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Technical guide to allocation formulae and convergence for 2025/26 allocations

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1. Summary

1.1 Overview

The allocation of funding to Integrated Care Boards (ICBs) to support them in commissioning services for their local population is one of the key duties of NHS England. The long-standing approach we take in setting allocations, previously for clinical commissioning groups, and now for ICBs, puts the principle of ensuring equal opportunity of access for equal need at the heart of our approach to allocating budgets.

The approach is also informed by NHS England's duty to have regard to the need to reduce inequalities between patients with respect to their ability to access services and with respect to the outcomes they achieve.

These two aims are reflected in the target formula, which produces a target allocation or 'fair share' for each area, based on a complex assessment of factors such as demography, morbidity, deprivation and the unavoidable cost of providing services in different areas.

The principle of a weighted capitation formula was established in 1976 following the Report of the Revenue Working Party (RAWP). RAWP interpreted its terms of reference as being: "to reduce progressively, and as far as feasible, the disparities between the different parts of the country in terms of the opportunity for access to health care of people at equal risk."

The formula is based on independent academic research and is overseen by an independent external group, and successor to RAWP, the Advisory Committee on Resource Allocation (ACRA), which provides advice to the Secretary of State for Health and Social Care and the Chief Executive of NHS England.

Allocations will therefore differ depending on the exact combinations of these factors in each area, as well as how quickly an area can be moved towards its target allocation each year, determined by our convergence (previously 'pace-of-change') rules.

This process aims to be transparent, and to ensure that changes in allocations do not result in the destabilising of local health economies.

This document describes how ICB allocations are calculated. The allocations process has been in existence in broadly this form since 1976 and has been continually improved and updated as clinical services have changed, the NHS has been re-structured, and more and better data and analytical techniques become available.

We welcome comments and feedback on our approach. In particular, the Advisory Committee on Resource Allocation are currently developing their research and development programme for the next round of allocations. Suggestions for work that might be included there and comments about the wider process, such as the convergence policy can be sent to the NHS England allocations team at england.revenue-allocations@nhs.net.

1.2 Main changes to the allocation formula

There are several changes to the allocations formula compared with the formula used for 2023/24. These changes are set out below and are described in more detail within this technical guide and the supporting documents.

1. The introduction of a new model for primary care prescribing. A new model has been developed for this component that is calculated at patient level.
2. The component for maternity services has been refreshed using updated data and currencies.
3. An update to the adjustment for small and remote hospitals.
4. An update to the travel time adjustment for the community services model.
5. An update to the adjustment for the unavoidable finance costs of the Private Finance Initiative (PFI).
6. An update to the values of the market forces factor (MFF) to reflect the latest update to the NHS Payment Scheme.
7. A change in the expenditure weights used in the calculation of ICB core services to include Funded Nursing Care (FNC) in the weighting for community services and to include a new primary medical care weighting for some elements of primary care services that are funded through core services (Other primary care services, NHS 111 and out of hours services).

The following areas of the model have had data updated but no methodological changes:

- The general and acute model
- The specialised services model
- The mental health model
- The health inequalities adjustment
- The emergency ambulance cost adjustment (EACA)
- The primary medical care model

2. Introduction

2.1 How allocations were set

2.1.1 Overall allocation quantum

The DHSC budget for 2025/26 was set in the Spending Review in November 2024. The NHS budget will formally be set in the Financial Directions to NHS England which will be published by DHSC in due course, but allocation decisions have been made based on draft figures agreed with DHSC officials.

2.1.2 Commissioning stream allocations

Allocations for each commissioning stream have been set taking into account expected price inflation, affordable activity growth, efficiency and the impact of the SR25 settlement.

Core ICB programme allocations grow by 4.4% pre-convergence (average 4.1% post-convergence) against updated 2024/25 baselines. This was based on the following assumptions:

- The 2024/25 baselines now take account of in-year funding for pay, awards, allocations for additional physical and virtual capacity, and ambulance capacity previously issued separately as well as some other smaller adjustments.
- Growth funding is provided for inflation (updated for inflation forecasts), efficiency, and activity. This includes funding to deliver the Mental Health Investment Standard.

In 2025/26, the following additional funding has been allocated after base growth and convergence have been applied (see section 9):

- funding from a number of ring-fenced Service Development Fund bundles, now transferred to ICB allocations without ring-fences
- funding for additional elective activity

ICBs also receive allocations for

- Primary care (GP services). Baselines take account of 2024/25 pay awards on a recurrent basis. Allocations for 2025/26 may need to be updated to reflect the contractual requirements of the GP contract when finalised.
- Specialised services. Allocations are made for specialised physical and mental health services, supporting delegation of these services to ICBs.
- Other primary care services (pharmaceutical, ophthalmic and dental).

- Service Development Funding (SDF). Resources available to deliver a number of priorities. This funding is allocated based on an assessment of the requirements for each programme rather than using the formula approach described in this document. The number of ring-fenced SDF budgets have been reduced in 2025/26 as noted above.
- Running costs.

2.1.3 Advisory Committee on Resource Allocation (ACRA)

ACRA is an independent, expert, technical committee that makes recommendations to NHS England on the target formula for NHS allocations and to the Department of Health and Social Care on the target formula for public health allocations. ACRA's remit does not include convergence policy, which is set by NHS England for NHS allocations. ACRA's membership includes academics, GPs, NHS managers and public health experts as set out in the ACRA terms of reference.

The formulae recommended by ACRA are based on research, and references to the research and other relevant publications are provided in Annexes 2 and 3.

ACRA was established in 1997 as a successor to the different committees that over time have provided advice on NHS allocations formulae, starting with the Resource Allocation Working Party of 1976.

2.1.4 Steps in setting allocations

Once the national budgets are known, there are four steps in the calculation of actual allocations:

- determine target allocations based on relative need and relative unavoidable costs
- establish baselines (usually the previous year's allocations plus any adjustments), the baseline is set as described in section 2.1.2
- calculate opening distances from target (baseline minus target)
- determine each ICB's allocation growth based on their opening distance from target and convergence model

The approach for calculating ICB running cost allowances is necessarily different.

2.2 Scope of the technical guide

2.2.1 Funding streams covered

This guide provides an overview of the calculation of the allocations for 2025/26.

The guide covers:

- the calculation of the formulae for core ICB, physical health specialised services and primary medical care target allocations
- convergence policy
- ICB running cost allowances

2.2.2 Allocations spreadsheets

The technical guide includes this document and a set of workbooks that show the calculation of target and actual allocations for core ICB responsibilities, specialised services and primary medical care. This document also provides a brief guide to the workbooks. The workbooks include detailed notes on data sources and the calculations. The code used in the calculations is also included.

Due to the large size of many of the workbooks, many values have been hard coded for publication rather than driven by Excel formulae. Where this is the case, the notes in the files explain the relationship between the columns in the workbooks. The calculations have been set out over several separate files, also for reasons of size. A list of the accompanying workbooks is in Annex 3.

2.2.3 Weighted capitation formulae

The formulae for target allocations estimate the relative need and relative unavoidable costs between ICBs for healthcare services. Target allocations are based on the weighted capitation formulae recommended by ACRA. There are separate formulae for ICBs' core responsibilities, specialised services and primary medical care. For each of these, weighted populations are calculated for each ICB, and each ICB's target allocation is the ICB's share of the total weighted population for England multiplied by the target national budget for the relevant funding stream.

Weighted populations are calculated for each ICB for the baseline year of 2024/25 and for 2025/26, based on the projected registered population for each area.

An overview of the weighted capitation formulae is below. The subsequent sections provide more detail on the formulae and policy for convergence.

References to the research and modelling are provided in Annexes 2 and 3.

2.3 Overview of methodology for the weighted capitation formula

2.3.1 Methodology

An overview of the approach for calculating weighted populations is below. The detailed differences in the calculations for ICB core responsibilities, specialised services and primary medical care are set out in the subsequent sections and the accompanying workbooks.

2.3.2 Weighted populations

The weighted population for each ICB is based on:

- the size of each ICB's registered population
- a weight, or adjustment, per head for need for health care services related to age and sex (all else being equal, areas with older populations typically have a higher need per head) and for need over and above that due to age and sex (all else being equal, areas with poorer health have a higher need per head)
- a weight, or adjustment, per head for unmet need and health inequalities
- a weight, or adjustment, per head for unavoidably higher costs of delivering health care due to location alone, known as the market forces factor (this reflects that staff, land and building input costs are higher in some parts of the country, particularly London, than in others)
- adjustments in the core ICB formula for the higher costs of providing emergency ambulance services in sparsely populated areas, for the higher costs of unavoidably small hospitals with 24-hour accident and emergency services in remote areas and for the unavoidable costs of the private finance initiative (PFI)

As the need for different types of health services varies across the country, there are separate formulae for each of ICB core responsibilities, specialised services and primary medical care. Within each of these, there may be separate components and adjustments – for example the distribution of need for ICB core responsibilities is different between general and acute, mental health, community and maternity services. Each of these components are weighted in the formula based on the modelled share of total spending in 2025/26.

The different components and their weightings are summarised in Table 1. More details on each and on the adjustments for unavoidable costs are provided in the relevant sections of this document.

Table 1: Summary of ICB formula and components

Formula or stream	Component	Relative weight
ICB core services	Need components:	
	General and acute	65.4%
	Mental Health	14.0%
	Prescribing	9.3%
	Community	5.1%
	Maternity	4.4%
	Primary medical care formula (in core)	1.9%
	Health need from formulae	89.8%
	Health inequalities and unmet need	10.2%
	Total ICB core services need	**100%**
Primary medical care	Need components:	
	Primary medical care need formula	100%
	Health need from formula	85%
	Health inequalities and unmet need	15%
	Total primary medical care need	**100%**
Specialised commissioning	Need components:	
	Physical health formula	91.6%
	HIV	2.9%
	Neonatal critical care	5.5%
	Health need from formulae	95%
	Health inequalities and unmet need	5%
	Total specialised commissioning need	**100%**

2.3.3 Fair shares formula

The weighted capitation formula estimates the need per head of each ICB's population relative to other ICBs and is also known as the fair shares formula. It does not seek to calculate an absolute level of need for each area, but to assess relative need (and relative unavoidable costs) between areas.

2.3.4 Population base

The initial populations used in the formula for each ICB are the annual average registered lists of all their associated GP practices from November 2023 to October 2024. These are then projected forward for 2025/26 based on Office for National

Statistics' age-sex specific residential population projections for local authority districts (LADs).

2.3.5 Variation in need

People do not have identical needs for health care services. A key difference is that need varies according to age and sex. In particular the very young and elderly, whose populations are not evenly distributed across the country, have a higher need for health services than the rest of the population. The weighted capitation formula therefore takes account of the relative need per head of different age-sex groups and the different age-sex profiles of local populations.

Even when differences due to age and sex are accounted for, populations with the same age-sex profiles display different levels of need. An additional adjustment to reflect the relative need for health services over and above that due to age and sex is therefore necessary.

2.3.6 Utilisation approach

Statistical modelling has been used to examine the relationship between the utilisation of health services, and the characteristics of individual patients and the areas where they live. These models have been used to decide which factors to include in the formula to predict future need per head and the relative weight on each of the factors.

Typically, the models estimate need related to age and sex and additional need over and above that due to age and sex as a single set of weights rather than separate weights for age and additional need. This is because additional need varies by age group.

2.3.7 Supply side variables

The statistical models also include 'supply' variables to take account of the greater availability of health care services generally leading to higher use for the same level of need. As utilisation driven by available capacity is not a reflection of need, while the supply variables are included in the models, they are sterilised and set to the national average when calculating weighted populations. This means areas are not penalised in the formula for lower utilisation due to relatively lower or less accessible capacity.

2.3.8 Market forces factor (MFF)

The costs of providing healthcare vary unavoidably across the country due to different unit input costs, in particular staff costs and the costs of land and buildings. The weighted capitation formula includes an adjustment for these unavoidable costs, derived

from the adjustment used in setting prices and known as the market forces factor (MFF). These costs are due to location alone, not need.

2.3.9 Emergency ambulance cost adjustment

The emergency ambulance cost adjustment (EACA) adjusts for unavoidable differences in the costs of providing these services across the country, particularly in sparsely populated areas due to for example the longer distances to incidents and conveying patients to hospitals. The EACA is only included in the formula for ICB core allocations.

2.3.10 Costs of unavoidable smallness

In the formula for ICB core allocations there is an adjustment for the higher costs of running unavoidably small hospitals with 24-hour A&E departments in remote areas. These hospitals are typically unable to achieve the same economies of scale as other hospitals and may be further affected by their remote location. An update to this adjustment has been made for the 2025/26 allocations (see section 5.4).

Criteria were developed to identify the hospitals that were unavoidably small due to remoteness. These were based on the size of the population served being relatively small, and travel times to other hospitals being relatively long.

2.3.11 Excess finance costs of the private finance initiative (PFI)

This adjustment is included to reflect the impact of excess finance costs relating to historical PFI contracts. Several trusts with PFI obligations had previously been in receipt of direct payments based on historical analysis undertaken by DHSC in 2011. The approach taken for these adjustments (under IAS 17) replaced these direct payments with a consistent methodology (focussed on interest and contingent rent) and the additional finance costs some trusts pay in PFI contracts compared to public sector financing.

This adjustment has been updated for 2025/26 allocations. Under the new accounting principle (IFRS 16), all leases for assets are charged against the balance sheet, meaning contingent rent is now part of the lease liability and is treated as a capital charge. A higher balance sheet liability means higher interest charges and, under IFRS 16, interest will include some of the revenue impact of contingent rent liabilities (interest will be higher than under the old IAS 17 principle). Considering this, for 2025/26 the distribution in target allocations will be updated using the effect of “interest charges only above 3.5%” as the measure of excess financing costs. This will still be distributed on a host-ICB basis.

The EACA, the adjustment for the costs of unavoidable smallness due to remoteness and the PFI adjustment capture higher costs over and above those covered by the MFF.

2.3.12 Rurality

There are a range of adjustments made in the core ICB allocations formula that account for the fact that the costs of providing health care may vary between rural and urban areas. Target allocations include four adjustments that specifically support remote or sparsely populated areas:

- the emergency ambulance cost adjustment to reflect longer travel times in sparsely populated areas
- an adjustment to remove from the formula supply induced demand in urban areas where people live close to a hospital
- a travel time adjustment to the community services formula to reflect the additional time taken to travel between appointments in sparsely populated areas
- the adjustment for unavoidable small hospitals, to support continued provision by hospitals with 24 hour A&E services that are remote from the wider hospital network and have unavoidably higher costs

Some of the differences between rural and urban areas, such as the tendency for rural populations to be older, are naturally captured in the formula. We continue to review our formulae for the impact of the characteristics of the local area, such as rural, urban and coastal, in our development programme.

2.3.13 Unmet need and health inequalities adjustment

NHS England has a strong commitment and legal duty to have regard to the need to reduce health inequalities. One way we meet this legal duty is through the approach to allocations. We also recognise that our utilisation-based approach to measuring healthcare needs will not necessarily fully capture needs that are not being met. An adjustment is made in the allocations formula to account for health inequalities and unmet needs.

ACRA have recommended that a measure of avoidable mortality is the best available indicator on which to base the adjustment. The adjustment is calculated for the population of each small area and then aggregated to ICB level. Applying the measure at the small area level accounts for unmet need/health inequalities within as well as between ICBs.

ACRA are not able to make an evidence-based recommendation on how much funding should be redistributed through the unmet need adjustment. In 2025/26 the share will remain at 5% for the specialised services formula, 10.2% for ICB core services and 15% for primary medical care.

The different weightings used in primary medical care, core and specialised commissioning targets reflect a judgement on the relative importance of these streams in addressing unmet need and health inequalities.

3. Population base

3.1 Calculating ICB estimated registrations

3.1.1 GP registered lists

The starting point for the weighted capitation formula is each ICB's population. The populations used are the registered lists of all member GP practices of the ICB as published by NHS England.

For 2025/26 allocations the baseline population is calculated as a 12 month average of GP registrations by quinary age-sex group over the period November 2023 to October 2024. Using an annual average better reflects seasonal patterns in some areas, such as areas with high numbers of students or seasonal workers.

GP registered lists are used irrespective of the patients' place of residence or where they use NHS services, consistent with the 'Who pays' responsible commissioner guidance.

3.1.2 Projected registered lists

The GP registrations for November 2023 to October 2024, are projected forward to give estimated GP and ICB registered lists for 2025/26.

The local authority district (LAD) projected populations are applied to GP practice populations to allow for local variation in population growth.

The ONS projected populations are the 2018 based Sub-National Population Projections (SNPPs) published at LAD age-sex level. These projections start with the 2011 Census populations, which are rolled forward to 2018 by adding the number of births and net migration and subtracting the number of deaths. Trends for the fertility rates, death rates and net migration are used by the ONS to project forward from 2018. The equivalent rates using the 2021 Census are not yet available, however ONS have recently

published an updated set of SNPPs that have been rescaled to the new national population projections that are based on the 2021 Census and updated assumptions of births, deaths and migration. These updated SNPPs show projected population growth that is much more in-line with observed population growth than the original 2018 SNPPs. The rescaled SNPPs have been used to calculate the 2025/26 projected populations.

The sizes of ICBs' registered lists differ from the sizes of the ONS resident populations. There are several reasons for this, the most important of which is cross-boundary flows; people who are registered with one ICB but reside in a different ICB. Other reasons include people who are entitled to register with a GP practice but are excluded from ONS populations because they have not yet been resident in the UK for 12 months, unregistered patients who are included in ONS populations, and patients for whom there is a delay in removal from registered lists, for example following a move abroad.

3.1.3 Projected weighted populations

Weighted populations are calculated for 2024/25 based on the average registered population November 2023 to October 2024 and for 2025/26 using the projected ICB registered populations for each year.

Each ICB's share of England weighted population will change over the period from 2024/25 to 2025/26 to reflect the changes in age-sex population projections across the country over that time.

3.1.4 Unregistered populations

Using registered lists does not take direct account of people who are not registered with a GP practice. ACRA has previously considered whether an adjustment should be made to the formula for unregistered populations, but the absence of reliable data on the size of the unregistered population by area and their healthcare needs, means they have not recommended an adjustment.

A - Registrations by GP practice and ICB – 2024/25 (Excel file)

This gives the average number of registrations in November 2023 to October 2024 by GP practice and ICB, broken down by age-sex group.

Calculation of ICB estimated registrations 2025/26 (Excel file)

This shows the projected registered populations for 2025/26 by ICB and their population growth rates.

4. Integrated Care Board core allocations

4.1 Introduction

There are three steps in calculating weighted populations for target allocations for ICB core responsibilities. The first is to weight, or adjust, registered populations for relative need, the second is to weight for unmet need/health inequalities, and the third is to weight for unavoidable differences in costs.

This section covers the first and second, the weights per head for need and the health inequalities and unmet need adjustment. There are separate weights per head for need for general and acute, mental health, community and maternity services, as well as prescribing, as the distribution of each need component is different across the country.

Section 3 has described the population base, section 5 describes the adjustments for unavoidable costs, and section 6 describes how the need-weighted populations for general and acute, community, mental health, maternity, and prescribing are combined into a single need-weighted population. Section 6 also describes how the need-weighted populations are combined with the unmet need adjustment and the adjustments for unavoidable costs to give a single unified weighted population for each ICB for its core allocations.

The basic approach in calculating need-weighted populations for ICBs is to multiply the population for each age-sex group for each GP practice by the relative need per head estimated from research. The products for each age-sex group are summed to give the relative need-weighted population for each GP practice. The weighted populations for GP practices are summed to give the relative need-weighted populations for each ICB.

4.2 General and acute

4.2.1 The development of the model

Since the 2014/15 allocations ACRA has recommended that relative need per head for general and acute services is estimated using a person-based approach, first developed by the Nuffield Trust. The person-based approach uses anonymised data at the individual level to provide accurate estimates of need for small and atypical populations.

The model was refreshed for the 2022/23 allocations round as part of ACRA's development programme. The same approach and methodology were followed as previously. The new formula used more recent data and some additions and changes to the model specification. A paper detailing the development of the new model is available on the allocations website. For the 2025/26 allocations the model is unchanged and the

needs weights derived for 2022/23 allocations have been applied to the updated population estimates.

4.2.2 Services covered

The general and acute model covers inpatient spells in hospital and community settings, outpatient attendances, accident and emergency attendances and critical care. Mental health, community (non-inpatient) and maternity services were excluded as they are covered by separate component models. Specialised services were also excluded as they are covered by a separate formula to reflect to the different commissioning arrangements for these services.

4.2.3 Need estimated from past healthcare use

Relative need was estimated from past patterns of utilisation of health services. Costs per head in 2018/19 were calculated for each individual registered with a GP practice in April 2018, by applying a cost to each inpatient spell, outpatient attendance, A&E attendance and critical care day. The costs used were National Tariff prices if available, and otherwise reference costs. In a small minority of cases, the specialty average was used in the absence of tariff prices and reference costs.

Statistical modelling was used to select the ‘best fit’ drivers of relative costs at the person level and the relative weights for each driver. The quantified relationships found were taken to be predictors of relative future, cost-weighted need for health care services, with the exception of the supply variables.

The modelling tested a wide range of potential variables to select those that were the best in statistical terms, and also plausible indicators of need, to be included in the final model. Morbidity (previous diagnoses) and age were the most important variables in the model.

4.2.4 Explanatory variables

An extensive set of explanatory variables were gathered for testing in the model. The starting point for this list were the variables tested in previous iterations of the general and acute model. The need variables tested in the model are summarised in table 2.

Table 2: Need variables

Explanatory variable	Description	Change since last update
Morbidity flags, co-morbidity flags and number of diagnoses	Historical diagnosis data were collated for all inpatient episodes and spells in 2016/17 and 2017/18 from the SUS+ dataset for the April 2018 cohort of GP registered patients. SUS+ is the Secondary Uses Service dataset that contains patient level data for hospital activity. These diagnoses data are used to create morbidity flags, indicating a past diagnosis of a condition in one of the World Health Organization defined sub-chapter of the International Classification of Diseases (ICD). The use of two years of historical diagnosis data is consistent with both the Nuffield PBRA 2011 model and the 2016/17 update. This reflects the diminishing explanatory power of historical data on future hospital costs with time. Additional co-morbidity flags are also included that take account of how having two diagnoses can increase or decrease the relative need compared to the sum of having each diagnosis alone. These are based on the higher level ICD chapters.	Data taken from 2016/17 and 2017/18 SUS+ rather than 2011/12 and 2012/13.
Age, sex and area of residence	Age, sex and Lower Super Output Area of residence were taken from the GP registrations data Master Patient Index (MPI).	Data based on April 2018 rather than April 2013.
Ethnicity	Matched each individual's ethnic group using a range of patient level health datasets. This has identified the ethnic group for 61% of individuals. For the remaining population an area-based proportion is used. Ethnicity is now included at ethnic group (16 groups).	Previously ethnicity was included as an attributed area-based variable from the Census - the proportion of the population resident in the LSOA in each of four broad ethnic categories.
Privately funded care flag	A flag was created for anyone with any privately funded care episodes recorded in SUS+ in 2016/17 or 2017/18.	Data taken from 2016/17 and 2017/18 SUS+ rather than 2011/12 and 2012/13.
New registrations	A flag for whether someone was newly registered with their current GP, based on the previous 12 months. Modelling has consistently found that being newly registered with a GP was associated with higher need and therefore higher cost.	Based on registration in 2017/18 rather than 2012/13.
Variables from the ONS Census of Population	A range of variables relating to population characteristics from the 2011 census. Only available for small geographical areas (lower layer super output areas - LSOAs) rather than for individuals, so individuals are 'attributed' with the value for the LSOA in which they reside.	No change
Index of Multiple Deprivation	The underlying indicators from the Index of Multiple Deprivation (IMD). Only available for small geographical areas (lower layer super output areas - LSOAs) rather than for individuals, so individuals are 'attributed' with the value for the LSOA in which they reside.	Updated for IMD2019 Use underlying indicators rather than composite scores

Explanatory variable	Description	Change since last update
Log population variance	Log of the variance between registered and resident populations for each LSOA. To account for possible list inflation	Updated to 2018 populations
Variables from the Department of Work and Pensions	Eligibility for Disability Living Allowance (DLA) or Personal Independence Payment (PIP)	New variable
Quality Outcomes Framework prevalence data	Prevalence data from the Quality Outcomes Framework (QOF) were also tested as need variables. Individual flags are not available and so individuals are 'attributed' with the value for the practice they are registered with.	Updated from 2012/13 to 2018/19.
GP survey	A range of indicators from the GP survey. Individual flags are not available and so individuals are 'attributed' with the value for the practice they are registered with.	Updated to 2018
New need variables tested in this round		
Household composition	Linking the MPI to the anonymised Unique Property Reference Number (UPRN) allows us to identify all individuals resident in a property and derive a household type variable that indicates the composition of the household as: • care home • other communal establishment • two adults and one or more children • multi-adult and one or more children • two adults of the same gender • two adults of different gender • one adult and one or more children; or • single person.	
Morbidity counts	As well as the morbidity flags and a variable constructed for the number of different diagnosis recorded for an individual, an additional morbidity count variable was constructed for testing in the model. A morbidity count variable was constructed which indicated where an individual had had a particular diagnosis recorded three of more times during 2016/17 and 2017/18. This was based on the hypothesis that having a diagnosis recorded more frequently indicates a higher level of need. The count of diagnoses recording was capped at three or more to avoid including access effects in the model.	

4.2.5 Supply variables

The utilisation of health care may also be affected by the relative availability of healthcare services. Variables were tested in the modelling to adjust for this, known as supply variables. The supply variables tested in the model are summarised in table 3. While these variables were included in the models as they affected utilisation, they were not included in the formula to calculate weighted populations; instead their value for each area was set to the national average. This means if an area has lower use of health care services because of lower capacity or longer distances to provision, this is corrected for in the formula.

Table 3: Supply variables

Explanatory variable	Description	Change since last update
Travel duration to hospital sites	Gravity weighted travel duration for an LSOA to all hospital sites	Updated list of hospital sites and travel duration calculations
CCG dummy	A flag for each individual indicating which CCG is responsible for commissioning their healthcare – based on the GP practice at which they are registered	Configuration of CCGs in 2018/19 rather than in 2013/14.
Quality Outcomes Framework (QOF) scores and exception rates	Weighted scores and exception rates from the QOF were also tested as supply variables. Individual flags are not available and so individuals are 'attributed' with the value for the practice they are registered with.	Updated from 2012/13 to 2018/19.
Hospital supply variables	A range of gravity weighted variables for each LSOA, including median waiting times, diagnostics and numbers of beds/operating theatres.	Updated from 2012/13 to 2018/19.
GP workforce survey	A range of variables relating to GP workforce. Individual flags are not available and so individuals are 'attributed' with the value for the practice they are registered with.	Updated to 2018

4.2.6 Implementing the model

The formula refresh modelled cost weighted need in 2018/19 for those registered with a GP practice in April 2018 using values of the explanatory variables in 2016/17 and 2017/18.

In previous allocations rounds, where a GP practice has opened or been newly formed since the modelling was undertaken, the average need per head by age-sex group for the relevant CCG was used. As ICBs are now such large areas, the average need per head by age-sex group has been calculated for local authority districts (LADs). This allows for more variation in need within ICBs to be accounted for.

The data used for the modelling does not include treatments received in hospitals in Wales by those registered with an England GP practice. NHS Wales Information Services has provided counts of activity data for those registered with a GP practice in each of NHS Shropshire CCG, NHS Herefordshire CCG, NHS West Cheshire CCG and NHS Gloucestershire CCG. The need index is adjusted for ICBs that include these CCGs to account for patients treated in Wales.

B – General and acute need per head 2024/25 and 2025/26 (Excel file)

This shows the need per head for each age-sex group for each GP practice. It also shows where the LAD average need per head by age-sex group was used for new practices.

The file also shows each GP practice and ICB's registrations weighted for need for general and acute services.

4.3 Community services

4.3.1 Background

The model used for community services was first introduced for the 2019/20 allocations. Previously it was assumed that need for community services was in line with need for general and acute services.

As there was no national dataset available at the time, the community services model is based on analysis of local datasets from a diverse group of CCGs.

For the purposes of ICB allocations, community services are ICB funded health services that take place outside of a hospital setting and are not part of the primary medical care portfolio. Community mental health services are excluded here as they are included in the mental health formula. Community services funded by local authorities, such as health visiting and school nursing, are also out of scope.

Community services cover a wide range of service types and different ICBs will offer different sets of services depending on the make-up of their populations and on historical factors affecting service provision in their area. The most common forms of service are district nursing or long-term condition management, intermediate care, podiatry and children's services. Other services include physiotherapy and speech and language therapy.

The development of the model was based on analysis of contacts with district nursing, because:

- it represents a large part of the spend on community health services (18%)
- it is applied universally across England
- it has an age profile which rises steeply with age for recipients in their 70s and 80s which is significantly different to the profile for general and acute services

The community services model has not been updated for 2025/26 allocations. Although the community services dataset is now more mature, consistent data across all providers are not yet available for a long enough period of time to build an alternative model.

A travel time adjustment was added to the community services model for 2023/24 allocations in recognition that sparsely populated areas will have higher costs of delivering community services delivered in peoples' homes due to longer travel times between appointments. This adjustment has been updated for the 2025/26 allocations following improvements in data and calculation of travel times.

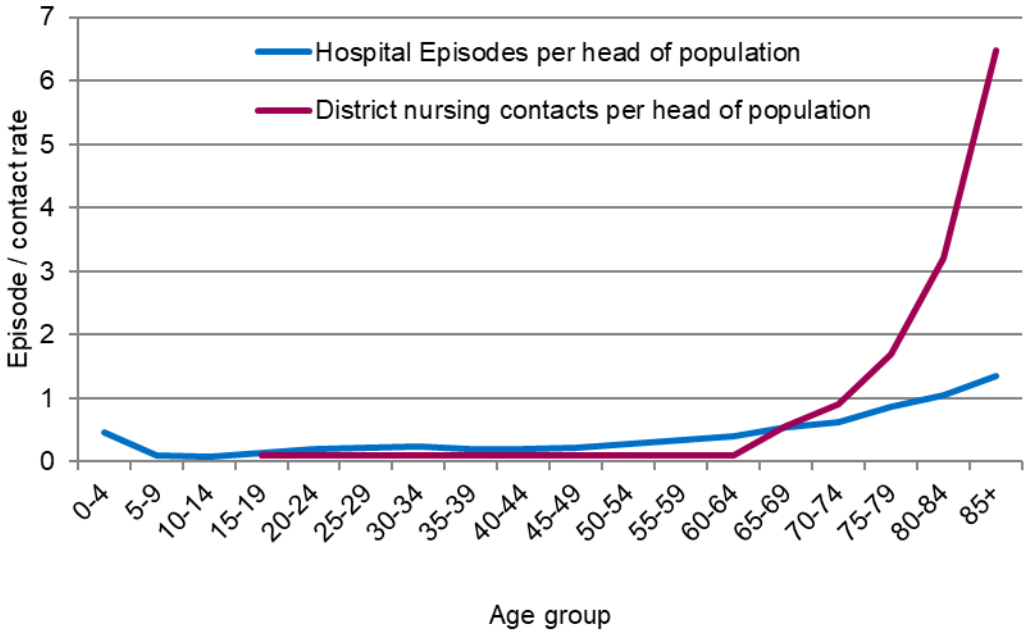
4.3.2 Approach

The development of the model for the community services component was based on analysis of district nursing data for five CCGs in Kent for 2016/17 and three CCGs in the West Midlands each with part-year activity in at least one of three years (2015/16 to 2017/18). The model was validated using data from Leeds CCG. Further details can be found within the Community services research paper.

Programme budgeting showed that the two sets of CCGs are a reasonable sample of middle-ranking CCGs for district nursing spend, so would produce a reliable starting point for the equitable distribution of relevant funding.

Utilisation of district nursing rises as recipients get into their seventies and eighties and suggests a quite different age-cost curve to the one for general and acute services, as shown in figure 1, justifying the requirement for a separate component for community services.

Figure 1: Comparison of age-cost curves for general & acute and community services



Our analysis showed that half of all community service activity (weighted by expenditure) varies by age in a similar way to district nursing. The community services component of the ICB core services formula is therefore used to distribute 50% of the community services budget with the remaining 50% continuing to be distributed in line with the general and acute component of the formula.

4.3.3 Model

Analysis was undertaken to attempt to estimate a workload model for district nursing, details of which can be found in the Community Services research paper. Due to restrictions in the data available it was concluded that estimating a workload model would add little value and greater uncertainty over and above an activity model, so we developed an activity model using contact rate, based on a combination of the Kent and West Midlands data.

Analysis showed that age was the most important factor in determining need for community health services, but within each age band there was also a notable deprivation slope that means that, controlling for age, patients in more deprived areas receive more district nursing contacts than those in less deprived areas. Our approach is therefore based on a regression model taking account of age, sex and deprivation.

4.3.4 Implementing the model

Contact rates by age and sex are calculated for GP practices and ICBs based on applying the contact rates from the model to the registered populations by age, sex and deprivation decile. These contact rates are then applied to the registered populations for those cohorts to produce a weighted population.

4.3.5 Travel time adjustment

A travel time adjustment for the community services formula was introduced for the 2023/24 allocations round. This recognises the additional travel times necessary to deliver district nursing contacts at patients' homes in sparsely populated areas.

A travelling salesman approach has been used to model the relative travel time required by district nurses to deliver home visits in different parts of England taking account of different rates of visit by age, gender, deprivation and time of day, as well as the distribution of likely user populations across the country.

The travel time adjustment has been updated for 2025/26 allocations to:

- include data from additional ICBs
- include data on visits for three years as opposed to one
- use updated routing software

Figures 2 and 3 below show the rate of visits per 1,000 population per day (261 weekdays and 104 weekend days per year) by age/gender and IMD decile after combining the ICB data. The rate amongst those age 65+ is substantially higher than for those 19-64 (note different scales on y-axis). Rates are higher in more deprived areas, but the differential is much larger amongst those age 19-64.

Figure 2: Visit rate per 1,000 population per day by IMD decile aged 19-64 (1 = most deprived, 10 = least deprived)

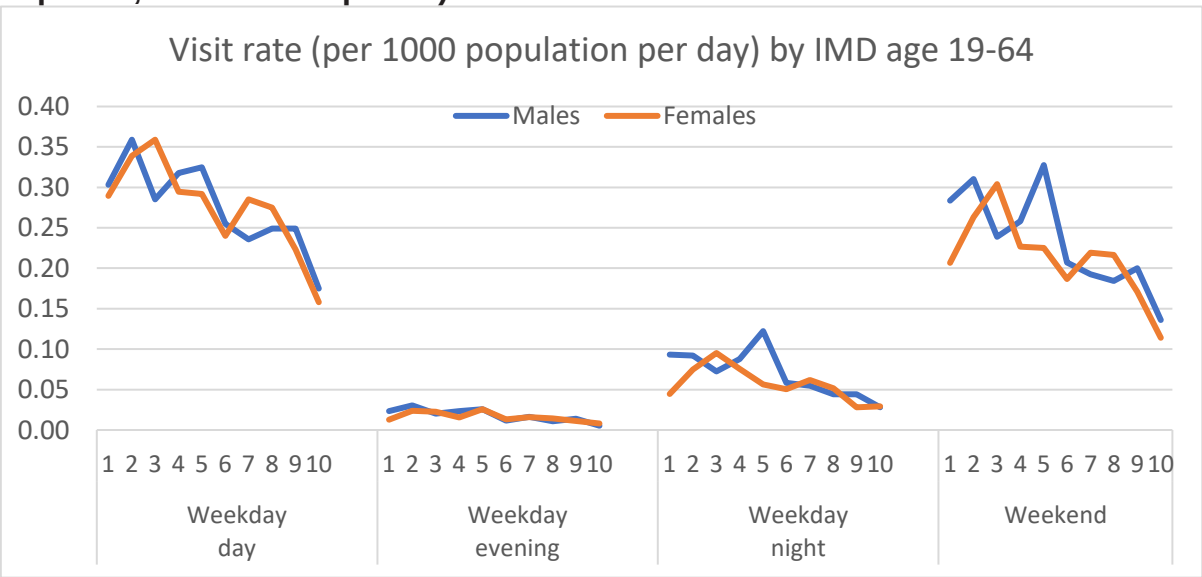
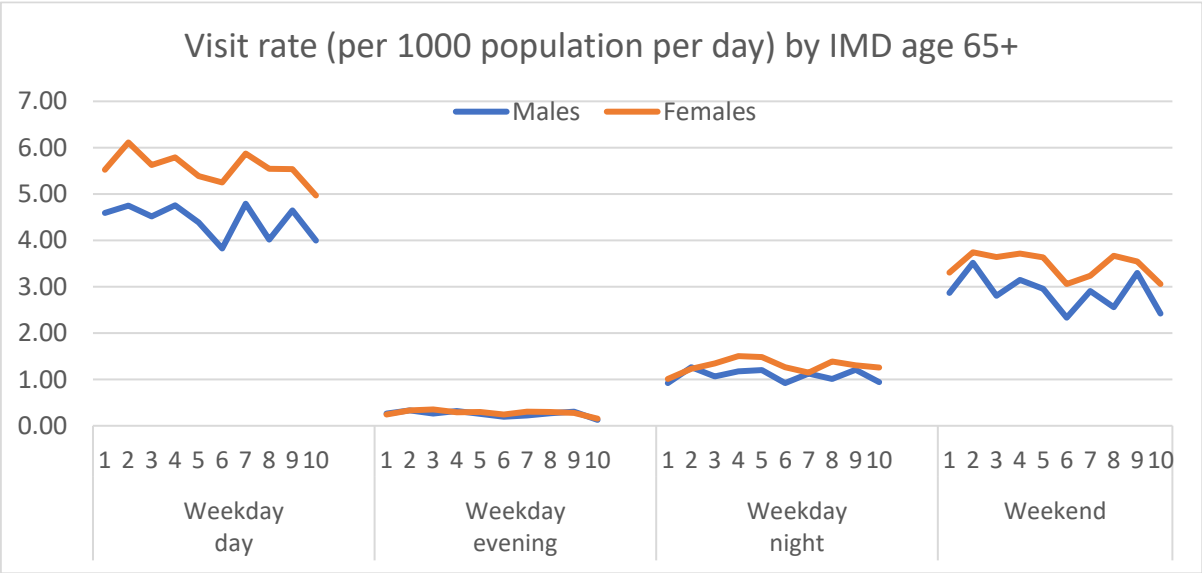


Figure 3: Visit rate per 1,000 population per day by IMD decile aged 65+ (1 = most deprived, 10 = least deprived)



The adjustment shows associations that we would expect:

- more visits per km^2 → reduced average travel time
- more built-up area → increased average travel time (except weekends)
- more road per km^2 → increased average travel time (except weekends)
- greater proportion / higher flats → increased average travel time (except weekends)

The regression gives a good overall fit to the data.

4.3.6 Implementing the travel time adjustment

Travel times from the modelling were aggregated to ICB level and combined with average visit times to calculate an overall total time. An ICB total time index was calculated by dividing each ICB's total time by the weighted average total time for England.

A travel time adjustment weighted population was calculated by multiplying each ICB's total time index with their community services weighted population and renormalising. This was combined with the community services weighted population and given a weighting of 59.4%, being the percentage of community expenditure on delivering services in a patient's home.

C – Community Services 2024/25 and 2025/26 (Excel file)

This shows contact rate by age and sex for GP practices and ICBs. The file shows also each GP practice's and ICB's registrations weighted for need.

4.4 Mental health

4.4.1 Approach

The mental health model has not been updated for the 2025/26 allocations round.

The adult mental health component was refreshed for the 2019/20 allocations round to use person-level data on the use of mental health services, learning disability services, Improving Access to Psychological Therapies (IAPT) services, and general and acute hospital services, as well as demographic characteristics and area level socio-economic characteristics. Specialised mental health services, which are commissioned by NHS England, were excluded from the model whenever data would allow.

The refreshed model was based on more up-to-date data than the previous model and also included IAPT services and updated categories for unit cost breakdowns. Further detail on the development of the model can be found in the Mental Health model research paper.

4.4.2 Data

The model is based on national datasets for 2015/16 that capture person-level service usage in a consistent and comparable way. The two main datasets used were the Mental Health Services Data Set (MHSDS) and the IAPT dataset. Information on inpatient and outpatient care were complemented with Secondary Uses Survey (SUS) data when not reported in the MHSDS. Individual cost-weighted activity estimates were calculated by aggregating the cost for inpatient bed days (split by the cost per general bed day and cost per intensive bed day) and unit costs for community care contacts (split by the pay band of the care professional overseeing the care) and IAPT contacts.

These data were merged with other person and area level information relative to 2013/14 and 2014/15 derived from other routinely collected data available within NHS England for all individuals registered with a GP practice in England at 1st of April 2015.

4.4.3 Explanatory need and supply variables

The model included a set of explanatory variables that were found to be associated with the future use of mental health care, including both need and supply variables.

Key indicators of need that were included are:

- **Individual level indicators** of age, gender and ethnicity, and of physical health diagnostic flags (from inpatient diagnoses, relating to issues such as substance misuse and conditions such as diabetes, as identified in work published by Public Health England on links between physical health and severe mental illness).

- **Household level indicators** on household composition to inform key drivers discussed in the literature such as living alone. The mental health costs for individuals living alone were found to be higher than for individuals who did not.
- **Small area level indicators** where individual and household level data are not available, in particular the proportion of people in receipt of benefits, indicating levels of worklessness.
- **General Practice indicators** on the proportion of students on the GP list and the Quality and Outcomes Framework measures covering the prevalence of severe mental illness.

A set of supply variables are also included to account for differences in supply side issues. The variables included are:

- A set of variables indicating the CCG of the GP practice where the individual is registered, to account for differing levels of access and commissioning approaches to mental health services.
- A variable indicating the degree of service use for each GP practice at each mental health trust, to control for the supply of mental health services by taking account of the effect that differing provider approaches to provision, classification, coding and reporting of treatment, may have on individual cost.
- Average driving distance between the LSOA centroid (of patient residence) and the closest provider (mental health trust headquarters), as living closer to a provider is associated with higher access to and utilisation of services. Sterilising this variable in the formula is important so that rural areas are not under-allocated resources.

4.4.4 Need estimates

Individual need estimates were derived by taking predictions from the model but sterilising the effect of supply variables and variables that were counterintuitive. Variables were sterilised by fixing values to reflect England averages, to predict need. Individual need estimates were aggregated to the patient age and gender levels and used to weight GP registered populations.

4.4.5 Children's and young people's (CYP) mental health adjustment

The refresh of the adult model concentrated on those aged 20 and over, so an alternative method was used to estimate mental health need per head for the four quinary age bands under 20. The adult model is person-based but person-based CYP data has not yet been available for long enough in the MHSDS to extend the model to this age group. The adjustment for CYP therefore followed a similar approach to that taken in previous allocations rounds.

The method used all mental health activity captured as inpatient bed days and outpatient appointments within the Mental Health Services Data Set (MHSDS) for 2017/18.

Cost-weighted activity estimates were calculated by quinary age groups and across these age groups by gender. The unit costs used for bed days and appointments were taken as estimated for the adult model. 9% of all the cost-weighted activity within the MHSDS was for CYP and the remaining 91% captured services delivered to adults. It should be noted that this activity excludes adult IAPT contacts.

The CYP cost-weighted activity estimates were then expressed as a percentage of cost-weighted activity for the 20-24 age groups, split by gender.

The percentage of cost-weighted activity by gender and for the four children and young people's age groups were then applied to the need per head from the refreshed adult mental health model by gender for those aged 20-24. These ratios were validated against data extracts from Hospital Episode Statistics (HES).

D – Mental Health need per head 2024/25 and 2025/26 (Excel file)

This shows the need per head for each age-sex group for each GP practice and ICB calculated using the refreshed mental health model and estimates for those aged under 20 as described above.

The file also shows the weighted populations for mental health and mental health relative need index for each GP practice and ICB.

4.5 Maternity

4.5.1 Approach

The maternity model has been updated for the 2025/26 allocations round. The previous model (first used in 2016/17) used person-based data to estimate cost per birth by GP practice in 2013/14. The updated model estimates costs per birth by GP practice in 2022/23.

4.5.2 Model

The development of the maternity model for 2025/26 allocations is a refresh of the previous model, using more up to date data, improved costing of activity and additional explanatory variables. The maternity model is different to other models in that the model is based on all people who gave birth during 2022/23 rather than the whole cohort of registered patients.

The update to the maternity model has followed the same approach as the previous model in developing an individual level model for estimating the cost of births. The model is based on births and their associated costs in 2022/23.

An extensive set of explanatory variables were gathered for testing in the model. The need and supply variables tested in the model are summarised in tables 4 and 5. Supply variables were tested in the model as utilisation of health care may be affected by the relative availability of health care services. While these variables are included in the models as they affect utilisation, they are not included in the formula to calculate weighted populations; instead their value for each area was set to the national average (sterilised). This means if an area has lower use of health care services because of lower capacity or longer distance, this is corrected for in the formula.

Statistical modelling was used to select the ‘best fit’ drivers of relative costs at the person level and the relative weights for each driver. The quantified relationships found were taken to be predictors of relative future, cost-weighted need for health care services, with the exception of the supply variables.

The modelling tested a wide range of potential variables to select those that were the best in statistical terms, and also plausible indicators of need, to be included in the final model.

Table 4: Need variables in the maternity model

Explanatory variable	Description
Morbidity flags	Historical diagnosis data were collated for all inpatient episodes and spells in 2021/122 for the cohort of people that gave birth during 2022/23. SUS+ is the Secondary Uses Service dataset that contains patient level data for hospital activity. These diagnoses data are used to create morbidity flags, indicating a past diagnosis of a condition in one of the World Health Organisation defined sub-chapter of the International Classification of Diseases (ICD).
Age, sex and area of residence	Age, sex and Lower Super Output Area (LSOA) of residence were taken from the GP registrations data Master Patient Index (MPI).
Ethnicity	Matched each individual's ethnic group using a range of patient level health datasets. As the cohort for the maternity model are those that gave birth during 2022/23 and therefore had some contact with health services, the ethnicity coverage is high at 95%. Ethnicity is now included at ethnic group (16 groups).
Household composition	Linking the MPI to the anonymised Unique Property Reference Number (UPRN) allows us to identify all individuals resident in a property and derive a household type variable that indicates the composition of the household as: eight or more adults, no people aged 16+, one adult with children, one person household; two adults and one or more children; three to seven adults with children; three to seven adults aged 20+ with no children, three to seven adults aged under 20, two adults of the same gender; two adults of different gender; or other.
Obstetric variables	A range of obstetric variables are included including birth order, whether there are multiple births during 2022/23 and low birth weight (the proportion of live births with weight <2500g calculated at GP practice level)
Household type and tenure	An interaction of household types and tenures.
Outdoor space	Availability of outdoor space for the household.
Variables from the ONS Census of Population	A range of variables relating to population characteristics from the 2021 census. Only available for small geographical areas (lower layer super output areas - LSOAs) rather than for individuals, so individuals are 'attributed' with the value for the LSOA in which they reside.
Coastal and urban/rural flags	Variables indicating whether the LSOA of residence is classified as costal/non coastal and urban/rural.

Explanatory variable	Description
Index of Multiple deprivation	The underlying indicators from the Index of Multiple Deprivation. Only available for small geographical areas (lower layer super output areas - LSOAs) rather than for individuals, so individuals are ‘attributed’ with the value for the LSOA in which they reside.
Log population variance	Log of the variance between registered and resident populations for each LSOA. To account for possible list inflation
Department of Work and Pensions	Eligibility for Disability Living Allowance (DLA) or Personal Independence Payment (PIP)
Quality Outcomes Framework prevalence data	Prevalence data from the Quality Outcomes Framework (QOF) were also tested as need variables. Individual flags are not available and so individuals are ‘attributed’ with the value for the practice they are registered with.
GP survey	A range of indicators from the GP survey. Individual flags are not available and so individuals are ‘attributed’ with the value for the practice they are registered with.

Table 5: Supply variables

Explanatory variable	Description
ICB dummy	A flag for each individual indicating which ICB is responsible for commissioning their health care – based on the GP practice at which they are registered.
Quality Outcomes Framework scores and exception rates	Weighted achievement score and vaccination and immunisation rates from the Quality Outcomes Framework (QOF) were also tested as supply variables. Individual flags are not available and so individuals are 'attributed' with the value for the practice they are registered with.
GP workforce survey	A range of variables relating to GP workforce. Individual flags are not available and so individuals are 'attributed' with the value for the practice they are registered with.
Distance to maternity unit	Gravity weighted distance to maternity units
ICB dummy	A flag for each individual indicating which ICB is responsible for commissioning their health care – based on the GP practice at which they are registered.

A paper providing more detailed information about the methodology is available on the allocations website.

4.5.3 Implementing the model

For the 2025/26 allocations round, ONS statistics on live births by age of mother in 2022 were used to weight female registered patients aged 15 to 44 by quinary age bands within LSOAs, to distribute live births in England by GP practices. The costs per birth were applied to the average annual number of live births between 2018 and 2022.

For practices that had opened since the end of 2022/23 (and for which there is not a cost per birth available from the model), the average cost per birth for the LAD in which the GP practice is located was used.

E – Maternity need 2024/25 and 2025/26 (Excel file)

This shows the number of new registrations for births, the estimated cost per birth, and the variables in the maternity model and their coefficients

The file also shows each GP practice and ICB's registrations weighted for maternity need.

4.6 Prescribing

4.6.1 Background

The prescribing component covers the costs of medicines prescribed in primary care and actually dispensed. It does not cover the costs of dispensing the prescriptions.

The prescribing model has been updated for 2025/26 allocations and this represents a fundamental change to the approach to modelling the costs of medicines prescribed in primary care as it models costs at a patient level for the first time.

The previous model was introduced for 2016/17 allocations and was based on the cost of prescriptions by GP practice in 2013/14. This model was not a patient level model: the unit of estimation is GP practice. The model had two stages; the first weighted for need related to age and sex using the NHS Digital ASTRO(13)PU - an index of national average costs of prescriptions by age-sex group in 2013. The second stage weighted for need in addition to age and sex.

4.6.2 Estimation of need for medicines prescribed in primary care

For the new model, relative need was estimated from past patterns of primary care prescribing. Costs per head in 2022/3 were calculated for each individual registered with a GP practice in April 2022, derived from a prescription level dataset which has been provided to NHS England by the NHS Business Services Authority (BSA). This dataset covers prescriptions dispensed in primary care and their associated costs. This has been aggregated to patient level to derive the aggregate cost of prescribed medicines for each individual that had a prescription dispensed in the 2022/23 financial year.

Statistical modelling was used to select the ‘best fit’ drivers of relative costs at the person level and the relative weights for each driver. The quantified relationships found were taken to be predictors of relative future, cost-weighted need for health care services, with the exception of the supply variables.

The modelling tested a wide range of potential variables to select those that were the best in statistical terms, and also plausible indicators of need, to be included in the final model. Morbidity (previous diagnoses) and age were the most important variables in the model.

4.6.3 Explanatory variables

An extensive set of explanatory variables were gathered for testing in the model. The need variables tested in the model are summarised in table 6 and the supply variables in table 7.

Table 6: Need variables

Explanatory variable	Description
Morbidity flags	Historical diagnosis data were collated for all inpatient episodes and spells in 2018/19 and 2019/20 from the SUS+ dataset for the April 2022 cohort of GP registered patients. SUS+ is the Secondary Uses Service dataset that contains patient level data for hospital activity. These diagnoses data are used to create morbidity flags, indicating a past diagnosis of a condition in one of the World Health Organisation defined sub-chapter of the International Classification of Diseases (ICD). The use of two years of historical diagnosis data is consistent with other allocations model. However previous models have used the two years immediately prior to the year for which costs are being modelled. This is not possible for the prescribing model as it has previously been determined by ACRA and TAG that diagnoses from 2020/21 and 2021/22 should not be used due to the impact of Covid. Older historic diagnoses have been used in this model to avoid losing the predictive power of these variables.
Age, sex and area of residence	Age, sex and Lower Super Output Area (LSOA) of residence were taken from the GP registrations data Master Patient Index (MPI).
Ethnicity	Matched each individual's ethnic group using a range of patient level health datasets. This has identified the ethnic group for 61% of individuals. For the remaining population an area-based proportion is used. Ethnicity is now included at ethnic group (16 groups).
Household composition	Linking the MPI to the anonymised Unique Property Reference Number (UPRN) allows us to identify all individuals resident in a property and derive a household type variable that indicates the composition of the household as: eight or more adults, no people aged 16+, one adult with children, one person household; two adults and one or more children; three to seven adults with children; three to seven adults aged 20+ with no children, three to seven adults aged under 20, two adults of the same gender; two adults of different gender; or other.
Household type and tenure	An interaction of household types and tenures.
Outdoor space	Availability of outdoor space for the household.
Variables from the ONS Census of Population	A range of variables relating to population characteristics from the 2021 census. Only available for small geographical areas (lower layer super output areas - LSOAs) rather than for individuals, so individuals are 'attributed' with the value for the LSOA in which they reside.
Coastal and urban/rural flags	Variables indicating whether the LSOA of residence is classified as costal/non coastal and urban/rural.

Explanatory variable	Description
Index of Multiple deprivation	The underlying indicators from the Index of Multiple Deprivation. Only available for small geographical areas (lower layer super output areas - LSOAs) rather than for individuals, so individuals are ‘attributed’ with the value for the LSOA in which they reside.
Log population variance	Log of the variance between registered and resident populations for each LSOA. To account for possible list inflation
Variables from the Department of Work and Pensions	Eligibility for Disability Living Allowance (DLA) or Personal Independence Payment (PIP)
Quality Outcomes Framework prevalence data	Prevalence data from the Quality Outcomes Framework (QOF) were also tested as need variables. Individual flags are not available and so individuals are ‘attributed’ with the value for the practice they are registered with.
GP survey	A range of indicators from the GP survey. Individual flags are not available and so individuals are ‘attributed’ with the value for the practice they are registered with.

Table 7: Supply variables

Explanatory variable	Description
ICB dummy	A flag for each individual indicating which ICB is responsible for commissioning their health care – based on the GP practice at which they are registered.
Quality Outcomes Framework scores and exception rates	Weighted achievement score and vaccination and immunisation rates from the Quality Outcomes Framework (QOF) were also tested as supply variables. Individual flags are not available and so individuals are 'attributed' with the value for the practice they are registered with.
GP workforce survey	A range of variables relating to GP workforce. Individual flags are not available and so individuals are 'attributed' with the value for the practice they are registered with.
Distance to GP practice	Gravity weighted distance to GP practice

A paper providing more detailed information about the methodology is available on the allocations website.

4.6.4 Implementing the model

The need estimates from the new model were applied to each GP practice and the GP practice weighted populations summed to give the ICB weighted populations. Supply variables were included in the model but set to the national average in the calculation of weighted populations.

Where a GP practice has been newly opened or formed since the end of 2022/23, the average need weights for the relevant LAD for the GP practice has been applied.

F – Prescribing need 2024/25 and 2025/26 (Excel file)

This shows the need per head for each age-sex group for each GP practice. It also shows where the LAD average need per head by age-sex group was used for new practices.

The file also shows each GP practice and ICB's registrations weighted for need for primary prescribing.

4.7 Adjustment for rapidly growing practices

4.7.1 Approach

Where GP practices are growing rapidly in size, the cost weights calculated for some of the component models may no longer be representative of those practices. Analysis of registration trends has been undertaken that has identified two digital first practices that have grown significantly in recent years and have a different age profile to the original practice or practices in their local area and should therefore be subject to adjustments.

4.7.2 Implementation

There are two digital first practices, Babylon GP at Hand (GPAH) and GP Pathfinder clinics, both in North West London ICB. As these practices were not in existence when some of the models were developed and because they have a registered population that is geographically dispersed it is necessary to calculate cost weights for these practices that take account of the different need profiles of the areas from which they draw patients.

The registered populations of the digital first practices have been mapped to LADs. The cost weights for the two digital first practices have been calculated by applying the LAD average cost weight to the population resident in that LAD, where the LAD has more than 2% of the registered population of the practice. This is 13 LADs for GP Pathfinder clinics and 18 LADs for GPAH. These adjustments are only implemented for component models that were developed before these practices were in existence.

4.7.3 Maternity adjustment

A comparison of the birth rates between patients registered with digital first practices and patients registered with other GP practices for the LADs with more than 2% of the registered population for each digital first practice has been made. The ratio of the birth rate for GPAH patients compared to patients with other GP practices is 0.70 and it is 0.35 for GP Pathfinder clinics. These figures are used to adjust the maternity need for these practices.

4.8 Unmet need and health inequalities adjustment: avoidable mortality

4.8.1 Approach

Given the use of utilisation-based formulae in our allocations approach, ACRA recognises the importance of attempting to account for health needs which are not visible in the utilisation statistics. We also have a duty to use an approach that contributes to reducing avoidable health inequalities. As such, a significant proportion of target allocations is devoted to a combined unmet need/health inequalities adjustment.

As part of the NHS Long Term Plan, ACRA was commissioned to undertake a review of the health inequalities and unmet need adjustment used in resource allocations. The review concluded that a measure of avoidable mortality is a good fit to the definition of health inequalities, as the causes of death included in the measure have been identified as those that could have been avoided through public health measures and/or timely and effective health care intervention.

A bespoke definition that uses the 75 years age cut-off but includes all age mortality for specific causes of death is considered the most appropriate, as it captures some avoidable mortality for age groups over 75, while avoiding a number of the concerns with applying avoidable mortality to all age groups. More detail can be found in ACRA's review on the NHS allocations website.

As in previous allocation rounds, ACRA have not been able to make an evidence based recommendation on how much funding should be redistributed through the unmet need adjustment. For 2025/26 the share for ICB core services, primary medical care and specialised services allocations will remain at 10.2%, 15% and 5% respectively.

4.8.2 Avoidable mortality

The unmet need/health inequalities adjustment is based on the indirectly standardised bespoke measure of avoidable mortality applied at small area level to take account of inequality in health outcomes within as well as between ICBs.

The standard indicator of avoidable mortality is measured by counting the number of registered deaths (aged <75 years) from a list of diseases classed as preventable and treatable agreed between OECD nations using ICD-10 definitions. Preventable deaths are defined as deaths from causes that could be avoided through public health measures (e.g. influenza). Treatable deaths are defined as deaths from causes that could be avoided through timely and effective healthcare interventions (e.g. appendicitis). For the purposes of the review, ONS produced a bespoke measure of avoidable mortality that included certain causes of death for over 75s. Indirect standardisation is applied at small area level (middle layer super output area (MSOA)) and then aggregated to ICBs.

4.8.3 Weights per head

The adjustment for 2025/26 allocations has been calculated using updated data for avoidable mortality (2018-22).

The methodology for weighting applied to each MSOA is unchanged from that introduced for weighting the SMR<75 values for 2019/20 allocations. We apply a continuous

exponential distribution based on avoidable mortality values, calibrated using the previous approach.

4.8.4 Implementation

Each MSOA's population is given a weight based on this methodology and the MSOA weighted populations are then summed to ICB level using the number of the ICB's registered population resident in each MSOA.

G – Avoidable mortality weighted populations 2024/25 and 2025/26 (Excel file)

This shows the weights per head for each of the MSOAs in England, and the calculation of avoidable mortality based weighted populations for ICBs.

5. Unavoidable costs

5.1 Introduction

There are adjustments for four types of unavoidable costs: the market forces factor (MFF); the emergency ambulance cost adjustment (EACA); remoteness; and excess finance costs of some private finance initiative (PFI) hospitals.

The adjustments are included in the weighted capitation formula to take account of the higher costs of commissioning services as a result of these unavoidable factors.

5.2 Market forces factor (MFF)

5.2.1 Approach

The MFF adjusts for the unavoidable differences in unit input costs between areas due to their geographical location alone. For example, it typically costs more to run a hospital in a city centre than in other areas due to higher staff, buildings and land costs.

The provider MFF has been updated for 2025/26, incorporating more up-to-date data to improve the accuracy of the estimates of unavoidable cost difference between providers.

The provider MFF consists of 6 components, which are; non-medical and dental staff; medical and dental staff; land; buildings; business rates; and other.

MFF is applied at LAD level to allow for variations in unavoidable costs within ICBs to be accounted for.

5.2.2 MFF index for LADs

The MFF for each provider is the starting point for the calculation of the MFF for LADs. The MFF for each LAD is calculated from the MFF of providers where patients received inpatient, outpatient and A&E treatment for each GP practice located in the LAD.

The LAD's MFF is the weighted average of providers' MFFs, where the weights are the spend in the LAD with each provider. The weights are often known as the purchaser-provider matrix.

The purchaser-provider matrix for 2025/26 allocations uses activity for the 12 months of the 2023/24 financial year as recorded in the Secondary Uses Service Payment by Results (SUS PbR) data. The LAD MFFs are expressed as an index, with the England average set to the value of 1.0.

For each GP practice, the LAD MFF index for the LAD in which the practice is located is applied to the GP weighted populations for general and acute, community, mental health and maternity services. These are then combined to create a combined weighted population adjusted for MFF.

The prescribing component is not adjusted by the MFF as the costs of prescribed medicines are the same throughout the country.

A separate LAD MFF is calculated for specialised services, reflecting that the purchaser provider matrix will be different for specialised services.

H – Market forces factor (Excel file)

This shows the percentage of each LAD's costed inpatient, outpatient and A&E activity with each provider, along with the 2024/25 and 2025/26 LAD MFFs, plus the scaling to rebase LAD MFFs to an index so that the England average equals 1.0. This is shown for both core services and specialised MFF.

5.3 Emergency ambulance cost adjustment

5.3.1 Approach

The emergency ambulance cost adjustment (EACA) adjusts for unavoidable variations in the costs of providing emergency ambulance services in different geographical areas, and in particular sparsely populated areas. The EACA was refreshed by NHS England for the

2016/17 allocations round. The same model was used in subsequent allocations rounds and is unchanged for 2025/26 allocations.

5.3.2 Model

Data on times to incidents, times at incidents, times to convey to hospitals, and turnaround times at hospitals from four ambulance trusts (North East, South West, London and East Midlands) were used to develop separate models for times to 'see & treat' and 'see & convey'. See & convey is where the patient is taken to a hospital in the emergency vehicle and see & treat is where the patient is treated at the scene (such as in the patient's home) and is not transported to hospital.

Data were provided at MSOA (middle super output area) level to maintain patient confidentiality. Data from other sources on the characteristics of MSOAs were collected by NHS England, including population density, distance to A&E departments, and age profiles.

Distance to A&E departments and population density were found to be important in the models.

The two models for see & treat and see & convey were combined to give average predicted times in minutes using the proportions of see & treat and see & convey cases in the dataset.

5.3.3 Implementation

The modelled times in minutes for MSOAs were summed to ICB level. The modelled times for ICBs were converted into an index, with the England average set to the value of 1.0.

The index from the previous step was applied to the proportion of national Hospital and Community Health Services (HCHS) expenditure on ambulance services, to give the final overall EACA index. The same EACA index value is applied to the combined weighted populations for general and acute, mental health, community and maternity services.

I – Emergency ambulance cost adjustment (Excel file)

This shows the EACA index as calculated from the coefficients from the models.

5.4 Unavoidable costs of remoteness

5.4.1 Approach

The purpose of this adjustment is to support ICBs to meet the unavoidably higher costs of small, remote hospital sites. There are two steps in calculating the adjustment. The first is to define remote hospital sites, and the second is to estimate by how much their costs are unavoidably higher. This adjustment was introduced in 2016/17 allocations based on the hypothesis that costs are higher because the level of activity is too low for the hospital to operate at full efficiency.

An updated econometric analysis of the unavoidable costs of being a small site was produced but only partially implemented in 2022/23 in order to allow for further engagement. For the 2025/26 allocation this new methodology has been reviewed and expanded. It includes a measure of remoteness alongside scale, to account for factors such as the difficulty in attracting staff or being able to divert to alternative provision.

5.4.2 Identifying remote hospitals

The remoteness adjustment applies to hospitals providing tier 1 A&E services. The criteria used to define remote hospitals are:

1. There is a population of under 200,000 within a one-hour travel time of the site. A population served of 200,000 or more is the scale at which a hospital is taken as being able to achieve close to national efficiency levels. This is to avoid an adjustment being applied to larger remote hospitals for which costs should not be unavoidably high.
2. The next nearest provider (with tier 1 A&E services) is one hour or more away by normal road travel times (including ferry times where relevant), for at least 10% of the population served. One hour is taken to be the maximum travel time to hospitals for clinical safety reasons for emergency care. The proportion of the population served who are more than 60 minutes away from the next nearest hospital provides an indication of whether the hospital is serving a population of under 200,000 for reasons of remoteness or for other reasons. An adjustment to target allocations is only made when this percentage is 10% or higher. This avoids giving very small (financially immaterial) adjustments to a large number of providers.

Travel times were used rather than road distances or straight-line distances. Travel time to the next nearest hospital is an indicator of whether or not consolidation of services onto fewer sites is feasible.

The criteria identified eight hospital sites as unavoidably small due to remoteness. The list of hospitals subject to the remoteness adjustment remains unchanged for 2025/26 allocations.

5.4.3 Higher costs due to smallness

The updated method for calculating the adjustment has exploited Patient Level Information and Costing (PLICS) data linked with Hospital Episode Statistics (HES) for admitted patient care for 2018/19, 2019/20 and 2021/22. The year 2020/21 was not included in analysis due to the Covid-19 pandemic. The PLICS data support a better understanding of costs by providing costing of activity at an individual level, allowing for variation in costing between patients. The previous model used reference costs which provide average cost for each type of activity at each provider. An econometric model was used to identify the drivers of costs and made use of variables not previously available.

Two key findings from the new econometric modelling were that:

1. the most important factor in determining economies scale is not the size of the site, but the size of the department.
2. increased travel time from a site to the next nearest A&E (used to represent remoteness) was associated with higher costs per episode.

A paper providing more detailed information about the methodology is available on the allocations website.

5.4.4 Implementation

Adjustment figures were calculated by comparing the predicted cost per episode in each remote site to the predicted cost if the site was larger (serving a population greater than 200,000) and non-remote (more than 10% of the population could access alternative provision within an hour). Because the adjustment was calculated based only on admission data, the excess cost was scaled to include the rest of the acute cost base of the site. The total adjustment is £106 million covering seven ICBs for the eight hospital sites. The adjustment for the baseline year of 2024/25 was calculated by uplifting episodes from each year by an amount equivalent to the tariff inflation over that time period. Table 8 provides details of the adjustment by site. How the adjustments for higher costs due to unavoidable smallness were included in weighted populations for ICBs is described in Section 6.

Table 8 Adjustment for unavoidable smallness: adjustment by site

Hospital	Adjustment 2025/26 £000s	ICB
Cumberland (North Cumbria Integrated Care)	13,587	North East and North Cumbria ICB

West Cumberland (North Cumbria Integrated Care)	11,062	North East and North Cumbria ICB
Scarborough (York and Scarborough Teaching)	10,379	Humber and North Yorkshire ICB
Furness (University Hospitals of Morecambe Bay)	11,123	Lancashire and South Cumbria ICB
Pilgrim (United Lincolnshire)	12,450	Lincolnshire ICB
Hereford (Wye Valley)	13,798	Herefordshire and Worcestershire ICB
North Devon (Royal Devon University Healthcare)	14,044	Devon ICB
St Mary's (Isle of Wight)	19,383	Hampshire and the Isle of Wight ICB

5.5 Excess finance costs of the private finance initiative (PFI)

5.5.1 Approach

The purpose of this adjustment is to reflect the impact of excess finance costs that some trusts face due to the financing arrangements for some buildings constructed under historic PFI arrangements. This adjustment was introduced for the 2022/23 allocations round. and remained unchanged for 2023/24 allocations.

This adjustment has been updated for 2025/26 allocations. Under the new accounting principle (IFRS 16), all leases for assets are charged against the balance sheet, meaning contingent rent is now part of the lease liability and is treated as a capital charge. A higher balance sheet liability means higher interest charges and, under IFRS 16, interest will include some of the revenue impact of contingent rent liabilities (interest will be higher than under the old IAS 17 principle). Considering this, for 2025/26 the distribution in target allocations will be updated using the effect of “interest charges only above 3.5%” as the measure of excess financing costs. This will still be distributed on a host-ICB basis.

5.5.2 Implementation

The adjustment is implemented in the same way as the adjustment for unavoidable smallness as is described in section 6.

6. Total weighted populations for core ICB allocations

6.1 Combining the formula components

6.1.1 Unified weighted populations for November 2023 to October 2024 registrations

As described earlier, there are separate weighted populations for need for general and acute services, mental health services, community services, maternity services and prescribing, and additionally there are adjustments for unmet need/health inequalities and unavoidable costs.

These are combined into unified weighted populations for each ICB for core allocations in the following steps.

1. Apply the LAD MFF index to GP practice weighted populations for general and acute, mental health, community and maternity services and aggregate to ICBs.
2. The hospital and community services (HCHS) need-weighted population is calculated by combining the weighted populations for need for general and acute, mental health, community and maternity services. This is done by weighting each component according to its modelled share of HCHS spending in 2025/26.
3. Apply the EACA index.
4. Combine the weighted populations for HCHS from steps 2 and 3 with the weighted populations for prescribing and primary medical care, weighting each element according to its modelled share of total spending in 2025/26. There is no adjustment for the MFF and EACA for prescribing.
5. Combine the outcome from step 4 with the unmet need/health inequalities adjustment. The latter is given a weight of 10.2% and the outcome from step 4 a weight of 89.8%.
6. Apply the adjustments for unavoidable costs due to remoteness and PFI.

6.1.2 Unified weighted populations for 2025/26

Unified weighted populations for 2025/26 are calculated by applying the component model outputs to projected populations which are calculated as described in Section 3.

J – Overall weighted populations for ICBs and GP practices 2024/25 and 2025/26 (Excel file)

This shows the overall weighted population for each ICB for core allocations for 2024/25 and 2025/26 based on projected populations, and the weighted populations for general and acute, community, mental health, maternity, prescribing and the health inequalities and unmet need adjustment.

7. Primary medical care allocations

7.1 Introduction

The formula for primary medical care (GP services) allocations was updated in 2016/17. The formula for 2025/26 allocations is unchanged.

7.2 Methodology

7.2.1 Data

The requirement was to measure general practice workload and consider how the attributes of practices and their patients influenced that workload. The dataset used was the Clinical Practice Research Datalink (CPRD), which is a primary care database of anonymised medical records for a large number of general practitioners. It is broadly representative of the UK general population in terms of age, sex and ethnicity. For this work there were usable records from around 210 practices covering about two million patients.

Workload was measured by the number of minutes electronic files for patients were open, weighted by staff group.

7.2.2 Modelling approach

A linear fixed effects model was fitted to the CPRD data to estimate the effect of patient and practice characteristics on GP workload. The model is at the person level, and of the form:

$$\text{Total file opening times (weighted by staff group)} = \text{Constant} + \text{Age-sex group} + \text{New registration} + \text{IMD decile} + \text{Practice ID}$$

Age and sex are well known to affect workload; typically more elderly patients have more minutes of GP practice time than younger age groups.

Index of Multiple Deprivation (IMD) is a proxy for higher need in more deprived areas. IMD 2010 data were used as these data were in the CPRD dataset at the time of data extraction. IMD values were imputed for the individual patients who did not have associated IMD deciles in the dataset provided.

Being newly registered with the practice was found to be associated with higher workload.

The intercept (constant) represents the estimated average number of additional weighted contact minutes per year that a patient on the registration list at the start of the year with baseline characteristics has with their GP surgery. In the model that is a male patient, aged 0-5, in IMD decile 1.

The practice ID was treated as a supply variable, and not included in the weighted populations. This removes the impact on workload of differences between individual GP practices in their working practices.

ACRA considered whether rurality should be included as a factor in determining workload but concluded that it should be excluded from the model. This was because of uncertainty over whether it was reflective of additional workload or systematic differences in behaviour in rural practices not arising from workload.

An adjustment is made to the formula to account for the additional costs for practices that are dispensing doctors.

More information on the model can be found in the paper *Primary medical care – new workload formula for allocations to CCG areas*.

7.3 Implementation

The model's coefficients and constant term were applied to GP practice average registered lists for November 2023 to October 2024 and to projected practice populations for 2025/26. The GP practice MFF from the Carr-Hill formula was also applied. This gives GP practice weighted populations which were then aggregated to ICBs.

An adjustment accounting for 15% of the overall primary medical care weighted population is applied to adjust for unmet need and health inequalities (see Section 4.7). An adjustment was also applied to account for estimated dispensing doctors' fees in 2023/24, uprated to 2024/25 values.

ICB weighted populations for 2025/26 were derived using the projected GP registered population profiles as described in Section 3.

7.4 Pharmaceutical, ophthalmic and dental services (POD)

All ICBs now have delegated responsibility for the commissioning of pharmaceutical services, general ophthalmic services, dental services (primary, secondary and community) and other primary care services (collectively referred to as POD services). The 2025/26 POD allocation schedule sets out the updated baseline, including the impact of 24/25 pay announcements and other recurrent allocation updates, and base growth for each ICB allocation.

K – Primary Care (medical) (Excel file)

This shows the coefficients from the new primary medical services model and data at GP practice level.

The file also shows the calculation of weighted populations for primary medical

8. Specialised services

8.1 Introduction

From 2023/24 specialised services began to be commissioned on an ICS-population footprint. By integrating the commissioning of specialised services with ICBs' wider commissioning responsibilities, ICBs will be the commissioners of primary, community, secondary and tertiary services allowing them to design and commission care that best suits the needs of their populations.

A new allocations model for physical health specialised services was developed to support this process and specialised services allocations were published for the first time for 2024/25. The model is designed to cover all services that will be subject to delegation. A Specialised Needs-based Allocations Methodology paper detailing the development of the new model is available on the allocations website.

8.2 Model development

8.2.1 The dependent variable

The Patient Level Contract Monitoring (PLCM) datasets have been used to create the dependent variable for the model – the specialised services expenditure on each person during 2019/20. In order to remove the impact of the Covid-19 pandemic on the dependent variable, the model is based on spend on specialised services from March 2019 to February 2020.

8.2.2 Services covered

The model covers all specialised physical health services excluding:

- highly specialised services and the Cancer Drugs Fund as these are to continue to be commissioned nationally
- services for which the main dataset is insufficient but for which an alternative approach based on other data sources provides a better estimate of a fair share allocation. HIV services – where for confidentiality reasons data are not available – and neonatal intensive care, are modelled separately from the main model

8.2.3 Need estimated from past healthcare use

Relative need was estimated from past patterns of utilisation of health services. Specialised services expenditure per head in 2019/20 were calculated for each individual registered with a GP practice in March 2019 from the PLCM datasets.

Statistical modelling was used to select the ‘best fit’ drivers of relative costs at the person level and the relative weights for each driver. The quantified relationships found were taken to be predictors of relative future, cost-weighted need for health care services, with the exception of the supply variables (the impact of which are neutralised).

8.2.4 Explanatory variables

The modelling tested a wide range of potential variables to select those that were the best in statistical terms, and also plausible indicators of need, to be included in the final model. Morbidity (previous diagnoses) and age were the most important variables in the model.

The impact of deprivation on need is therefore captured via the association between deprivation and morbidity. Age also is largely captured through higher levels of morbidity in older people which is directly associated with greater use of specialised services).

An extensive set of explanatory variables were gathered for testing in the model. The starting point for this list were the variables tested in the general and acute model as summarised in table 2. A full account of the variables tested in the specialised physical health models are set out in the Specialised Needs-based Allocations Methodology paper.

8.2.5 Supply variables

The utilisation of health care may also be affected by the relative availability of health care services. Variables were tested in the modelling to adjust for this, known as supply variables. The supply variables tested in the model include those used in the general and acute model as summarised in table 3.

An additional set of provider variables were also included as supply effects for the specialised services model. The dependent variable for the specialised services model includes the actual cost to commissioners of activity. This contrasts with the general and acute model, where the model is based on cost-weighted activity using the national tariff (or equivalent).

We therefore include provider variables in the specialised model to account for provider efficiency and local pricing variation. The provider variable attributed to each registered patient for each provider is the share of the patients at their GP practice that have received specialised care at that provider during 2017/18 and 2018/19.

While these variables were included in the models as they affected utilisation, they were not included in the formula to calculate weighted populations; instead their value for each area was set to the national average. This means if an area has lower costed need for health care services because of weaker referral pathways (perhaps due to lower capacity or longer distance) or because local providers are cheaper or more efficient, this does not lead to lower predicted need.

8.2.6 Adjustment for HIV

HIV services could not be included in the aggregate physical health model because, for reasons of confidentiality, information about the personal diagnostic history could not be linked to information about utilisation of these services.

HIV services represent around 2.9% of specialised physical health services total spending (excluding highly specialised services), and the geographical distribution of need for this

service is unlikely to match that of other specialised services. It was therefore necessary to construct a separate model of the likely pattern of need for HIV services and to use that to make an adjustment to the target allocation for physical health services.

The dataset from Public Health England that has been used to develop the HIV adjustment suggests that some 95% of the variation in spend on HIV by ICB is explained simply by variation in the number of patients. So, our approach is to adjust the fair-shares allocation by taking the segment of spend on HIV and allocating it notionally to ICBs pro rata to the distribution of the 85,143 patients.

8.2.7 Adjustment for Neonatal Critical Care (NCC)

NCC services are provided for persons who do not have a medical history and have not been born at the start of the target year, so they could not be included in the main model of specialised services utilisation.

NCC services represent around 5.5% of specialised physical health services total spending (excluding highly specialised services), and the geographical distribution of need for this service is unlikely to match that of other specialised services. It was therefore necessary to construct a separate model of the likely pattern of need for NCC services and to use that to make an adjustment to the target allocation for physical health services.

To model NCC service use, an area-based model of cost-weighted resource use was developed. The model predicts NCC service need in an area on the basis of the number of babies born in the target year modified to allow for the greater likelihood of critical care use in areas with a higher proportion of births of low gestational length. (Other potential drivers of need, including deprivation, were not found to be significant, their impact likely being captured by the gestational length variable.)

8.2.8 Implementing the model

The new model models need in 2019/20 for those registered with a GP practice in March 2019 using values of the explanatory variables in 2017/18 and 2018/19.

In previous allocations rounds, where a GP practice has opened or been newly formed since the modelling was undertaken, the average need per head by age-sex group for the relevant CCG was used. As ICBs are now such large areas, the average need per head by age-sex group has been calculated for local authority districts (LADs). This allows for more variation in need within ICBs to be accounted for.

The HIV and NCC adjustments are applied at ICB level weighted based on the proportion of physical health specialised services spent on these services.

L – Specialised services need per head 2024/25 and 2025/26 (Excel file)

This shows the need per head for each age-sex group for each GP practice. It also shows where the LAD average need per head by age-sex group was used for new practices.

The file also shows each GP practice and ICB's registrations weighted for need for specialised services.

9. Convergence

9.1 Principles of convergence

Actual allocations have been derived from target allocations through a convergence policy. This sets a base growth, reflecting typical pressures. A convergence factor is then applied, such that ICBs that are furthest above target receive less funding growth than in the base growth, and those that are furthest below receive more funding growth.

This approach moderates the move from the baseline towards target allocations to:

- ensure the maximum growth for the furthest below target is set at a level that balances achieving an acceptable distance from target with setting growth at a level that can be effectively deployed
- ensure the minimum growth for the furthest over target is set at a level that allows stability of services and creates confidence for medium term planning
- avoid year-on-year volatility in allocations for those ICBs close to their target allocation
- produce a distribution of allocations that is consistent with the available budget

9.2 Setting the baseline

The baseline for 2025/26 is based on the 2024/25 allocation, as updated, plus a number of adjustments including:

- locally agreed transfers
- additional resources for ambulance and physical and virtual capacity
- additional in-year funding allocated for 2024/25 pay deals
- other in-year adjustments

9.3 Setting the convergence

9.3.1 Base growth

Having set the baseline, setting the allocation for future years begins by setting the base growth. For core allocations, the average base growth represents the level of funding provided plus known cost pressures, including inflation and activity growth. This is estimated to be 4.37%, 5.28% and 3.09% for core services, specialised services and primary medical care respectively in 2025/26.

For specialised services further adjustments are made to reflect the way high cost drugs and devices (HCDD) are funded. These are discussed below.

9.3.2 Convergence

For each ICB a convergence is then set based on the distance from target (DfT) after base growth. The ICBs that are furthest above target will see the largest negative convergence, while those that are below target see positive convergence. Broadly this moves systems towards target, while moderating that growth to ensure systems are financially stable and, for systems that are close to target, we avoid destabilising systems by making changes due to small data fluctuations.

One purpose of the convergence factor is to produce a distribution of funding that is consistent with the available budget. The target quantum is set lower than the actual allocation quantum and the application of convergence therefore results in a net reduction in funding compared to the level of base growth. This net reduction contributes to the delivery of the overall efficiency requirement implied by the 2025/26 settlement.

The convergence parameters for 2025/26 are consistent across all streams and are summarised in Table 9.

Table 9: Convergence

2023/24	
DfT after base growth	**Convergence**
Less than -2.5%	+0.50%
Between -2.5% and +0.25%	Varies uniformly
Greater than +2.5%	-0.50%

9.3.3 Specialised services convergence

The final step in setting actual budgets for specialised services is to make adjustments for high cost drugs and devices (HCDD). The fair share determined for each ICB population by convergence policy includes HCDD but this component of the budget is managed centrally. We therefore partition the converged ICB population allocation to create a contribution to the HCDD budget.

The HCDD budget is assumed to grow at 8.8% for drugs and 7.9% for devices, which is higher than the base growth for services in isolation (2.34%). The base growth is adjusted for this so that systems with higher baseline HCDD spend receive a higher base growth. Convergence is also moderated by the ratio of the services baseline to the total baseline, meaning that systems with a high HCDD spend do not have to manage the impact of this from within their services allocation.

When setting the assumed HCDD spend for creating the central budget we previously assumed that the systems with the highest baseline HCDD share would have the fastest growth. However, more recent data suggest this is not the case and so we have assumed a uniform HCDD growth of 8.66%, which is a weighted average of the 8.8% and 7.9% growth rates for drugs and devices respectively set out above.

The nett result of this is that the physical services allocation made to systems is insensitive to the HCDD spend, consistent with systems having little opportunity to receive the benefits if they are able to reduce this spend because of the central management of these budgets.

N – Primary medical care convergence (Excel file)

This file sets out the calculation of the convergence for ICBs for primary medical care

O – ICB core convergence (Excel file)

This file sets out the calculation of the convergence for ICB core services

10. Running cost allowances (RCA)

Pre-delegation ICB running cost allowances (RCAs) covering 2025/26 have been updated to reflect the changes announced relating to employers national insurance contributions (ENICs). RCAs remain subject to a 30% real terms reduction per ICB by 2025/26. Due to the impact of the change in ENICs, the 2025/26 published RCA has increased from £861m to £874m.

The published figures do not include any allocation for the impact of delegation. ICBs will continue to separately receive additional recurrent RCA on a population basis to reflect the 2023/24 transfer of staff and ICBs are responsible for calculating and transacting any inter-ICB adjustments to appropriately fund the agreed operating model in 2025/26.

Shares of the running cost allowance for ICBs in 2025/26 are based on the relative share of running costs in ICBs in 2022/23. These shares were maintained in 2023/24 and 2024/25.

Annex 1: Age-cost curves

Age-cost curves show the relative cost per head of providing NHS services to different age and sex groups and are derived from the research to develop the formulae used to allocate resources to NHS organisations.

The age-cost curves are not used in the funding formula directly, but age and gender are taken into account in the formula in the modelling of the need for health care services at the person level or small area level. The age-cost curves are included here as they are sometimes helpful for other analyses. The age-cost curves are given below. Note that:

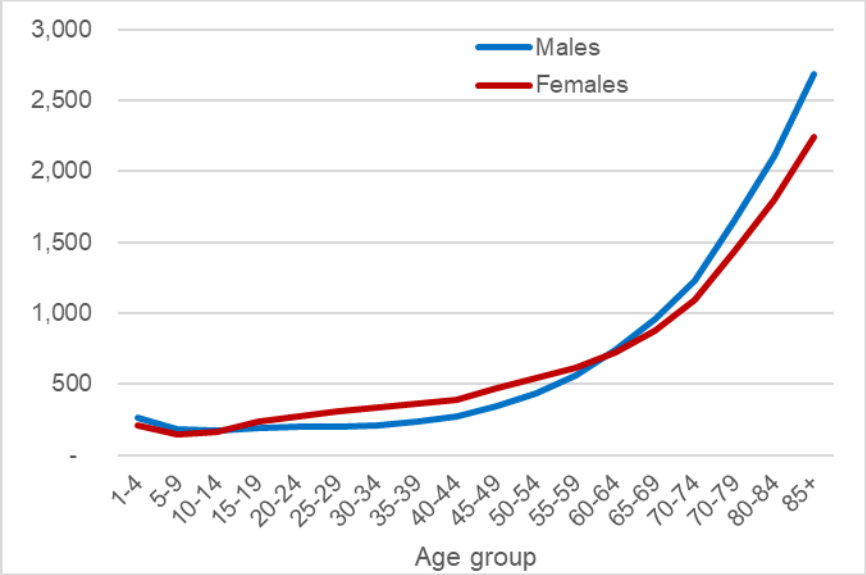
- they are for different years for different components, reflecting the data used for the underpinning modelling
- they show total costs for each age-sex group or age-sex weights (the latter where additional need weights cannot be broken down by age-sex group)
- some are actual costs from the data used for the modelling and some are predicted costs from the modelling, dependent on the availability of cost data

General and Acute

Table A1 shows the modelled cost per head for 2018/19 from the refresh of the general and acute formula as outlined in Section 4.2. They include inpatient, outpatient and A&E attendances. They exclude mental health, maternity and specialised services. Costs per head are higher for older age groups, with costs rising rapidly after the age of 65. In younger adult age groups average costs are higher for women, with cost per head higher for men for age 65+.

Table A1: General and acute age-cost curve

Age group	Males	Females
0	460	365
1-4	262	209
5-9	179	149
10-14	172	165
15-19	187	233
20-24	195	269
25-29	201	306
30-34	209	335
35-39	231	358
40-44	272	392
45-49	340	466
50-54	430	543
55-59	563	619
60-64	738	723
65-69	958	877
70-74	1228	1098
75-79	1658	1440
80-84	2103	1799
85+	2682	2239



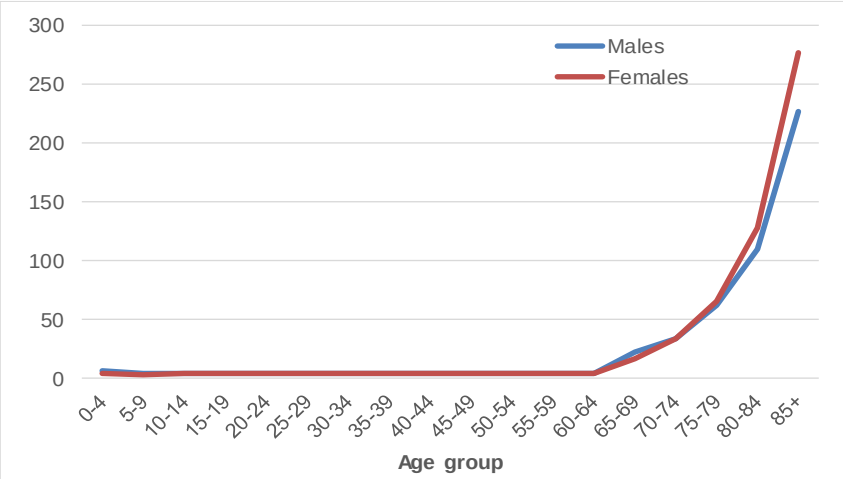
Community services

Table A2 shows the modelled cost per head derived from the community services formula as outlined in Section 4.3. This is the full community services model, based on district nursing contacts, which is applied to 50% of community services spend in the ICB allocations formula.

The data for the modelling did not include those aged under 15, so the general and acute (G&A) model age-cost curve was used as a proxy. The ratios of the G&A age-cost curve for the age groups 0-4, 5-9 and 10-14 (as a proportion of the G&A age-cost curve for those aged 15-19) were calculated and applied to the community services age-cost curve for those aged 15-19. The cost per head is very low for ages up to 65 year, after this point costs rise rapidly.

Table A2: Community services age-cost curve

Age group	Males	Females
0-4	5.7	3.6
5-9	4.0	2.7
10-14	4.1	3.0
15-19	4.1	4.1
20-24	4.1	4.1
25-29	4.1	4.1
30-34	4.1	4.1
35-39	4.1	4.1
40-44	4.1	4.1
45-49	4.1	4.1
50-54	4.1	4.1
55-59	4.1	4.1
60-64	4.1	4.1
65-69	21.7	16.3
70-74	32.9	32.6
75-79	61.5	64.5
80-84	109.0	127.0
85+	226.4	276.2



Mental health

Table A3 shows the modelled cost per head for 2015/16 derived from the 2018 refresh of the mental health formula as outlined in Section 4.4.

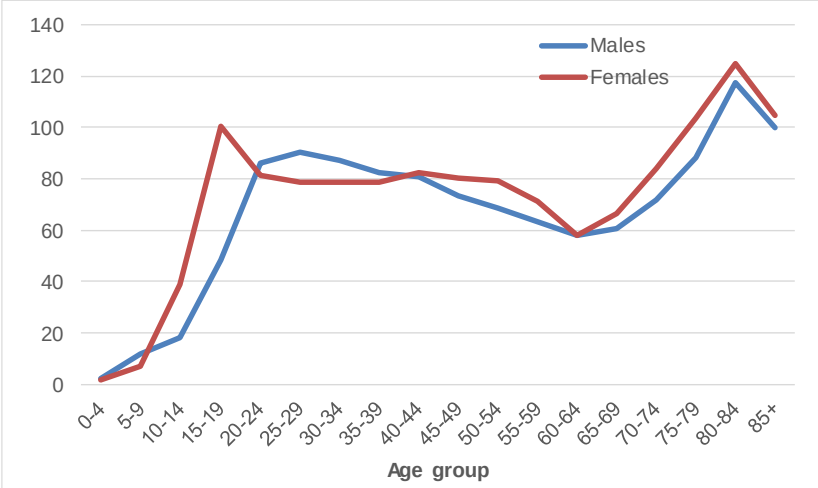
The individual cost of mental health services in 2015/16 was estimated as a function of individual and area level need and supply predictor variables in 2013/14 and 2014/15. Activity data were from the Mental Health and Learning Disabilities Dataset (MHLDD) and the Improving Access to Psychological Therapies (IAPT) dataset for 2015/16 and were costed using Reference Costs for 2015/16.

The data for the modelling did not cover those aged under 20 so inpatient and outpatient activity data from the 2017/18 Mental Health Services Data Set (which contains data for children and young people) were used. Weights for each age-sex group 0-4, 5-9, 10-14 and 15-19 were calculated from the estimated service cost of each age-sex group expressed as a proportion of costs for those aged 20-24. These weights were then applied to the need per head for those aged 20-24 from the adult model to estimate need per head for the under 20 age-sex groups. The age-cost curve excludes the MFF and specialised mental health services.

The costs per head for mental health services has two peaks, one for young adults between the ages of 15 to 29 and another, higher peak for those aged over 65.

Table A3: Mental health age-cost curve

Age group	Males	Females
0-4	2.0	1.6
5-9	11.9	7.0
10-14	17.9	38.9
15-19	48.2	100.1
20-24	86.0	81.1
25-29	90.4	78.8
30-34	87.0	78.4
35-39	82.1	78.8
40-44	80.7	82.2
45-49	73.2	80.4
50-54	68.7	79.3
55-59	63.0	71.3
60-64	58.0	57.9
65-69	60.5	66.3
70-74	71.9	83.9
75-79	88.4	103.7
80-84	117.6	124.7
85+	100.1	104.7

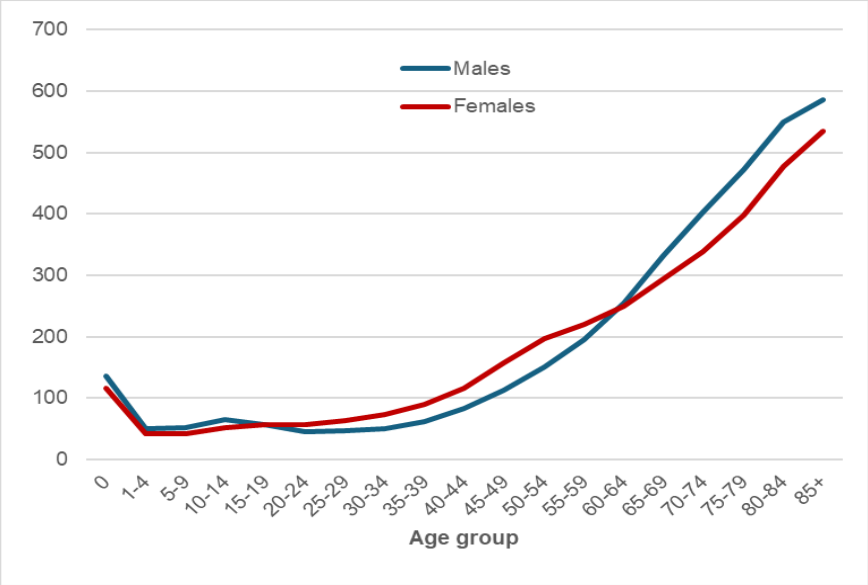


Prescribing

Table A4 shows the cost per head in 2022/23 of medicines prescribed in primary care as calculated by the refreshed model as described in section 4.6. Prescription costs increase with age with the rise becoming more rapid after the age of 45. Average costs per head are higher for men than women.

Table A4: Prescribing age-cost curve

Age group	Males	Females
0	135	116
1-4	51	43
5-9	52	42
10-14	65	52
15-19	57	57
20-24	45	57
25-29	47	63
30-34	51	73
35-39	62	90
40-44	83	116
45-49	113	158
50-54	150	197
55-59	195	221
60-64	255	250
65-69	333	295
70-74	403	339
75-79	473	398
80-84	549	476
85+	586	534



Primary medical care

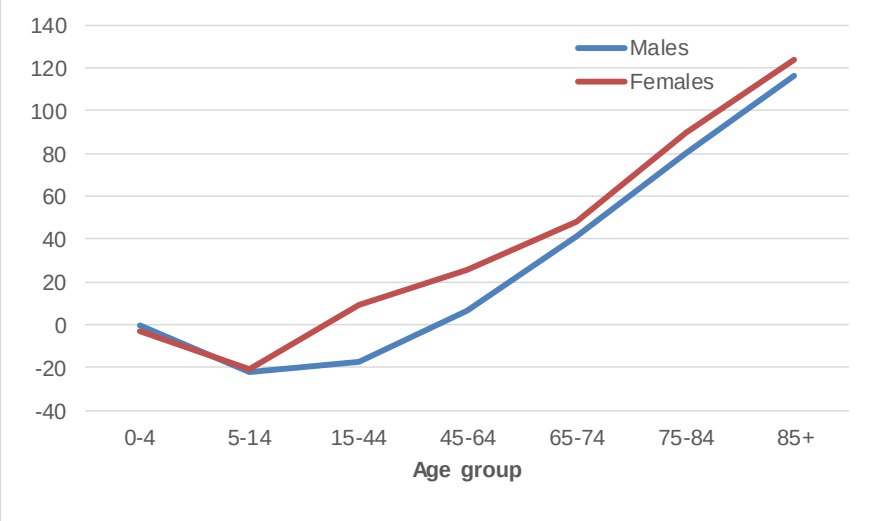
Table A5 shows the primary medical care (PMC) age-cost curve derived from the 2015 refresh of the PMC allocation formula. The model estimated the effects of patient and practice characteristics on GP practice workload (see Section 7). The modelling produced age-sex coefficients that represent the estimated average number of additional weighted contact minutes that a patient in each age-sex group has with their GP surgery compared to the baseline, that is a male patient aged 0-4.

The primary medical care age-cost curve is for modelled weights per head by age-sex group, not modelled or actual costs. The age-cost curve excludes need over and above that related to age and sex, and also differences in costs, such as the MFF, which cannot be broken down by age-sex group.

Costs increase steadily from age 5-14 and costs are higher for women than men.

Table A5: Primary medical care age-gender workload coefficients

Age group	Males	Females
0-4	0.0	-3.2
5-14	-22.4	-20.9
15-44	-17.2	9.1
45-64	6.7	25.7
65-74	41.1	48.1
75-84	80.5	89.4
85+	116.7	123.5



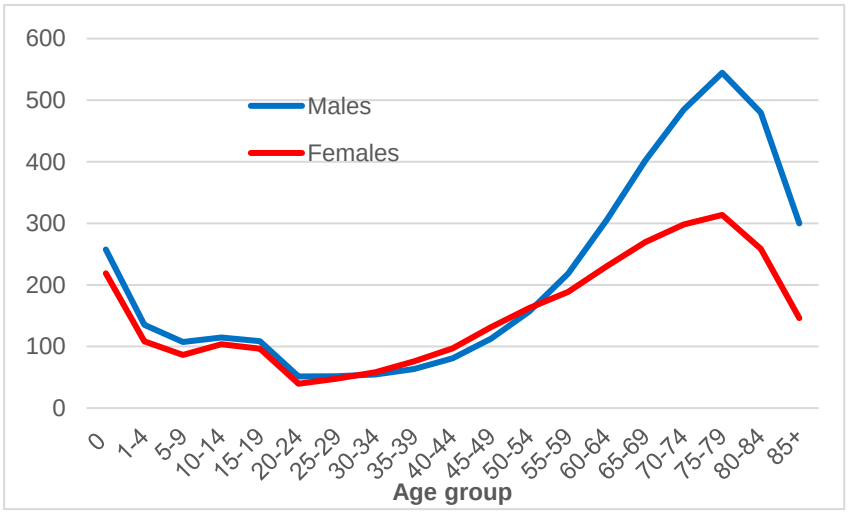
Specialised services

Table A6 shows the modelled cost per head for physical health specialised services for 2019/20 from the model developed for 2024/25 allocations. This excludes highly specialised services and specialised mental health services. The model adjustments for HIV and NCC are not included.

Modelled average cost per head for specialised services start somewhat high for the very youngest age group and then drop steadily. It then picks up again from 25 years of age, with the highest costs modelled for the 75-79 age group, in particular for men.

Table A6: Specialised services age-cost curve

Age group	Males	Females
0	258	219
1-4	135	108
5-9	107	86
10-14	115	104
15-19	109	96
20-24	51	40
25-29	52	48
30-34	55	58
35-39	63	76
40-44	81	97
45-49	113	132
50-54	157	163
55-59	218	189
60-64	305	230



65-69	402	269
70-74	485	298
75-79	545	314
80-84	480	259
85+	300	146

Annex 2: References

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Annex 3: List of documents published alongside the technical guide

Research reports

Report on methodology for developing a model for primary care prescribing

Report on changes to the maternity model for 2025/26 allocations

Report on the update to the remoteness adjustment for 2025/26 allocations

Spreadsheet files

A Registered populations by GP practice and ICB
B General and Acute need
C Community Services need
D Mental Health need
E Maternity need
F Prescribing need
G Avoidable mortality weighted populations
H Market Forces Factor
I Emergency Ambulance Cost Adjustment
J Overall weighted populations for core services for ICBs and GP practices
K Primary medical care
L Specialised services need
N Primary medical care convergence
O ICB core convergence
P Specialised services convergence
X Boundary changes

Equality Analysis

Equality analysis for 2025/26 revenue allocations to Integrated Care Boards is provided in Annex 4 of this document.

Annex 4: Equality and Health Inequalities Analysis

This document presents our analysis of how equality and health inequalities are reflected in the 2025/26 revenue allocations to Integrated Care Boards.

2025/26 revenue allocations overview

The proposal covers resource allocation to Integrated Care Boards (ICBs). The formulae underlying these allocations aim to support equal opportunity of access for equal need and contribute to the reduction of health inequalities amenable to healthcare.

The resource allocations cover:

- Core ICB services
- Primary medical care
- Specialised services

Steps in setting allocations

The steps in setting allocations are:

- determine target allocations based on relative need and relative unavoidable costs
- establish baselines (building on previous year's funding)
- determine distances from target, based on long term financial trajectory
- determine convergence, which moves ICB towards their long-term target allocations

Target shares

Weighted capitation formulae are used to calculate an ICB's target share of the available resources. Target shares are in proportion to each ICB's population weighted by the need for health care services (such as that due to the age profile of the population). There are also weights to account for differences in unavoidable costs due to location in providing healthcare services between geographical areas across England.

The target shares of the long-term financial trajectory give each ICB's target allocation in monetary terms.

Equality

Equality is at the heart of the weighted capitation formulae. The formulae recommended by ACRA aim to allow local organisations to offer equal opportunity of access for populations with similar levels of need (horizontal equity), and appropriately higher levels of health services for populations with higher levels of need (vertical equity).

The principle of a weighted capitation formula was established in 1976 following the Report of the Revenue Working Party (RAWP). RAWP interpreted its terms of reference as being:

“to reduce progressively, and as far as feasible, the disparities between the different parts of the country in terms of the opportunity for access to health care of people at equal risk.”

Weighted capitation formulae

The weighted populations for ICBs are based on:

- the population base – a count of the population each ICB is responsible for
- a weight, or adjustment, for higher need for health care services due to age (areas with more elderly populations receive higher allocations per head, all else being equal)
- a weight, or adjustment, for additional need for health services over and above that due to age (areas with poorer health receive higher allocations, all else being equal)
- an adjustment for unmet need and health inequalities
- a weight, or adjustment, for unavoidable differences in the costs of providing health services due to location alone – the Market Forces Factor (areas where the cost of living, land etc. are higher receive higher allocations, all else being equal)
- in the formula for core ICB allocations, an adjustments for the higher costs of providing emergency ambulance services in sparsely populated areas, for the higher costs faced by unavoidably small hospitals in remote areas providing 24-hour accident and emergency services, and for excess PFI (private finance initiative) financing costs

The values of the weights per head differ between the formulae for ICB core allocations, specialised services, and primary medical care due to differences in relative need across the country for the respective health services.

The weighted capitation formula for ICB core allocations also has separate components for general and acute, community, mental health, maternity and prescribing. This is because need varies differently across the country for each of these services, and the available datasets, and so analytical approaches, vary in each case.

The research developing the specialised formula, and the general and acute, maternity, mental health and prescribing components of the ICB core formula use anonymised patient-level data to provide robust estimates of the needs of different population groups. The use of patient-level data for the prescribing component is a recent improvement. Prior to 2025/26 allocations, data used in the prescribing component were only available at GP practice level. At present the community services component of the formula is based on data from a small number of CCGs that had good quality linked datasets.

Adjusting for different characteristics

Observing need per head directly is not possible. Instead, statistical modelling has examined the relationship between the utilisation of health services on the one hand, and the characteristics of individuals and the area where they live on the other hand. These models have been used to decide which factors to include in the formula to predict future need per head. Factors were selected based on their statistical significance in predicting future need for healthcare resources and the plausibility of the relationship.

Need related to age and sex

Need varies according to age and sex, and in particular the very young and elderly, whose populations are not evenly distributed across the country, have a higher need for health services than the rest of the population. The weighted capitation formulae therefore take into account the relative need per head of different age-sex groups and the different age-sex profiles of local populations.

Additional need (over and above that related to age and sex)

Even when differences related to age and sex are accounted for, there are variations in the level of need. An additional adjustment to reflect the relative need for health services over and above that related to age and sex is therefore necessary. This adjustment is based on individual characteristics including morbidity indicators, ethnicity and household composition and variables that are based on the characteristics of where people live such as the underlying indicators from the Index of Multiple Deprivation, and variables from the Census of population. The adjustment is determined by including these indicators as variables in the statistical modelling.

Need related to age, sex and additional need over and above that due to age and sex are estimated as a single set of weights rather than two separate sets of weights in the formulae. This allows for interaction between the different elements associated with need.

One component of additional need is a measure of morbidity which is based on the diagnoses recorded in hospital admissions for individual patients. Diagnosis data are included in the general and acute, prescribing, maternity and mental health services components of the ICB core formula, and the specialised formula.

A range of attributed variables relating to the characteristics of areas where people live are also included in the models. These include variables from the Index of Multiple Deprivation and the Census of Population.

The Index of Multiple Deprivation (IMD) was used in the primary medical care formula due to the absence of other information in the data set available for the modelling.

Supply side variables

The models also include supply variables to take account of the greater availability of health care services generally leading to higher use. While the supply variables are included in the models, they are set to the national average when calculating weighted populations. This means areas are not penalised in the formula for lower utilisation due to relatively lower capacity.

Unmet need and health inequalities adjustment

The models typically assess need as it is currently met by NHS services and therefore may not capture unmet need or inappropriately met need. Typically, the most deprived communities do not access health care in the most effective way, resulting in poorer health outcomes. NHS England also has a duty to have regard to the need to reduce inequalities between patients in access to, and outcomes from, healthcare services.

There is an adjustment for unmet/inappropriately met need and health inequalities in the weighted capitation formulae, which was reviewed by ACRA for the 2022/23 allocation round. Prior to the review, the adjustment was based on the standardised mortality ratio for those under 75 years of age (SMR<75). The review concluded that the adjustment should use a bespoke definition of avoidable mortality. The report on the review of the health inequalities and unmet need adjustment contains more information.

The adjustment is calculated for the population of each small area (Middle layer Super Output Area (MSOA)) and then aggregated to ICB level. Applying the measure at the small area level captures health inequalities within as well as between ICBs. To turn this into a revenue adjustment an exponential weighting is applied, meaning that a higher weight per head is given to the small areas with the worst avoidable mortality.

ACRA's recommendations are evidence based. However, a lack of robust, comprehensive quantitative evidence that is consistent between services and across the country, means ACRA's recommended measure for the unmet need and health inequalities adjustment is largely pragmatic and based on judgement. Research commissioned by the National Institute of Health Research (NIHR) on how an equitable resource allocation may account for unmet need recently concluded and may influence future allocations.

ACRA is also still unable to recommend the share of the overall weighted capitation formulae that should be based on the unmet need and health inequalities adjustment. NHS England will leave these weightings unchanged at 15% for primary medical care allocations, 10.2% for core allocations and 5% for specialised services allocations.

The share is highest for primary medical care as it is expected that unmet need and health inequalities can be more effectively addressed through primary medical care than through secondary care.

Unavoidable costs

The weighted capitation formulae include adjustments for unavoidable costs due to location, so that areas with higher costs are not disadvantaged in their allocations. The adjustments for higher unavoidable costs include the market forces factor (MFF), which is applied for all weighted capitation formulae. Additional adjustments are made in the ICB core services weighted capitation formula: an emergency ambulance cost adjustment (EACA), an adjustment for remote hospitals, and an adjustment for excess private finance initiative (PFI) financing costs.

The MFF adjusts for unavoidably higher unit staff and premises costs, which are particularly higher in London. The EACA adjusts for the longer journey times of ambulances in sparsely populated areas. The adjustment for remote hospitals is for the higher costs of delivering services in hospitals with type 1 A&E services that are unavoidably small due to remoteness, and the PFI adjustment reflects the impact of excess finance costs relating to historical PFI contracts.

Convergence policy

The convergence policy sets actual allocations by determining how far ICBs are moved closer to their target allocation each year. Convergence policy balances providing stability in funding for all organisations with moving those furthest away from target (above or below) towards their target.

Local commissioner and provider decisions

NHS England provide ICBs with their allocations based on the principles outlined above. However, ultimately the commissioning decisions of individual ICBs and the operational decisions of individual providers are a key determinant of the impact on protected groups.

How do the 2025/26 revenue allocations formulae reflect health care needs of protected characteristic groups?

This section provides an assessment of the way in which the 2025/26 revenue allocations formulae reflect health care needs of protected characteristics groups.

Age

The weighted capitation formulae specifically take into account the different needs for health care services by age group, which are especially higher for older age groups and significantly greater for the oldest age groups. For example, the general and acute component of the ICB core services formula gives a weight per head four times higher for

those aged 65 to 69 years compared with those aged 20 to 24 years, and ten times higher for those aged 85 years and over compared with those aged 20 to 24 years.

The needs of the most elderly are also reflected in the community services component of the ICB core services formula. Need for these services increases much more rapidly with age than for other services.

The increased need of young children is also reflected in the models, although this is less significant than for older people.

Since 2022/23, the general and acute model component of the ICB core services formula accounts for age using splines, which allow the relationship between age and cost to vary within these 5-year age groups. This approach is also now used in the specialised services, prescribing and maternity models.

The health inequalities and unmet need adjustment creates a redistribution to younger populations. It also takes explicit account of deaths of people over 75 years that are considered avoidable which is an improvement on the previous approach which did not include the deaths of people over 75.

Disability

The aim of the formulae is to support equal opportunity of access for equal need and they therefore directly reflect need due to disability. The majority of the model components of the ICB core services formula and the specialised services model include past patterns of morbidity at the individual level as measured by diagnostic data for hospital admissions.

The new prescribing model component of the ICB core services formula is a patient-level model so that it now includes individual diagnostic data as well as various LSOA-attributed variables that cover disability such as:

- the mental health conditions prevalence (QOF)
- the proportion with long term conditions (GP survey)
- the proportion of disabled people (Census)
- the proportion of disabled people in poor health (Census)
- the proportion of people claiming Disability Living Allowance/ Personal Incentive Payment

For the updated maternity model component of the ICB core services formula also includes individual diagnostic data. In addition, characteristics that are included in the maternity factors that determine the level of antenatal and postnatal care received, have been identified to ensure the appropriate pathway (and associated costs) is identified.

The data available for the primary medical care formula did not include data on disability, but the Index of Multiple Deprivation (IMD) was used as proxy for poorer health.

There is also a separate health inequalities and unmet need adjustment. This is because the models typically assess need as it is currently met by NHS services and therefore may not capture unmet need or inappropriately met need. Typically, the most deprived communities do not access health care in the most optimal way, resulting in poorer health outcomes.

Following ACRA's review of the health inequalities and unmet need adjustment in 20224/23, this adjustment has been adjusted to ensure it is sensitive to the most severe challenges, using measures of mortality and more resources are thus targeted at those communities with the worst scores on these measures.

A criticism of this approach is that it may be less sensitive to inequalities associated with mental health conditions and learning disabilities. Despite an active research programme, we have not yet identified a suitable alternative measure. This work will continue.

Gender Reassignment and/or people who identify as Transgender

These groups' treatment needs, as for all population groups, will be included in the diagnostic information used in the majority of models. Beyond this, there are no data on the groups' needs suitable for use in an allocations formula and so there is no specific adjustment in the formulae. As for other groups, local commissioners and providers are subject to the public sector equality duty.

Marriage & Civil Partnership

Marital and civil partnership status from the 2021 Census is tested in the development of the formulae and found to be statistically significant in the general and acute, maternity and prescribing components, and not statistically significant in the mental health component of the ICB core services formula.

A household composition variable is also used in the models which characterises the type of household that each individual lives in.

The available data did not permit marriage and civil partnership to be tested as an additional variable in the primary medical care workload formula.

Pregnancy and Maternity

There is a separate maternity component within the formula for ICB core services allocations to take account of the specific health care needs related to pregnancy and maternity. The maternity component was updated for the 2025/26 allocations. This update is based on more up to date and complete data relating to health and social issues i.e. complex social factors

captured in the Maternity Services Dataset (MSDS). It also includes greater granularity in maternity tariffs. These improvements mean that we are better able to estimate need for services at different levels of intensity.

Race and ethnicity

The mental health, prescribing, maternity, and general and acute components of the ICB core services formula, as well as the specialised formula use individual ethnicity data where available from administrative datasets. The modelling tested 16 ethnicity variables, which is an improvement on previous formulae that used only four ethnicity variables at a local area level.

For some groups the modelling suggested lower need than the reference group, White-British. This was not supported by any other evidence, and so this has been interpreted as unmet need. To address this the need of these groups are set to the value of the reference group (i.e. White British).

Religion and belief

Religion or belief have previously been tested for inclusion in the general and acute component and found not to be statistically significant (over and above the other variables in the model, such as diagnoses). It was tested for a previous version of the mental health component, with the same result. This has not been re-tested for this iteration due to lack of new data.

Sex

The weighted capitation formulae directly take account of the different needs of males and females in each age-group. For example, the need for general and acute services for women in their 30s is higher than that for men, while the need for general and acute services for men aged 85 and over is higher than for women.

Sexual orientation

These groups' treatment needs, as for all population groups, will be included in the diagnostic information used in the majority of models. Beyond this, there is a lack of data on needs that are specific to sexual orientation and so there is no specific adjustment in the formulae. As for other groups, local commissioners and providers are subject to the public sector equality duty and the health inequality duty.

The sexual orientation monitoring information standard has the potential to improve recording of sexual orientation, and we will adjust our approach as the data quality and coverage allows it.

How do the 2025/26 revenue allocations formulae reflect health care needs of people who experience health inequalities?

This section provides an assessment of the way in which the 2025/26 revenue allocations formulae reflect health care needs of people who experience health inequalities.

Looked after children and young people

There is no specific adjustment in the formulae for looked after children and young people.

Where looked after children and young people present with higher levels of need this will be reflected in the diagnostic flags and may attract a higher weight. As for other groups, local commissioners and providers are subject to the health inequality and public sector equality duty.

Carers of patients

There is no specific adjustment in the formulae for carers. Data on voluntary care was tested for inclusion in the general and acute formula. It was not found to be statistically significant. It was also not significant in the new prescribing or maternity formulae.

Where carers present with higher levels of need this will be reflected in the diagnostic flags and may attract a higher weight. As for other groups, local commissioners and providers are subject to the health inequality and public sector equality duty.

Homeless people

In the general and acute and updated prescribing components of the ICB core services formula an attributed variable (at LSOA level) on homelessness (Homelessness indicator, from the Index of Multiple Deprivation) was found to be significant and is therefore included in these models. Homelessness is also a factor that is used to determine the level of ante and postnatal pathway in the maternity model. However, there is no specific adjustment in the formulae for homeless people and rough sleepers.

Where homeless people and rough sleepers present with higher levels of need this will be reflected in the diagnostic flags and may attract a higher weight. As for other groups, local commissioners and providers are subject to the health inequality duty and public sector equality duty.

The basis of our allocations is the registered population of the ICB; we have been unable to identify suitable data to make an adjustment for unregistered people. There is evidence that, despite NHS guidelines, homeless people may face greater challenges registering with a GP (e.g. https://www.healthwatch.co.uk/news/2018-03-23/improving-access-gp-services-people-who-are-homeless) and, for this and other reasons, studies have shown that they are less likely to be registered with a GP (e.g., Elwell-Sutton, Fok, Albanese, et al, 2017, Journal of

Public Health, 39, 26–33, https://academic.oup.com/jpubhealth/article/39/1/26/3065715) and so their need may not be adequately reflected in the utilisation-based element of the formula.

This is part of our rationale for including a component for unmet need and health inequalities in our formula. As part of the review of this adjustment in 2022/23, ACRA considered available data on population groups that experience poorer health outcomes and are underrepresented in GP registrations, and therefore may not be reflected well in the resource allocation formulae, in particular homeless and traveller populations. The review found that available data suffer from quality issues, but nevertheless concluded that a separate adjustment for these groups would not make a material difference to the weighted populations used in resource allocations.

Work will continue in this area through monitoring available data and ongoing research commissioned by the National Institute of Health Research (NIHR) on how an equitable resource allocation may account for unmet need specifically, which will be relevant for this particular group.

People involved in the criminal justice system

There is no specific adjustment in the formulae for people involved in the criminal justice system.

Funding for health care in prisons is currently directly commissioned by NHS England and is therefore not covered by the ICB allocations formulae.

Where people involved in the criminal justice system (but outside of prison) present with higher levels of need this will be reflected in the diagnostic flags and may attract a higher weight. As for other groups, local commissioners and providers are subject to the health inequality and public sector equality duty.

People with additions and/or substance misuse issues

All diagnostics are included into patient-level models (for the general and acute, prescribing, maternity and specialised components), including diagnostics that are linked to alcohol and drug use. In the model for the mental health component, we found a significant relationship with the diagnostic “poisoning by adverse effect of and under dosing of drugs, medicaments and biological substances (ICD-10 codes T36-T50)” and included this in the model.

People or families on a low income

Measures of deprivation are routinely tested in the development of allocations formulae. The percentage of people in receipt of benefits and/or DLA/PIP have been found to be indicative of higher need for general and acute, prescribing, and mental health services components of the ICB core services formula, and in the specialised formula. Other deprivation measures

are also statistically significant in the models for the general and acute, prescribing, maternity and mental health components. There is also a separate health inequalities and unmet need adjustment based on the avoidable mortality rate for small areas (MSOAs). This measure is strongly correlated with deprivation (using the Index of Multiple Deprivation (IMD)). The IMD, in turn, consists of several domains including income and employment deprivation. This adjustment is included because the models typically assess need as it is currently met by NHS services and therefore may not capture unmet need or inappropriately met need. Typically, the most deprived communities do not access health care in the most optimal way, resulting in poorer health outcome.

People with poor literacy or health literacy

There is no specific adjustment in the formulae for people with poor literacy or health literacy.

Where people with poor literacy or health literacy present with higher levels of need this will be reflected in the diagnostic flags and may attract a higher weight. As for other groups, local commissioners and providers are subject to the health inequality and public sector equality duty.

People living in deprived areas

Measures of deprivation are routinely tested in the development of allocations formulae.

Areas with greater socio-economic disadvantage typically have poorer health after accounting for age and higher health care needs. This is reflected in the formulae through the inclusion of morbidity data or indicators. Morbidity data were not available for the primary medical care formula, and the Index of Multiple Deprivation was included instead.

There is also a separate health inequalities and unmet need adjustment based on the avoidable mortality rate for small areas (MSOAs). This measure is strongly correlated with deprivation (using the Index of Multiple Deprivation). This adjustment is included because the models typically assess need as it is currently met by NHS services and therefore may not capture unmet need or inappropriately met need. Typically, the most deprived communities do not access health care in the most optimal way, resulting in poorer health outcomes.

People living in remote, rural and island locations

A set of supply variables are included to take account that greater availability of health care services generally leads to higher use. While the supply variables are included in the models, they are set to the national average when calculating weighted populations. This means areas are not penalised in the formulae for lower utilisation due to relatively lower capacity, which may be the case in rural/remote locations.

There is a separate adjustment in the ICB core allocation to account for the additional costs of providing hospital services in remote areas. This adjustment has been updated for this round to better take into account of extra costs for hospitals related to being small and remote.

The Emergency Ambulance Cost Adjustment (EACA) also reflects the additional costs of providing ambulance services in remote areas. ACRA considered whether rurality should be included as a factor in the primary care model in determining workload but advised that it should be excluded from the model. This was because of the uncertainty over whether it was reflective of additional workload or systematic behaviour in rural practice not arising from workload.

There is also a travel time adjustment in the community services model to reflect the longer travel times between district nursing appointments in sparsely populated areas.

Variables indicating whether an area us urban/rural and coastal/non coastal are now tested in all models.

Refugees, asylum seekers or those experiencing modern slavery

There is no specific adjustment in the formulae for asylum seekers and/or refugees, or for those who have experienced human trafficking or modern slavery. Being a refugee or asylum seeker is a factor that is used to determine the level of ante and postnatal pathway in the maternity model.

Where asylum seekers, refugees, or those who have experienced human trafficking or modern slavery present with higher levels of need this will be reflected in the diagnostic flags and may attract a higher weight. As for other groups, local commissioners and providers are subject to the health inequality duty and public sector equality duty.

Other groups experiencing health inequalities

Ex-service personnel / veterans

There is no specific adjustment in the formulae for ex-service personnel or veterans.

Where ex-service personnel or veterans present with higher levels of need this will be reflected in the diagnostic flags and may attract a higher weight. As for other groups, local commissioners and providers are subject to the health inequality duty and public sector equality duty.

Those who have experienced Female Genital Mutilation (FGM)

There is no specific adjustment in the formulae for those who have experienced FGM.

Where those who have experienced FGM present with higher levels of need this will be reflected in the diagnostic flags and may attract a higher weight. As for other groups, local commissioners and providers are subject to the health inequality duty, public sector equality duty and Safeguarding Children Guidelines.

Gypsies, Roma and travellers

There is no specific adjustment in the formulae for Gypsies, Roma and travellers.

Where Gypsies, Roma and travellers present with higher levels of need this will be reflected in the diagnostic flags and may attract a higher weight. As for other groups, local commissioners and providers are subject to the health inequality duty and public sector equality duty.

The basis of our allocations is the registered population of the ICB; we have been unable to identify suitable data to make an adjustment for unregistered people. Studies of rates of GP registration show wide variation (from 50-91% - Aspinall, 2005, A Review of the Literature on the Health Beliefs, Health Status, and Use of Services in the Gypsy Traveller Population, and of Appropriate Health Care Interventions, Health ASERT Programme Wales Report Series, see https://kar.kent.ac.uk/9170/1/Aspinall_GypsyTraveller_ASERT.pdf) and it is likely that overall Gypsies, Roma and travellers are less likely to be registered with a GP, and so their need may not be adequately reflected in the utilisation based element of the formula.

This is part of our rationale for including a component for health inequalities and unmet need in our formula. As part of the 2022/23 review of this adjustment, ACRA considered available data on population groups that experience poorer health outcomes and are underrepresented in GP registrations, and therefore may not be reflected well in the resource allocation formulae, in particular homeless and traveller populations. The review found that available data are subject to quality issues, and that a separate adjustment for these groups would not make a material difference to the weighted populations used in resource allocations.

Work will continue in this area through monitoring available data and ongoing research commissioned by the National Institute of Health Research (NIHR) on how an equitable resource allocation may account for unmet need specifically, which will be relevant for this particular group.

Those living with mental health issues

A specific component of the formula is designed to estimate need for mental health services and so support equal opportunity of access for those services. In addition, we have increased the importance of this component, relative to other aspects of care, aligning it with the latest comprehensive information on mental health spending. Furthermore, all

diagnostics are included in patient-level models (general and acute, prescribing and maternity components of the ICB core services formula and the specialised formula). This includes diagnostics that cover mental health conditions and also prevalence of mental health conditions from the Quality Outcomes Framework (QOF). In these latest allocations, we have included diagnostic flags for mental health conditions as well as attributed variables relating to mental health to the new model for the prescribing component of the ICB core services formula. The new model for the maternity component includes experience of mental health issues as one of the maternity factors that determines the level of ante and postnatal care required.

We expect mental health services to be an area of continuing research interest in future allocation cycles, particularly as data quality improves.

Sex workers

There is no specific adjustment in the formulae for sex workers.

Where sex workers present with higher levels of need this will be reflected in the diagnostic flags and may attract a higher weight. As for other groups, local commissioners and providers are subject to the public sector equality duty.

Barriers causing health inequalities

Barriers to accessing healthcare, in effectiveness of service and health outcomes achieved for patients, in the safety of these services, and in the quality of the experience by patients and their health outcomes achieved can all be causes of health inequalities.

The models for the weighted capitation formulae do not include specific adjustments that identify and adjust for these barriers. They do take account of variation in need for different services based on person and area-level characteristics. This ensures areas with populations with greater need are allocated more funding so that they can meet this need in their commissioning, and that this greater need doesn't become a barrier in need in terms of accessing, the effectiveness, safety, or quality of the services. The models ensure ICBs have a fair share to address this. Auxiliary information such as annexes to this technical guide which contain data from our modelling (weighted populations, need indices) and the place-based tool additionally support ICBs to identify areas with higher need populations.

Sources used in the analysis

Published evidence

Data sets and sources used in the models, explored for inclusion but rejected, or used for cross checking and validation include:

- SUS-PbR (inpatient, outpatient, A&E)
- Hospital Episodes Statistics
- Patient Level Contact Monitoring dataset
- Mental Health Minimum Dataset
- IAPT dataset
- Maternity Services dataset
- Master Patient Index
- NHS Business Services Authority GP medications dataset

Census 2021 local area characteristic measures including:

- Ethnicity
- Marital status
- Long-term health problem or disability
- Employment status
- Routine occupation
- Unpaid carers
- Qualifications
- Schoolchildren and students living away from home

DWP

- Eligibility for DLA/PIP

Office for National Statistics

- General Health (very good, good, fair, bad, very bad) by age group
- Long-term health problem or disability
- Approximate social grade

QOF

- Atrial fibrillation
- Cancer
- Cardiovascular disease
- CKD
- Coronary heart disease
- Dementia
- Depression
- Diabetes
- Epilepsy
- Heart failure
- Hypertension

- Hypothyroidism
- Learning disabilities
- Mental health
- Peripheral artery disease
- Palliative care
- Stroke and TIA

Indices of multiple deprivation 2019

- IMD underlying indicators

Population data

- Resident from ONS
- Sub national population projections from ONS
- GP Registered populations from PDS
- new registration data

GP Patient Survey

GP workforce survey

Engagement

The development of the formulae for the resource allocation to ICBs, and the models for the individual components underlying these formulae, is overseen by an independent external group, the Advisory Committee on Resource Allocation (ACRA). ACRA provides advice to the Secretary of State for Health and Social Care and the Chief Executive of NHS England. Its membership covers various disciplines and includes NHS and LA managers, GPs, and academics in the fields of public health, health economics and health policy, as well a representative of a patient group.

ACRA and its secretariat, the team conducting the research, meet regularly to discuss progress and findings of the analysis conducted to develop specific models, adjustment and overall formulae that are being improved.

The annexes of these papers include an equality table checkbox. This table includes a checkbox for each of the protected characteristics and groups experiencing health inequalities also listed in this equality analysis. The table brings to ACRAs attention if these groups are being considered in the research. A final equality analysis assessment is shared with ACRA to provide an overview of how these groups are being considered in the recommended improvements to the formulae, before they go for consideration by NHS England. The analysis is also provided to NHS England to help it to meet its legal duties around equalities and health inequalities.

In addition to the consultations with ACRA, throughout the development of our models, adjustments and formulae, we consult with relevant parties including clinicians, policy experts and data experts.

Outstanding key issues

Improving availability and quality of data on individual characteristics

There are currently gaps and quality issues around certain data on individual characteristics, such as on ethnicity, mental health and diagnostics in primary care. These could be addressed through, for example, accessing newly available datasets or through data linking. The allocation formulae may be greatly improved in terms of accurately capturing individual characteristics if more and greater quality data are available. This will require liaison with data owners and processors to improve and access these data.

How can the health inequalities and unmet need adjustment be improved further?

In particular:

- How can mental health inequalities be better captured in the health inequalities and unmet need adjustment?
- How may an equitable resource allocation account for unmet need specifically?
- Regarding health inequalities and mental health, the following would improve this further:
- A review of newly available data; understand how ICBs address inequalities in mental health and how this affects cost. This will be part of a future ACRA work programme.

Regarding unmet need, this is already the topic of ongoing research commissioned by the National Institute of Health Research (NIHR). As the NIHR project on unmet need may yield a separate adjustment for unmet need, future work will consider how the current health inequalities and unmet need adjustment should change. This will be part of a future ACRA work programme.

How has COVID-19 impacted need for healthcare (and health inequalities) and how does this need to be reflected in the allocation formulae?

Analysis was conducted on the impact of the Covid pandemic on healthcare activity used for the allocation models. This analysis showed that COVID-19 will have implications for the development of allocations models given that activity was atypical during the pandemic. The analysis showed significant changes in diagnostic recording in particular during 2020/21 and 2021/22. ACRA concluded that these years should not be used in model development.

Further analysis on 2022/23 showed that the national coding distribution appears to have returned to pre-pandemic levels.

Summary of this analysis

The proposal covers resource allocation to ICBs. The formulae underlying these allocations aim to support equal opportunity of access for equal need and contribute to the reduction of health inequalities amenable to healthcare.

The models typically assess need as it is currently met by NHS services and therefore may not capture unmet need or inappropriately met need. Typically, the most deprived communities do not access health care in the most appropriate way, resulting in poorer health outcomes. NHS England also has a duty to have regard to the need to reduce inequalities between patients in access to, and outcomes from, healthcare services.

There is an adjustment for unmet/inappropriately met need and health inequalities in the weighted capitation formula. This is based on the avoidable mortality rate for small areas (MSOAs). The adjustment is calculated for the population of each small area and then aggregated to ICB level. Applying the measure at the small area level takes into account unmet need/health inequalities within as well as between ICBs.

This adjustment will support and encourage services, including integrated services, that could reduce health inequalities.