Methodology Guide for Adults Personal Social Services Relative Needs Formulae 2008/9, 2009/10 and 2010/11

Index

Adults Personal Social Services

Authorities who provide Adults Personal Social Services

1. Adult Personal Social Services (PSS) relative needs formulae (RNF) are calculated for:

   County councils;

   Non-metropolitan districts which have the functions of county councils;

   Metropolitan districts;

   London boroughs;

   City of London.

Relative Needs Formula

2. Relative Needs Formulae are designed to reflect the relative needs of individual authorities in providing services. They are not intended to measure the actual amount needed by any authority to provide local services, but to recognise the various factors which affect local authorities' costs locally.

3. The formula for each service area is built on a basic amount per client, plus additional top-ups to reflect local circumstances. The top-ups take account of a number of local factors which affect service costs, but the biggest factors are deprivation and area costs.

4. Because RNF's are only intended to reflect the relative different cost requirements in different areas, they are expressed as a proportion - or ratio - of the total RNF. The actual amount of grant a council will receive from Government is dependent on the results of all four stages in the grant calculation. These stages are relative needs, relative resources, the central allocation and finally, the grant damping scheme.

5. The adult personal social services funding formula has two sub blocks; younger adults' PSS and older people's PSS

Younger Adults PSS

Main features of the formula

6. This sub-block includes all social services provision for adults aged 18 to 64, including people with learning difficulties, physical disabilities or mental illness.

7. The RNF formula has three components:
   - a basic amount;
   - a deprivation top-up; and
   - an area cost adjustment.

Basic amount

8. The basic amount is an amount per resident adult aged 18 to 64 that is the same for all authorities. For the 2008/09 allocation it is 9.1519; for 2009/10 it is 9.4963 and for 2010/11 it is 9.8049. It is calculated as the adjusted constant[1] from *regression 1* (scaled by the scaling factor) in annex B, plus the element of deprivation that is common to all authorities (i.e. the value of the deprivation top-up for the least deprived authority).

Deprivation top-up

9. The deprivation top-up recognises that adults aged 18-64 in certain circumstances are more likely to be in need of social services. The top-up is calculated from the following factors:

   - the proportion of people in receipt of DLA aged 18-64;
   - the proportion of people who have never worked or are long term unemployed;
   - the proportion of people in routine occupations;
   - the proportion of households with no family.

10. These factors were identified in research carried out by Tribal SECTA Consulting in 2005. The research analysed the number of younger adult social services clients in around 800 wards in 18 local authorities in 2005.

11. This identified the factors with a strong association with the distribution of younger adult social services clients between wards *within* each local authority. A benefit of using this technique was that the impact of differences in policies and levels of efficiency across local authorities was minimised.

12. A large number of possible factors were considered for inclusion in the model and those listed above were found, when taken together, to be the most credible set of indicators to emerge in terms of their association with the

[1] The constant in regression 1 at annex A is affected by the choice of omitted authority in the ordinary least squares regression on which this formula is based. As a result the constant has been corrected before it is applied in the calculation of RNF's. Further details are available in paper SWG/05/82
http://www.local.communities.gov.uk/finance/0607/swg0508/swg-05-82.pdf

dependent variable, number of younger adult clients per 1000 residents aged 18 to 64.

13. As discussed above, the element of deprivation that is common to all authorities can be considered to be part of the basic amount. The value of the deprivation top-up for the least deprived authority is therefore subtracted and added to the amended regression constant. This is presentational, and does not affect the distribution in any way.

Area cost adjustment

14. The result of this calculation is subject to the area cost adjustment for younger adults PSS. Details of the ACA methodology are set out separately.

Older People's PSS

Main features of the formula

15. The older people's PSS formula covers people aged 65 and over receiving care in care homes and home care services and associated assessment, care management and administration costs.

16. The formula has the following components:

- a basic amount;
- an age top-up;
- a deprivation top-up;
- a low income top-up;
- a sparsity top-up; and
- an area cost adjustment.

Basic amount

17. The basic amount is an amount per person aged over 65, either in households or supported by the authority in a care home. For 2008/9 the basic amount is 82.385; for 2009/10 it is 84.3299; and for 2010/11 it is 86.0387. It is calculated as the constant from *regression 2* (scaled by the scaling factor) in annex B, plus the element of age and deprivation that is common to all authorities (i.e. the minimum values of the age and deprivation top-ups).

Age and deprivation top-ups

18. The age and deprivation top-ups are assessed by a formula developed by the Personal Social Services Research Unit. Details are contained in *reference 2*, and the results are shown as *regression 2*.

19. The indicators included in the formula are the proportions of people aged 65 and over with the following characteristics:

- aged 90 years and over;
- in receipt of Income Support or Pension Credit;
- in receipt of Attendance Allowance;
- living in rented accommodation;
- living alone in a household.

20. The research analysed the cost per head of older people's social services in around 775 wards in 17 local authorities in 2005.

21. This identified the factors with a strong association with the cost of older people's social services clients between wards *within* each local authority. A benefit of using this technique was that the impact of differences in policies and levels of efficiency across local authorities was minimised.

22. A large number of possible factors were considered for inclusion in the model and those listed above were found, when taken together, to be the most credible set of indicators to emerge.

23. The age top-up recognises that people aged 90 and over are more likely to receive social services than younger pensioners. It is calculated by using the coefficient on the age variable (scaled by the scaling factor) included in *regression 2*.

24. The deprivation top-up is calculated using the four indicators of deprivation or need included in the regression analysis.

25. The element of the age and deprivation top-ups that is common to all authorities can be considered to be part of the basic amount. The minimum values of the age and deprivation top-ups are therefore subtracted and added to the constant. This is presentational, and does not affect the distribution in any way.

Low income top-up

26. The low income top-up recognises authorities' differing ability to raise income from charges. It is an estimate of authorities' relative ability to raise income based on characteristics of their elderly population.

27. The updated low income adjustment is based on research by the Department of Health, details are at reference 3. The updated results are shown as regression 3.

28. The low income adjustment is derived in the following way. The regression coefficient on the income support variable is multiplied by the proportion of older people receiving income support or pension credit, and added to the regression constant. [2] The result is divided by the area cost adjustment and then subtracted from 1. The result of the above calculation is then divided by its minimum value so that the minimum value becomes 1.

Sparsity top-up

29. The sparsity top-up reflects the greater costs of providing domiciliary services for older people in rural areas. It is applied to 0.43% of the total RNF for older people's social services. The quantum was determined judgmentally. Local government spending on domiciliary services accounts for around 43% of their spending on older people's PSS. The sparsity adjustment is set in proportion to 1% of this.

[2] The constant is then adjusted to take account of the balance of care variable. This is done by adding the constant to the coefficient on the balance of care variable multiplied by the weighted mean value of this variable.

30. The sparsity adjustment is derived as follows. Each council's sparsity indicator is first divided by the national weighted average value for the population sparsity of those aged over 65. It is then multiplied by the 0.43% weighting, and added to 0.9957 (1-0.0043). Finally, the result of the above calculation is divided by its minimum value so that the minimum value becomes 1.

Area cost adjustment

31. The product of these calculations is subject to the area cost adjustment for older people's PSS. Details of the ACA methodology are set out separately.

Annex A - References

1. Resource Allocation Modelling for the Formula for Young Adults Social Services: Final Report, Roy Carr-Hill (University of York); Paul Dixon (Tribal/Secta); Sue Hennessey (University of York); Martin Spollen (Tribal/Secta). http://www.local.communities.gov.uk/finance/0809/swg/yareport.pdf

2. SWG070604 Analysis to Support the Development of the Relative Needs Formula for Older People: Final Report. Robin Darton, Julien Forder, Andrew Bebbington, Ann Netten, Ann-Marie Towers and Jacquetta Williams. http://www.pssru.ac.uk/pdf/dp2265_3.pdf

3. SWG/07/40 Low Income Adjustment in the Older People's Personal Social Services Funding Formula. http://www.local.communities.gov.uk/finance/0809/swg/SWG-07-40.pdf

Annex B - Regression Statistics

REGRESSION 1 – Younger Adults PSS: deprivation

Weighted Ordinary Least Squares Regression

Dependent variable

The number of younger adult clients per 1000 residents aged 18 to 64 in each ward.

	Unstandardized Coefficients		Stan. Coef.	t	Sig.
	B	Std. Error	Beta		
Ending Constant	-0.95	0.68		-1.39	0.166
Adults receiving DLA	102.38	10.65	0.4	9.61	0.000
Households without family	7.83	1.61	0.14	4.87	0.000
In routine occupations	9.37	2.54	0.12	3.69	0.000
Never worked or LT unemployed	27.7	5.67	0.16	4.88	0.000
R SQUARED	0.744				
RESET TEST	0.018				

Application of the regression coefficients

To ensure that the scaling factor for the sub-block is as close to one as possible, the above coefficients are multiplied by 2.5910043365847200 in the 2008/09 allocation; by 2.6885105230047400 in the 2009/10 allocation; by 2.7758775157904000 in the 2010/11 allocation. These coefficients are then rounded to four decimal places.

REGRESSION 2 – Older Peoples PSS: Age and Deprivation

Multi Level Model

Dependent variable

Cost of older people's social service per person aged 65 and over in each ward

Total level spend per head 65 plus =		£s	
Attendance Allowance claimants - rate per head pop 65+	×	33.260	+
Pensioner rented household (all rent sectors) - rate per head pop 65+	×	6.432	+
One pensioner households - rate per head pop 65+	×	8.615	+
Pension credit claimants - rate per head pop 65+	×	25.868	+
Population over 90 - rate per head pop 65+	×	115.153	+
(Constant)		-1.993	

Application of the regression coefficients

To ensure that the scaling factor for the sub-block is as close to one as possible, the above coefficients are multiplied by 8.30028547391508 in the 2008/09 allocation; by 8.49623033650152 in the 2009/10 allocation; by 8.66839129791927 in the 2010/11 allocation. These coefficients are then rounded to four decimal places.

REGRESSION 3 - Older Peoples PSS: Low Income Adjustment

Ordinary least squares estimation.

Dependent variable

Income from charges and sales for older people's social services divided by gross expenditure on elderly social services in 2005-06, deflated by the 2008/9 ACA.

Variables Entered/Removed(b,c)

Model	Variables Entered	Variables Removed	Method
1	ISPEN3Q, PROPRC(a)	.	Enter

a All requested variables entered.
b Dependent Variable: NEWDEPENDENTACA012A
c Weighted Least Squares Regression - Weighted by POPWADAA3Q

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.522(a)	.273	.262	31.89459183 1704300

a Predictors: (Constant), ISPEN3Q, PROPRC

ANOVA(b,c)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	54889.844	2	27444.922	26.979	.000(a)
	Residual	146486.158	144	1017.265		
	Total	201376.003	146			

a Predictors: (Constant), ISPEN3Q, PROPRC
b Dependent Variable: NEWDEPENDENTACA012A
c Weighted Least Squares Regression - Weighted by POPWADAA3Q

Coefficients(a,b)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	.1042	.026		3.972	.000
	PROPRC	.2234	.040	.410	5.520	.000
	ISPEN3Q	-.102	.034	-.225	-3.024	.003

a Dependent Variable: NEWDEPENDENTACA012A
b Weighted Least Squares Regression - Weighted by POPWADAA3Q