculation of weighted populations.

5. *Healthy Lives, Healthy People: Update on Public Health Funding* sets out:
   - that it is not possible to convert the preferred shares into cash values until the size of the national budget available in 2013-14 is known
   - the areas ACRA has identified as needing further work before making its final recommendations for the formula for the preferred distribution for 2013-14
   - the current thinking on the next steps on moving from estimates of baseline spend by primary care trusts in 2010-11 on local authorities' new public health responsibilities (reference in footnote), to actual ring-fenced public health grants in 2013-14 to upper tier and unitary local authorities.

6. This technical guidance should be read in conjunction with the Excel workbook *Public Health Exposition Book based on ACRA's interim recommendations* and *Healthy Lives, Healthy People: Update on Public Health Funding*.

1. Introduction

1.1 The interim public health formula has three components:

- mandatory services
- non mandatory services (excluding drugs services currently funded through the Pooled Treatment Budget (PTB))
- drugs services which are currently commissioned by drug action team partnerships (DATs) funded through the PTB). These drugs services are non-mandated.

1.2 A weighted population is calculated for each of these three components; the weighted populations are currently the same for mandatory and non-mandatory services (other than for drug services currently commissioned by DATs) but we are making the distinction at this stage to support development over the coming years. For instance, ACRA is investigating whether there should be weighting for age in the formula and, if so, this may be different for each group of responsibilities.

1.3 The weighted populations for each component are combined to give a single weighted population.

1.4 ACRA's interim recommendations included:

- the indicator of need should be the standardised mortality ratio (SMR) for those aged under 75 years
- the SMR<75 should be applied at MSOA level to take account of inequality within local authorities as well as between local authorities
- the weighted population for local authorities should be built up from the weighted populations for the MSOAs in their area
- there should be an adjustment for unavoidable differences in the costs of delivering services due to location, and this should be the Area Cost Adjustment (ACA) as used in the Department for Communities and Local Government's (DCLG) local government funding formula
- resident populations calculated by the Office for National Statistics (ONS) should be the population base.

1.5 Section 2 of this guide discusses the data used, and section 3 sets out the detail of the weighted population calculations.

2. Data

Population data

2.1 The primary determinant of resource allocation by local authority must be the size of the population, as this is the key determinant of the need for public health services.

2.2 There are two resident population estimates which are used in the calculation of the weighted populations in the Public Health formula. These are:

- Populations for Middle Layer Super Output Area[1] (MSOA)
- Populations for local authorities

2.3 The latest population data available for MSOAs are mid-2010[2] population estimates. In order for the final populations used in the formula to be closer to those when local authorities assume their new public health responsibilities, we have uplifted the mid-2010 estimates at local authority level to the 2010 based 2012 sub-national population projections (SNPP)[3].

2.4 Both the mid year population estimates and SNPPs are produced by ONS.

Standardised mortality ratio (SMR) <75

2.5 The SMR<75 is an indicator of the health of the whole population[4], and hence the need for public health. The SMR<75 is a measure of how many more or fewer deaths there are in a local area compared with the national average, having adjusted for the differences between the age profile of the local areas compared with the national average. It is available at the MSOA level. A higher SMR<75 number represents a higher relative number of deaths. SMR<75 is recommended by ACRA as an indicator of the whole population's need; it should not be interpreted that the formula does not reflect the needs of those aged over 75 years or that morbidity is unimportant.

[1] An MSOA is a small (a population of approximately 7k) geographical area defined by the ONS and used for statistical analysis.
[2] Mid 2010 MSOA population estimates are based on the 2001 Census to which births, deaths and migration are added or subtracted. For these estimates, and further information, please see: http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-230902
[3] 2010 based SNPPs are trend-base population projections based on the indicative ONS 2010 mid-year population estimates. For these estimates, and further information, please see: http://www.ons.gov.uk/ons/rel/snpp/sub-national-population-projections/2010-based-projections/stb-2010-based-snpp.html
[4] The SMR<75 captures mortality, but not morbidity. While alternatives such as the Disability free life expectancy (DFLE) and healthy life expectancy (HLE) capture morbidity (albeit at a basic level) as well as mortality, the SMR<75 is highly correlated with both DFLE and HLE, suggesting these have little advantage in terms of capturing morbidity. The SMR<75 also has the advantage of being updated regularly at the MSOA level.

Area cost adjustment (ACA)

2.6 The ACA is calculated by DCLG, where it is used to adjust for unavoidable cost differences in the formula which allocates funds to local authorities[5].

2.7 The ACA comprises:

- a labour cost adjustment (LCA) to adjust for unavoidable differences in labour costs between areas
- a rates cost adjustment (RCA) based on differences in business rates paid on local authority premises and buildings.

2.8 The proportion of costs which are employment and business rates costs for each service block, and to which the labour cost and business rate adjustments are applied in the local government funding formula are:

ACA Cost weights

	LCA	RCA
Education	80%	1%
Personal services: Children and younger adults	65%	0%
Personal services: Older people	65%	1%
Police	85%	1%
Fire	85%	1%
Highway maintenance	40%	1%
Environmental, protective and cultural	60%	2%

2.9 In the Public Health formula, ACRA recommended that 72% is applied for the LCA, and 1% for the RCA. These proportions represent the expenditure weighted average across all service blocks. This takes 72% of total costs to local authorities of their new public health responsibilities to be staff costs, and 1% to be rates costs. ACRA recognised that further work may be needed on this recommendation.

2.10 An alternative to the ACA is the market forces factor (MFF) used for PCT allocations. ACRA recommended use of the ACA to ensure coherence with other local authority funding streams, and it has been applied to all components of the Public Health formula. The ACA and MFF, however, are similar; they follow common principles and some of the data sources are the same.

[5] For further information on the methodology of the ACA please see http://www.local.communities.gov.uk/finance/1112/methaca.pdf

2.11 The LCA and RCA indices for each area before and after weighting for expenditure proportions are shown in the ACA sheet of the Excel workbook.

3. Calculating local authority weighted populations

Calculating MSOA level weighted populations

Mandatory and non-mandatory services (excluding drugs currently funded via PTB)

3.1 The first step is to weight the mid-2010 MSOA level populations for the SMR<75. Adjusting at the MSOA level accounts for health inequalities within, as well as between, local authority boundaries; this aids more accurate distributions relative to health need.

3.2 Below is a description of the process used to calculate MSOA level populations weighted for the SMR<75.

3.3 The deciles of MSOAs by the SMR<75 are calculated; each decile is assigned a weight per head. ACRA recommended that the weight per head for the population in the highest decile and the lowest decile should have the ratio 3:1, and the values of the weights for the intermediate deciles are equally scaled. This creates a linear relationship between the deciles. The ratio of 3:1 was based on advice from a group of public health experts.

3.4 The table below shows the weights by decile:

Weights by decile

Decile	Weight per head	Formula for the weight per head
1	1.00	1.22*2/9
2	1.22	1.44*2/9
3	1.44	1,67*2/9
4	1.67	1.89*2/9
5	1.89	2.11*2/9
6	2.11	2.33*2/9
7	2.33	2.56*2/9
8	2.56	2.78*2/9
9	2.78	3.00*2/9
10	3.00	-

3.5 The weights indicate how quickly the need for public health resources increase as the SMR<75 increases. The weights mean that the 10% of MSOA's with the highest SMR<75 values have a weight per head that is three times higher than those 10% with the lowest SMR<75 values.

3.6 The population in each MSOA is multiplied by the weight for its decile. The weighted populations by MSOA are then normalised, i.e. the figure for each MSOA is scaled by the same proportion so that the total weighted population for all MSOAs together equals the 2010 mid-year population estimate for England.

3.7 This provides MSOA need weighted populations for 2010 population estimates. This calculation is set out in the MSOA level weighted population sheet in the Excel workbook.

Calculating local authority level weighted populations

Mandatory and non-mandatory services (excluding drugs currently funded via PTB)

3.8 The MSOA need weighted populations are aggregated up to local authority level by summing the MSOA weighted populations in each local authority. These local authority figures are then uplifted to ONS projected populations for 2012 (using the 2010 based 2012 SNPPs). The local authority weighted populations are then normalised (ie the figure for each local authority scaled by the same proportion) so that the total weighted population for all local authorities together equals the 2012 population projection for England.

3.9 The ACA is then applied to the local authority need weighted population by local authority and normalised for the 2012 population projection for England.

3.10 This provides local authority level need and ACA weighted populations for 2012 population projections.

3.11 The formula for 2013-14 allocations will use the forthcoming new SNPPs for 2013 which will be based on the 2011 Census.

3.12 The calculation of local authority need and ACA weighted populations is set out in the local authority SMR<75 and ACA weighted population sheet in the Excel workbook.

Drugs services currently funded via PTB

3.13 The Public Health formula includes a separate component for drugs services currently funded via PTB. Any drugs services that are not currently funded through PTB are included in the relative distributions for non-mandatory services.

3.14 The formula for drugs currently funded through the PTB itself has two components:

- activity (weight of 76%)
- need or SMR<75 (weight of 24%).

3.15 This is the same as the 2011-12 PTB formula, except that the SMR<75 has replaced a need measure from earlier research by York University for the need component. We have already announced 2012-13 PTB funding will depend in part on the number of people successfully completing treatment, and this will be incorporated in a future iteration of the public health ring-fence model.

3.16 The components of the drugs formula are discussed in turn:

Activity

3.17 The activity component is based on drug user activity by Drug Partnership Team which are the same as upper tier and unitary local authorities except for three areas[6]. Each of these three areas consists of two local authorities, and each local authority is assigned drug user activity based on their relative population in their area (using 2012 population projections). The activity data used in the Public Health formula are from the National Treatment Agency (NTA) for the period November 2010 to October 2011, and is the same activity data applied in the current PTB formula.

3.18 The activity on drug users is split by opiate and crack users (OCU) and non-OCU on account that OCU drug users cost approximately twice as much to treat. An activity score is calculated by combining OCU and non-OCU activity, and this activity score for each local authority is adjusted for the ACA to account for unavoidable geographical cost differences.

3.19 The ACA adjusted activity scores are multiplied by each local authority's population to give activity and ACA weighted populations. The weighted populations are normalised so the total equals the 2012 population projection for England.

Need

3.20 The need component follows exactly the same methodology as the mandated and non-mandated formula components, described earlier. Therefore the need and ACA weighted populations by local authority for the drugs need component are exactly the same as those derived for the mandated and non-mandated service components of the formula.

Total weighted population

3.21 The total weighted population for services currently funded through the PTB is calculated by combining the activity and need weighted populations using weights of 76% and 24% respectively, as in the 2011-12 PTB formula.

[6] Bedfordshire, Cheshire, and Cornwall & Isles of Scilly

3.22 The calculation of the weighted component for services currently funded through the PTB is shown in the PTB funded drug services sheet of the Excel workbook.

Overall weighted populations

3.23 The weighted populations for mandatory services, non-mandatory services (excluding drugs services currently funded through the PTB) and drug services currently funded through the PTB are combined to give an overall weighted population for each local authority.

3.24 As noted above, the weighted populations for mandatory services and non-mandatory services (excluding drugs services currently funded through the PTB) are the same. Drug services currently funded through the PTB are given a weight of 19%. This represents estimated expenditure funded through the PTB as a proportion of PCT baseline spend on all public health services that will be commissioned by local authorities in the future through the ring-fenced budget. The 19% includes funding through the young people's PTB but not the Drug Intervention Programme (DIP) funding, which was not in the baseline estimates, and will be included in a future iteration.

3.25 The overall weighted populations are shown in the final weighted populations sheet of the Excel workbook.