

ANNEX B - GLOBAL SUM

PART 1 - THE GLOBAL SUM ALLOCATION FORMULA

Introduction

B.1 The global sum will be allocated using the Global Sum Allocation Formula. This formula aims to ensure that resources reflect more accurately the contractor's workload and the unavoidable costs of delivering high quality care to the local population.

B.2 The formula consists of the following components—

- (a) an adjustment for the age and sex structure of the population;
- (b) an adjustment for the additional needs of the population, relating to morbidity and mortality;
- (c) an adjustment for list turnover;
- (d) a nursing and residential homes index; and
- (e) adjustments for the unavoidable costs of delivering services to the population, including a Market Forces Factor and rurality index.

Age and sex adjustment

B.3 The analysis supporting the formula estimates the relative workload, weighted by staff input cost, of providing general medical services to males and females of a number of age groups. The table below, based on analysis of the General Practice Research Database, shows these indices (expressed relative to a male patient aged 5-14), including an adjustment for the higher workload of treating patients through home visits.

Table: Age-sex workload indices (males aged 5-14=1)

	0-4	5-14	15-44	45-64	65-74	75-84	85+
Male	3.97	1	1.02	2.15	4.19	5.81	6.27
Female	3.64	1.04	2.19	3.36	4.9	6.56	6.72

B.4 Therefore, each male patient on a contractor's list aged over 85 will attract 6.27 times the resources for a male patient aged 5-14.

Nursing and Residential Homes

B.5 Patients in nursing and residential homes generate more workload than patients with otherwise similar characteristics who are not in homes. A factor of 1.43 is applied in respect of each patient in a nursing or residential home.

Needs adjustment

B.6. As well as the impact on contractors' workload generated by differing age and sex groups, the effect of indicators of mortality and morbidity on consultation frequency has been estimated, using the Health Survey for England.

B.7. Of all the variables tested by the supporting analysis, Standardised Limited Long-Standing Illness (SLLI) and the Standardised Mortality Ratio for those aged under 65 (SMR<65) were found to be best at explaining variations in workload.

B.8. The Global Sum Allocation Formula relates these variables to workload by the following formula—

$$\text{Practice list} * (48.1198 + (0.26115 * \text{SLLI}) + (0.23676 * \text{SMR} < 65)).$$

In this formula, as in all other formulae in this Annex B, the symbol “*” is used as the sign for multiplication.

List turnover adjustment

B.9. Areas with high list turnover often have higher workload, as patients in their first year of registration in a practice tend to have more consultations than other patients.

B.10. Analysis of the workload implications revealed 40 – 50% more workload, as measured by aggregate consultation times, within the first year of registration. An average uplift factor, of 1.46, will be applied through the formula in respect of all new registrants in their first year of registration.

Unavoidable costs adjustment

B.11. Contractors are also likely to face differing costs of delivering primary care, particularly caused by geographic location. The global sum allocation formula reflects these costs through an explicit adjustment for 'market forces' and rurality. There is also an 'off-formula' adjustment for contractors whose qualify for the London adjustment.

Staff Market Forces

B.12. The staff Market Forces Factor has been informed by analysis of the New Earnings Survey, and reflects the geographical variation in contractors' staff costs. The estimation methodology is the same as that used for general NHS allocations.

B.13. This element of the formula has been given a weighting of 48%, as this is the average proportion of the global sum accounted for by staff expenses.

Rurality

B.14. The cost of delivering services is likely to be affected by the rurality of the area the practice serves. Two measures designed to reflect rurality were used—

- (a) population density (as measured by persons per hectare in the wards from which a contractor draws its patients); and
- (b) population dispersion (as measured by the average distance from patients to practice). If a practice has more than one surgery, the average distance is assessed from the practice's principal surgery, which is defined as the surgery which the greatest number of the practice's patients could reasonably be expected to attend.

B.15. Using analysis of the HM Revenue & Customs information on GP expenses, rurality is linked to cost through the following adjustment to the formula—

$$\text{Practice List} * \text{average distance}^{0.05} * \text{population density}^{-0.06}$$

B.16. This adjustment is applied only to the expenses element of GMS expenditure, and therefore given an overall weighting of 58%.

Normalising the adjustments

B.17. At each stage of the calculation, the weighted practice populations are normalized (scaled back) to the LHB normalized weighted population. This is done so that the impact of each of the adjustments is equal, and ensures that one adjustment does not dominate the others.

B.18. Using the age and sex adjustment as an example, the formula for normalising weighted practice populations, for the specific Global Sum Allocation Formula adjustments, is as follows:

$$\frac{\text{age and sex weighted practice population}}{\text{sum of LHB age and sex weighted practice populations}} \quad \bullet \quad \text{LHB normalized weighted population}$$

B.19. The LHB normalized weighted population used above is the LHB’s registered population for the current quarter multiplied by its latest Quarterly LHB Normalising Index. The Quarterly LHB Normalising Index is a quarterly updated index derived by the Primary Care Registration System administered by NHS Digital from the data used in the previous quarter’s Global Sum Allocation Formula. Scaling back to this population ensures that the needs and costs of the LHB’s population, relative to the LHB’s in the country, are reflected in its practices’ global sum payments.

B.20. The other five weighted practice populations produced by the other adjustments in the Global Sum Allocation formula are normalized in the same manner as outlined in B.18.

B.21. The normalised weighted practice populations for each adjustment are then divided by the practice’s normalized list size to generate a practice index for each adjustment used in the Global Sum Allocation Formula. The formula for calculating the practice’s normalized list size is as follows—

$$\text{Practice normalized list size} = \text{CRP} * \text{Quarterly LHB Normalising Index}$$

B.22. Using the age and sex adjustment as an example, the formula for then calculating the practice index for each adjustment is as follows—

$$\frac{\text{Practice age and sex index} \cdot \text{Normalised age and sex weighted practice population}}{\text{Practice normalised list size}}$$

B.23. Indices are produced for each of the other five adjustments in the Global Sum Allocation Formula in the same manner as outlined in B.22.

Combining the adjustments

B.24 Each of the six indices are then applied simultaneously to the practice’s normalised list size to calculate the overall weighted practice, as follows—

$$\text{Overall weighted practice population} = \text{Practice normalised list size} * \text{age and sex index} * \text{nursing and residential homes index} * \text{additional needs index} * \text{MFF index} * \text{rurality index}$$

B.25. This overall weighted practice population is then normalised to the national registered population to calculate the Contractor Weighted Population for the Quarter as follows—

$$\text{Contractors Weighted Population} = \frac{\text{overall weighted practice population}}{\text{sum of LHB overall weighted practice populations}} \quad * \quad \text{LHB normalised weighted population}$$