The Strategy Unit.

Future demand for community care

NHSE

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1. Summary

One of the Government's key three shifts for the NHS is the move from hospital to community. Under this requirement, and in preparation for the 10 year plan, NHSE's Primary care and community services team set out their requirements for a series of work addressing community services. One of these involved estimating the possible level of future demand expected in community services by 2035/36 – the period to be covered by the 10 year plan – from a baseline of 2022/23.

This piece of analysis set out to estimate the level of future demand in community services if the demand from a growing and ageing population were to be met. It also set out to answer what the shift from hospital to home might mean for community services; what activity could be taken out of hospitals and moved into the community (the 'left shift')? How would this impact on community services relative to their current capacity and resource? What level of acute activity would be expected to remain in hospitals?

To fit within the timescales to feed into the 10 year-plan, this work was by necessity rapid. However, it is hoped that it is seen as a foundational piece of analysis. And that part of its value, above any part it plays in contributing to the 10 year plan, is to demonstrate the value of developing analysis and tools to further understand, plan and deliver healthcare in the community.

1.1 Key messages

Defining what a community service is can be difficult. Here, we take the term to mean contacts that are delivered primarily to patients inside their own homes. This might include services such as district nursing, intermediate care, health visiting, speech and language therapy and podiatry. The data used is that recorded in the Community Services Data Set.

In estimating the possible future level of demand for community contacts, bearing in mind how community services will be impacted by population change and the shift from hospital to home, we find the following key messages:

- The way the population of England is set to grow and how its age structure changes, will impact on the volume of community care that the NHS must provide in future. Assuming patterns of community care remain the same, the projected changes in the population of England indicate a growth in community contacts of **20%** by 2035/36. This would then, under the assumption there are no economies of scale, likely require a similar proportional increase in spend on community services.

- This is higher than any other measure of demographic growth pressure projected for the acute sector, which ranges from 7% (measured on A&E attendances) to 18% (measured on acute bed days).

- The impact of community demographic growth is greater for older people. For those aged 65 and older, the predicted growth in contacts is **34%**. This means there is a greater impact on the community teams who support older people, which is somewhat balanced out by reductions in those teams who support children. Resource calculations at a summary level assume that staff supporting children can convert directly to staff supporting older people. If that is not the case, then there will be a further requirement for investment in community services to meet this gap.

- The 'do-nothing' left shift scenario, where no attempt is made to tackle the move from hospital to community, indicates that by 2035/36, acute hospital capacity requirements would increase above 2022/23 levels by **5.2 million** admissions (32% increase) and **21.2 million** bed days (38% increase). However, if community services fail to meet their impact from demographic growth, then the underlying dynamics of acute hospital admission may worsen, and future acute capacity requirements may need to rise further.

- Going beyond the 'do-nothing' scenario for acute care means tackling the challenges of left shift. If the whole NHS sought to replicate and achieve the same scale of left shift planned by the 18 New Hospital Programme systems, then it is estimated that this would require an investment in community services of **£4.6 billion** (range £2.4-7.3 billion) by 2035/36. This represents a **39%** (range 20-61%) increase in community service budgets under a 'planned' scenario.

- To increase the level of ambition to a left shift which is fully resourced and supported, then it is estimated that this would instead require investment in community services of **£10.3 billion** (range £6.4-14.7 billion) by 2035/36, representing an **86%** (range 54-123%) increase in community service budgets.

- There is considerable and reasonable uncertainty in assessing the future scale of left shift. This uncertainty is captured through the probabilistic nature of our demand and capacity model. It is therefore important that the prediction ranges for future activity are not ignored.

- The **combined** impact of accommodating both changes in population and the desire to move care from hospital and into community settings would mean a total spend on community services of **£18.9 billion** in 2035/36 – an increase of 59% (range 40-81%) – under the planned scenario for left shift. Utilising the more ambitious left shift assumptions would raise the investment required to **£24.5 billion** – an increase of 106% (range 74-143%).

- This analysis is an England average. The picture will vary considerably by local area as the demographic change impacting these services will not be felt uniformly. Similarly, the local context for left shift will vary depending on where systems are starting from, the realities of their geography and the socioeconomic status of their populations.

2. Introduction

In estimating future demand for community services, there are two important factors to consider.

1. The first of these is what will the likely impact be on community services from how the population structure in England will change and grow over the coming decade?
2. The second is, what would avoiding hospital admissions and moving that care into the community instead require from community services?

In this analysis, we answer the first of these questions by projecting the future level of likely community services demand resulting from demographic growth. We do this using a standard methodology applied in other healthcare settings. This methodology uses the current utilisation of community services and applies growth factors based on the Office for National Statistics (ONS) population projections[1] from 2018.

It is important to recognise that this approach continues any situations where community care may not currently be optimum. It therefore persists any current inequalities, gaps between need and supply or community care that could be viewed as inappropriate or inefficient. If there is a belief that there are any gaps or inefficiencies, then these would need to be evidenced and quantified so that growth assumptions could be modified accordingly.

To answer the second question, we utilise work done by The Strategy Unit for NHSE's New Hospital Programme (NHP)[2,3]. This work provides a way to identify and scale the level of acute hospital activity that could be avoided by using care from community services instead. Finally, once the scale and range of acute avoided admissions have been considered, we then seek to translate that into a measure of the resources which community services would require to ensure that assumptions on avoiding hospital care were realised.

[1] https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/datasets/localauthoritiesinenglandz1

[2] https://connect.strategyunitwm.nhs.uk/nhp_model_explainer/

[3] https://connect.strategyunitwm.nhs.uk/nhp/project_information/

2.1 Impact on community services from population change

In this section, we answer the first question regarding the likely impact on community services from population change – the demographic growth. To do this, we consider the current utilisation of community services, predicted population growth and the impact of these on community services by age group and type of service. We also provide comparisons to the level of demographic growth expected in the acute sector over the same period.

2.1.1 The community services data set

Before considering the current utilisation of community services, it is important to be clear on the data source for this information and the challenges which arise when using this data for analysis.

Analysis at a national level requires the use of the national Community Services Data Set (CSDS) – a patient-level data set that collects and provides information about publicly funded community health services for children, young people, and adults in England. CSDS can be challenging to use, with well-known limitations and data quality issues[4]. Improving CSDS in future is addressed via the NHS Community Health Services Data Plan[5] but the current poor quality of CSDS data, and the impact of this, was a recurring theme across the recent packages of community services work undertaken by The Strategy Unit. Most notably in our forthcoming policy review, 'Shifting care from hospital to community'.

Despite the known weaknesses in the CSDS at an overall level, it is still possible to take credible insights from the data. Particularly when identifying a good quality data subset, which is internally consistent and through considering relativities rather than absolute numbers.

To ensure our analysis was valid, we identified a sample or subset of CSDS data which was deemed to be consistent and of good data quality. This sample was large, including nearly 80% of all community contacts within England in 2022/23. It was also confirmed to be highly representative of England. A full description of how CSDS was used and how the sample data set was identified and validated can be found in the appendix.

[4] https://digital.nhs.uk/data-and-information/data-collections-and-data-sets/data-sets/community-services-data-set/data-quality-dashboard

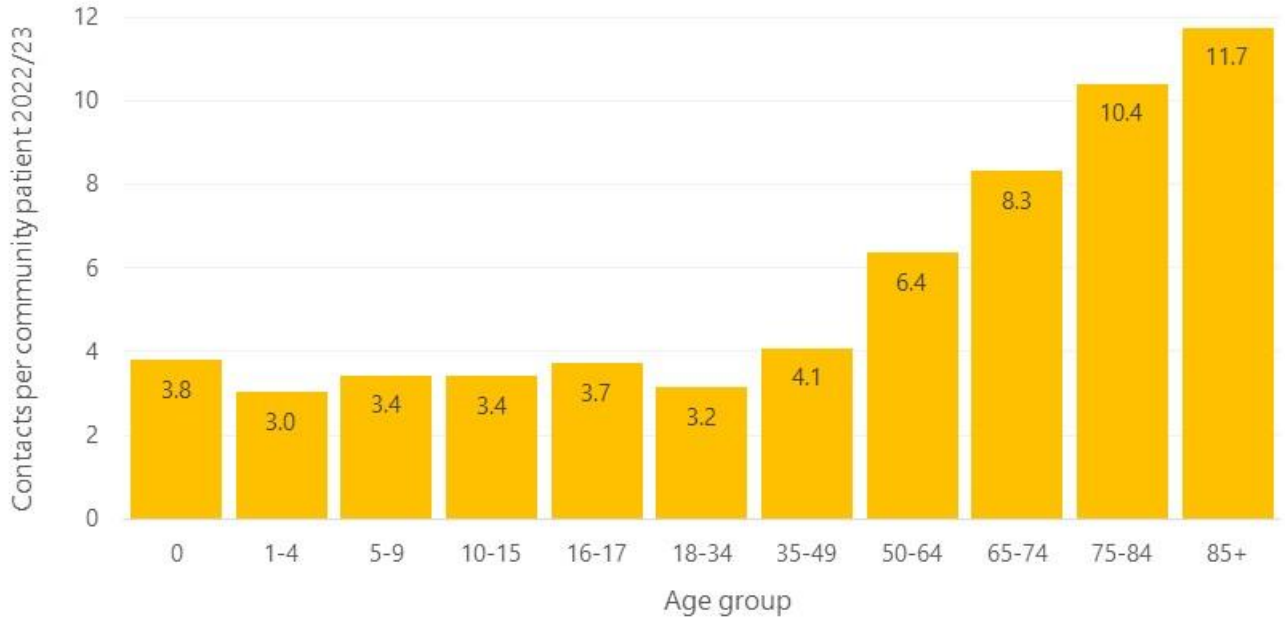
[5] https://www.england.nhs.uk/long-read/nhs-community-health-services-data-plan-2024-25-to-2026-27-april-2024/

2.1.2 Current utilisation of community contacts

The current utilisation of community contacts is an important part of predicting demographic growth in community services. This tells us about the resource use of the current population. This resource use is then applied to the projected populations of the future.

The chart below shows utilisation rates; the average number of community contacts a patient in contact with community services received in 2022/23. They show that the older the patient, the more community contacts they have. Patients aged 85 or older have nearly double the number of contacts per patient (11.7) compared to those aged 50-64 (6.4). Since age increases the number of contacts a patient requires, population changes in older age groups will have a proportionally greater impact on community services.

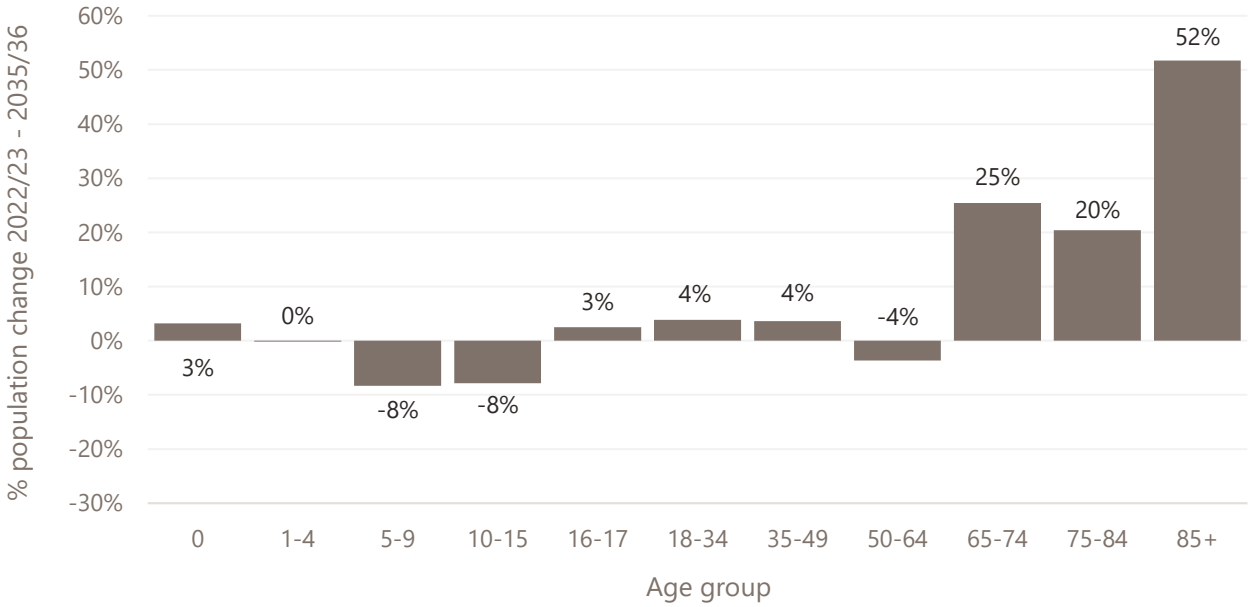
Figure 1 – Average community contacts a community patient receives in 2022/23



2.1.3 Population change

The size of the population in England is expected to increase over the coming decades. Between 2022/23 and 2035/36, the all-age size of the population in England is expected to grow by 2.9 million people – an increase of 5%. The population structure is also set to change, with older people forming a larger proportion. For example, the number of people in England who are aged 85 or older is set to increase by 52%, a much higher proportional increase than for the 5% all-age[6].

Figure 2 - Percentage change in England population between 2022/23 and 2035/36



[6] For those interested in population growth in acute hospital care, our interactive tool with different population projections is also available https://the-strategy-unit.github.io/aging_pop_web_app/

2.1.4 Demographic growth in community contacts

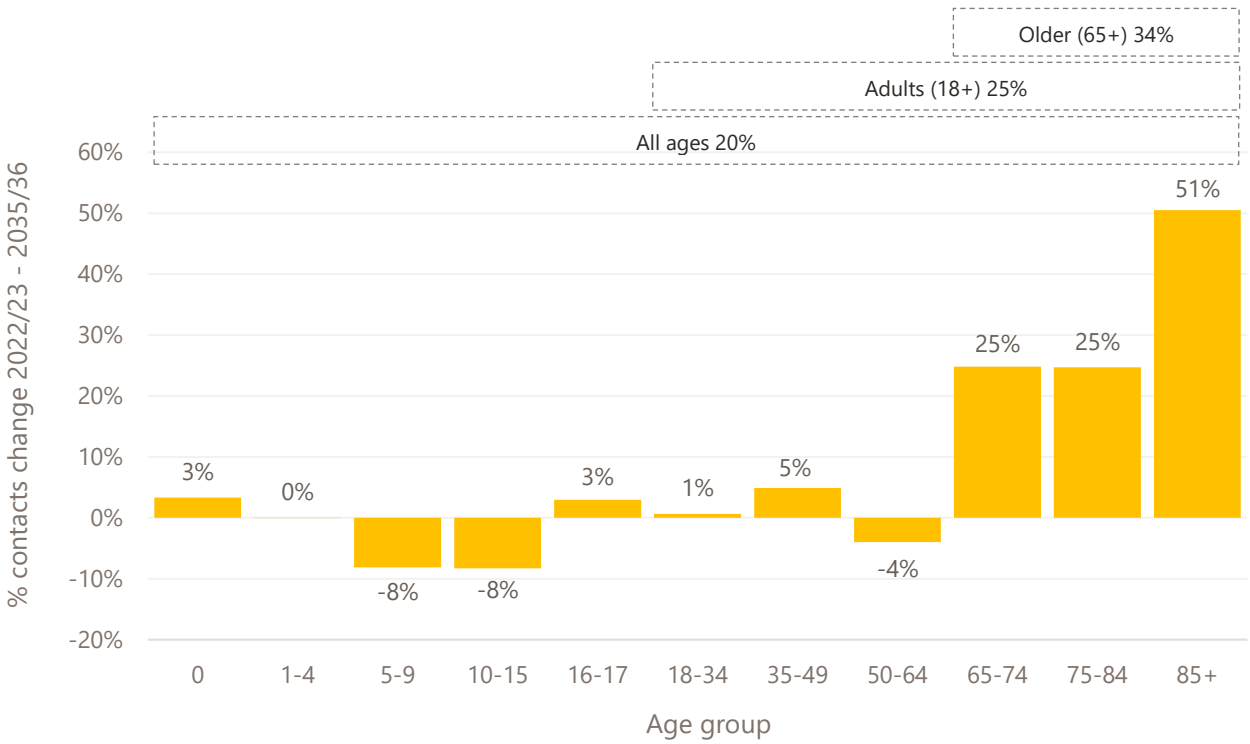
When we apply current utilisation rates to the future projected population, it is possible to estimate the number of community contacts required if future demand from demographic growth were to be met and the current patterns of service use remain as they are.

This calculation[7] provides an expected overall increase in community contacts due to demographic growth of 20%. However, as would be expected, growth is not distributed evenly across all age groups. It is in patients aged 65 and older that we see by far the largest increase in contacts. For those below the age of 65, the change in contacts is small and sometimes even negative (indicating a reduction in the expected number of community contacts).

For comparative purposes: overall growth is **20%**; growth in adult age groups (18 and over) is **25%**; growth in older age groups (65 and over) is **34%;** growth in the very oldest (85 and over) is **51%**

If community services fail to meet the pressures from demographic growth, then this will likely lead to increased demand for acute care which is not currently accounted for.

Figure 3 - Percentage change in community contacts due to demographic growth between 2022/23 and 2035/36

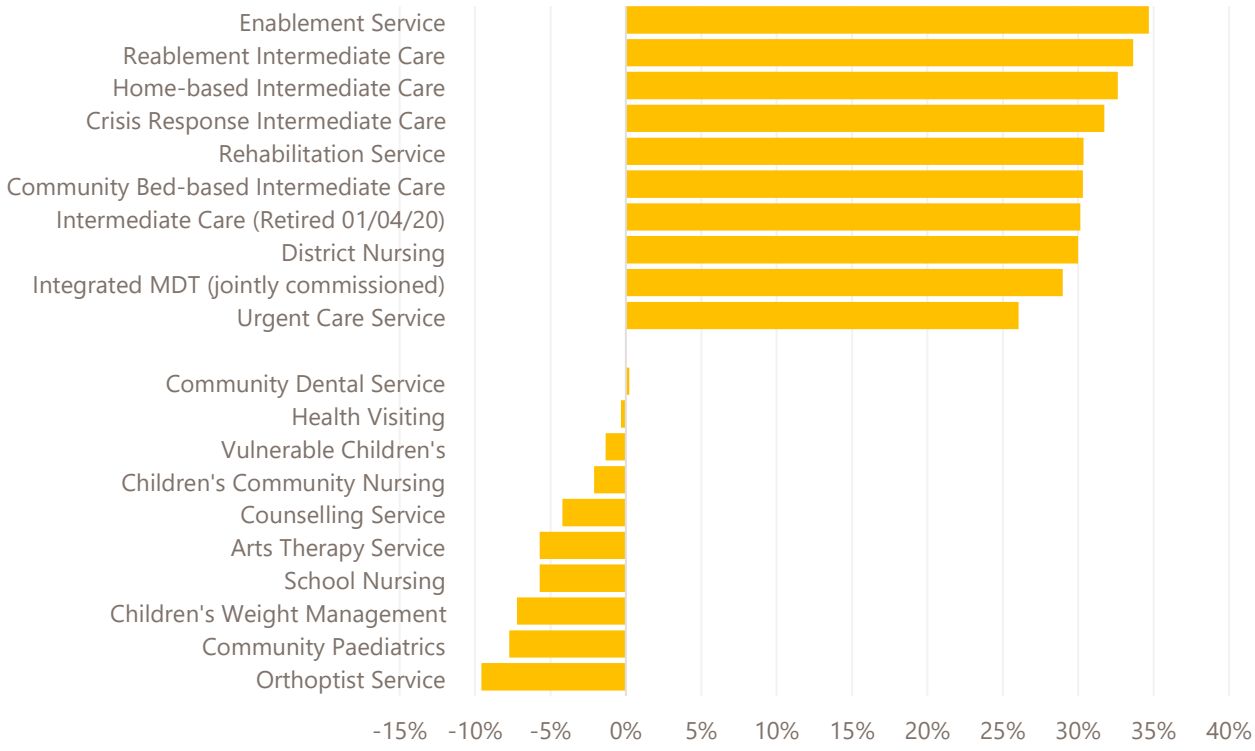


[7] Please note that although results are presented at an aggregate level, the analysis is calculated at a more granular level of single year of age, sex and local authority.

CSDS also contains information regarding the type of community team/service in contact with the patient. The coverage of this is somewhat lacking (40% of contacts in our data had no team recorded). However, it may still be of interest to consider demographic growth by team where this is populated. This may help better understand the workforce implications arising from demographic growth, as well as highlighting the importance of routinely collecting key data items, such as team type, for every contact.

There is an extensive list of team types (circa 60), so for ease of reference, only those with the top 10 highest and 10 lowest proportional changes are shown here.

Figure 4 - Percentage change in community contacts due to demographic growth between 2022/23 and 2035/36, showing only top 10 and bottom 10 teams, all ages



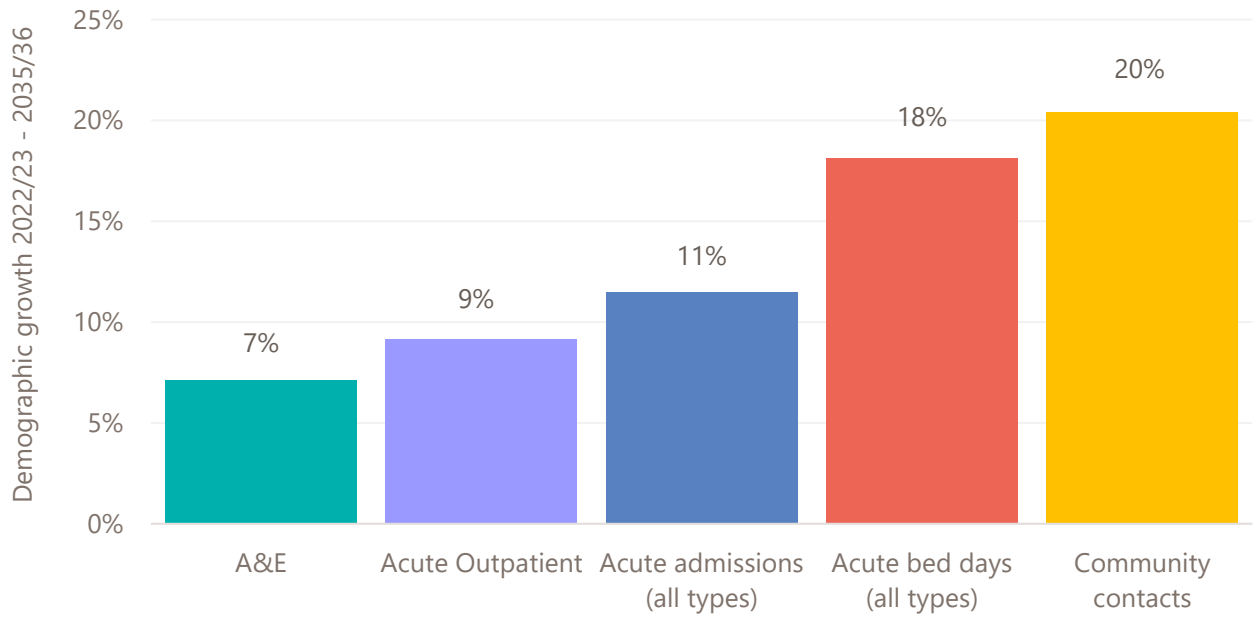
The figures presented in this section are national, but the effects of demographic growth will vary across England. As part of our wider programme of community services work, and to support a more local view of demographic growth pressures, an online tool, the Communities Demographic Growth tool, is also being developed. This tool is designed to provide the same analyses presented here at an ICB level.

2.1.5 Demographic growth in acute

Given the standard methodology and source of population projections between this analysis and those of The Strategy Unit's NHP acute demand and capacity model[8], it is possible to compare demographic growth pressures between the acute and community sectors.

We have seen that overall, across all age groups, community service contacts will need to increase by 20% in 2035/36 to meet the demand from demographic growth. On the same basis, demographic growth pressures on acute hospital activity are expected to be lower across all measures of acute activity.

Figure 5 – Percentage change due to demographic growth between 2022/23 and 2035/36



8 https://connect.strategyunitwm.nhs.uk/nhp/project_information/modelling_methodology/demographic_modelling/demographic_modelling.html

2.2 Quantifying acute left shift

As a first step towards considering what the shift from hospital to home would mean for community services, we here examine the level of acute hospital activity that could be avoided by using care from community services instead[9].

The Strategy Unit were commissioned by NHP to provide a demand and capacity model to predict future demand for hospital services and support the planning of future NHS capacity. As part of this work, cohorts of patient admissions were identified where that care need not happen in hospital. Meaning a patient's acute activity could be potentially avoided or 'mitigated'. The demand and capacity model identifies 92 different cohorts of potentially avoidable acute activity. A subset[10] of these cohorts (29 out of a possible 92) were identified as ones where acute care could be prevented, redirected or substituted by care from community services. It is these 29 cohorts relevant to community services which are considered in this analysis.

[9] Recent packages of community services work undertaken by The Strategy Unit also include an online report to better understand avoidable activity. For each of the 29 cohorts, this report describes patient and admission characteristics alongside trend and ICB analysis Community Mitigators.

[10] A list of the 29 cohorts is included in the appendix.

2.2.1 Scenarios

Identifying activity that is potentially mitigable for the 29 cohorts necessarily results in a large volume of activity, but realistically only a proportion of this activity can ever be avoided. We estimate the scale of the actual avoided activity from two different viewpoints or scenarios. Each was developed in collaboration with experts and local clinical and managerial teams.

The different scenarios of avoided acute activity are:

A) **Do nothing** – the base rate, assuming no further future reductions in avoidable activity are to be achieved. To achieve this rate, the demographic growth in community services needs to be met.

B) **Planned** – a level of mitigation derived from applying, at an England-wide level, average values from the 18 systems that have already undertaken the detailed development and assumption setting exercises required by the NHP demand and capacity process.

It is important to note that this scenario involves a level of avoided activity that systems feel is feasibly aligned with currently envisaged plans and investments.

C) **Ambitious** – a level of mitigation based on an expert elicitation exercise where participants were asked to make their judgements based on a scenario where the capacity and funding (adjusted for efficiency requirements) of community services grows over and above population growth and inflation so that it is calibrated to the unplanned activity for adults which is mitigable.

Given these resource assumptions, to all intents and purposes, this represents a resource-unconstrained scenario.

2.2.2 Non-demographic growth

Over the last 20 years, the majority of growth in activity and cost observed in the NHS and health systems globally cannot be explained by demographic growth alone. Instead, factors such as new technology, treatments, standards, and policies (such as screening programmes) have altered public and clinical expectations. Research also indicates that available funding, which might lead to shifting treatment thresholds, may have had a significant impact on the rate of non-demographic growth[11] (NDG). It is difficult to know how best to forecast NDG, yet its effect can be large, and historically, it has been a greater driver of activity increases than demographic growth[12].

To forecast an evidence-based level of NDG to support the NHP demand and capacity model, an in-person NDG elicitation exercise was conducted. In this exercise, prediction intervals were elicited from a group of experts consisting of senior NHS managers and academics with domain expertise. Participants were asked to predict a percentage range for the annual NDG rate in hospital activity. Ranges were in the form of a 'P10' value – "surprisingly low, a 10% chance that the actual value was lower" and a 'P90' – "surprisingly high, a 10% chance that the actual value was higher". The ranges generated by this group featured considerable and reasonable uncertainty, which the group put down to the current state of debate regarding the role and impact of technology and also the trajectory for the wider economy. This uncertainty explains the wide intervals for the predicted level of future activity we see in the next section of this report.

There was some concern amongst participants that the exercise might not allow for interdependencies between model factors, for example, how NDG predictions might interact with health status. However, although results should be treated with some caution, this exercise represents the best independent view of NDG available to us at present, and we believe it is the most credible NDG assumption to use when predicting future levels of healthcare.

[11] https://www.health.org.uk/sites/default/files/upload/publications/2020/The_Bigger_Picture_WEB.pdf
[12] https://obr.uk/box/drivers-of-rising-health-spending/

2.2.3 Scale

The charts show the predicted future level of acute activity after the assumed volume of avoided activity has been removed[13]. Predicted principal estimates (coloured dots) and ranges (shaded areas)[14] are shown for all three scenarios alongside the 2022/23 baseline (horizontal dotted line).

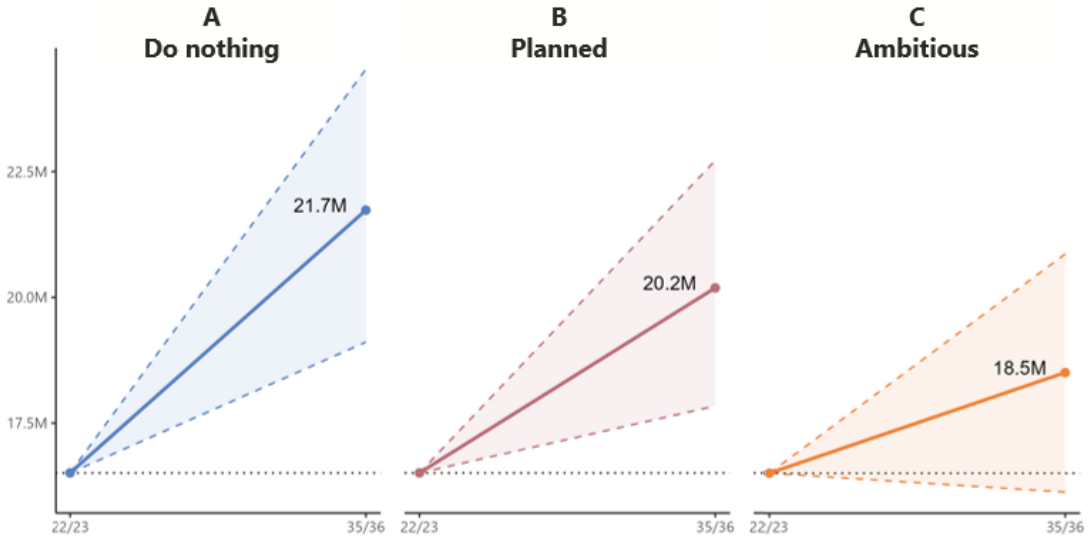
Admissions

Based on the principal projections for 2035/36, the Planned (B) rate of avoidance reduces the volume of admissions by **7%** - from what would have been 21.7 million admissions, down to 20.2 million. The more Ambitious (C) rate of avoidance reduces the volume of admissions by **15%** - down to 18.5 million admissions.

In nearly every scenario and range, the level of admissions is predicted to remain above the 2022/23 baseline of 16.5 million. Only at the lower end of the Ambitious scenario (C) would admissions reduce below the 2022/23 level.

The scenarios all have wide intervals. This reflects the high level of uncertainty introduced by the NDG assumptions.

Figure 6 - Acute hospital admissions in England



[13] Predicted future levels of acute activity also include the effect of demographic growth in the acute sector.

[14] NHP demand and capacity model results are run 256 times. The principal projection is the average of the 256 model results. The range provides the P10 (lower level percentile estimate) and P90 (upper level percentile estimate) values, which demonstrate how the 256 model results are distributed. P10 indicates that that 10% of model results are below this value and P90 indicates that 10% of results are above this value.

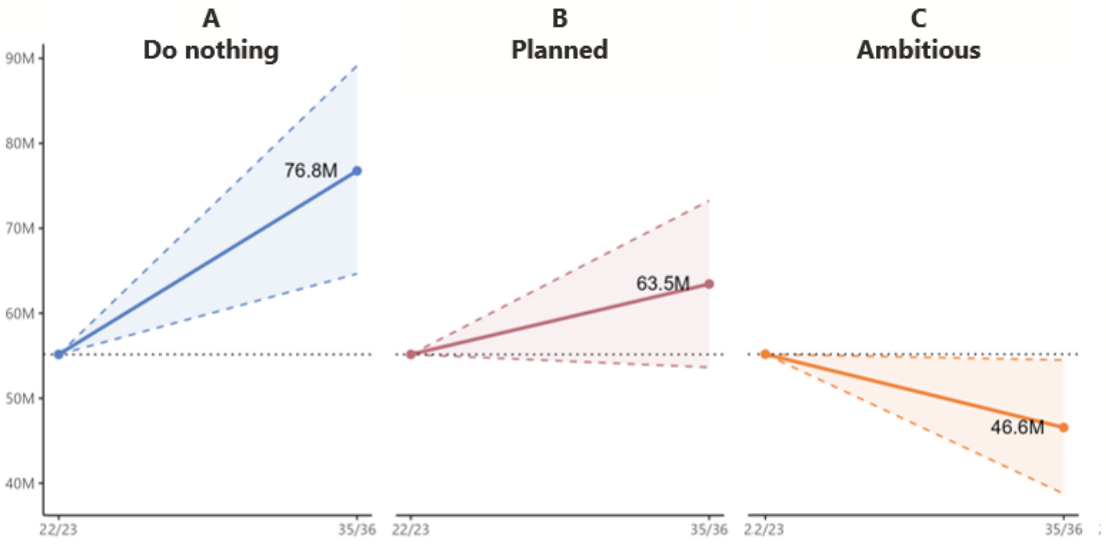
Bed days

Avoiding bed days can be done in two ways. Firstly, when an admission is avoided then naturally the bed days which would have been associated with that admission are also avoided. Secondly, there can be a reduction in bed days when patients are discharged from hospital earlier than they would have been – in this case, there is no reduction in admissions, but there is a reduction in bed days. The predicted future level of bed days includes both types of avoidance, those from avoiding admission and those from increased efficiency via earlier discharge[15].

Based the principal projections for 2035/36, the Planned (B) rate of avoidance reduces the volume of bed days by **17%** - from what would have been 76.8 million bed days, down to 63.5 million. The more Ambitious (C) rate of avoidance reduces the volume of bed days by **39%** - down to 46.6 million bed days.

Again, scenarios all have wide intervals reflecting the high level of uncertainty introduced by the NDG assumptions.

Figure 7 – Acute hospital bed days in England



[15] Bed days are counted as days in hospital and not as midnight bed count. For example, a patient admitted and discharged on the same day would have a bed day value of 1.

2.3 Effect of left shift on community services

It is inherently difficult to say how much community services capacity would need to increase to ensure that the estimates of avoided activity are achieved. Yet, in trying to provide an estimate of the level of community growth required, it is an important question to attempt to answer.

To do this, we utilise a key piece of economic modelling undertaken by Monitor in 2015[16] which remains the only robust attempt to examine the economics of community alternatives to hospital care. The core finding of the Monitor modelling – based on a subset of interventions – is that the most optimistic outcome, one that would require 5 years to achieve, was broadly break even in cost terms. Therefore, in our analysis of how the left shift may impact community services, we assume cost equivalence. This means that avoiding £1 of hospital activity will require an additional £1 of community resource. As the Monitor modelling already presumes optimal organisation and achievement of economies of scale, we have not assumed any additional community efficiencies.

2.3.1 Cost of avoided hospital care

We now provide estimates of the hospital cost for the avoided activity. We do this for the Planned scenario (B) and the Ambitious scenario (C). Costing the Do Nothing scenario (A) is not relevant since this scenario assumes no further avoided activity in 2035/36 there is zero cost avoided.

To calculate acute admissions costs, national NHS prices for 2022/23 were used. This involved following, as closely as the NHP demand and capacity model data set allowed, the prices and rules as set out in the NHS's Payment by Results (PBR) guidance[17]. The full set of PBR adjustments for items such as local prices, exact application of emergency short stay reduction, excess bed days, best practice, etc, were not applied[18] as the information necessary to calculate them was not available. However, since nearly all of these excluded adjustments would lead to increases in cost, it is reasonable to assume that the costs presented here are underestimated to some degree.

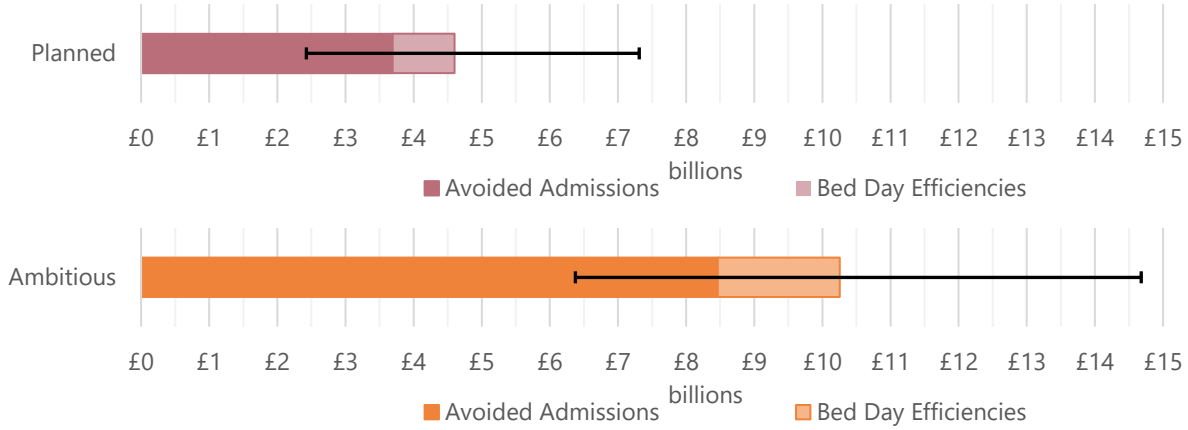
Avoided activity also includes some bed days where patients are discharged from hospital earlier, but their admission is not avoided. There is no national price for these 'days' in hospital but there are per-day costs based on national excess bed day prices – daily costs for patients who remain in hospital beyond an expected length of stay (sometimes referred to as a long-stay payment). Therefore, we estimate the cost of the additional bed day efficiencies (those bed days where the initiating admission is not avoided) using these costs.

[16] https://www.gov.uk/guidance/moving-healthcare-closer-to-home
[17] https://assets.publishing.service.gov.uk/media/5a7c6875e5274a5590059a9f/PbR-Simple-Guide-FINAL.pdf
[18] A full list of excluded PBR adjustments and the direction of their effect are included in appendix

The results of this costing exercise show that, under the Planned scenario (B), the estimated total cost of avoided activity is **£4.6 billion** (range £2.4 - £7.3 billion). Of this, the majority - £3.7 billion – comes from avoided admissions and an additional £0.9 billion comes from the reduction in bed days as a result of earlier discharge.

For the Ambitious scenario (C), costs are more than double. The estimated total cost of avoided activity is **£10.3 billion** (range £6.4 - £14.7 billion). Of this, £8.5 billion comes from avoiding admissions and an additional £1.8 billion from the reduction in bed days as a result of earlier discharge.

Figure 8 – Cost of avoided acute activity in 2035/36, costed under 2022/23 PBR logic and prices[19]



[19] Please note that the ranges shown on these charts are the P10 and P90 values for estimates from avoided activity only.

2.3.2 Community services budgets

To understand the scale of the impact that avoiding acute care might have on community services, it is necessary to know the current level of spend on community services. Establishing a definitive budget for community services spend is difficult; however, there are sources of information available. The following provides an estimate of between a £7.8 - £12.3 billion spent on community services in 2022/23.

1. Nuffield report on NHS expenditure in England[20], **£7.8 billion**
2. Question to parliament, November 2023, regarding NHS expenditure[21], **£11.9 billion**
3. NHSE's standardising community health services[22], **£12.3 billion**

Given the lack of a clear and definite financial value, in the calculations which follow, we use the middle estimate from the question to parliament regarding NHS expenditure (£11.9 billion).

[20] https://www.nuffieldtrust.org.uk/resource/where-does-the-nhs-money-go
[21] https://questions-statements.parliament.uk/written-questions/detail/2023-11-17/2419
[22] https://www.england.nhs.uk/long-read/standardising-community-health-services/#community-health-service-funding

2.3.3 Impact on community services

With an estimate of the spend on community services, the cost of avoided acute activity and the assumption of cost equivalence, it is possible to assess the scale of the impact of avoided acute activity on community services.

This shows that community capacity would need to increase significantly to meet the challenge of left shift. It would need to increase over a third (**39%**, range **20-61%**) by 2035/36 if it were to meet the level of avoided activity assumed in the Planned scenario (B) – the most realistic of the scenarios. If the Ambitious scenario (C) were to be met, then community capacity would need to increase by **86%** (range **54-123%**).

It should not be forgotten that these increases are above and beyond those expected from demographic growth. Also, they do not take into account whether or not this level of expansion is achievable by 2035/36. There are practical constraints, in the form of workforce and estates, which in reality would likely limit the ability to utilise this level of funding

Figure 9 – Calculation of the impact on community services by 2035/36 as a proportion of 2022/23 budget

2022/23 Spend billion *a*	**Avoided activity cost billion** *b*			**Avoided activity cost as a proportion of 2022/23 spend** *c=b/a*
£11.9	**Planned**		**£4.6**	**39%**
		range =	*(£2.4 - £7.3)*	*(20% - 61%)*
	Admissions		£3.7	31%
		range =	*(£1.5 - £6.4)*	*(13% - 54%)*
	Bed day efficiencies		£0.9	8%
		range =	*na*	*na*
	Ambitious		**£10.3**	**86%**
			(£6.4 - £14.7)	*(54% - 123%)*
	Admissions		£8.5	71%
		range =	*(£4.6 - £12.9)*	*(39% - 108%)*
	Bed day efficiencies		£1.8	15%
		range =	*na*	*na*

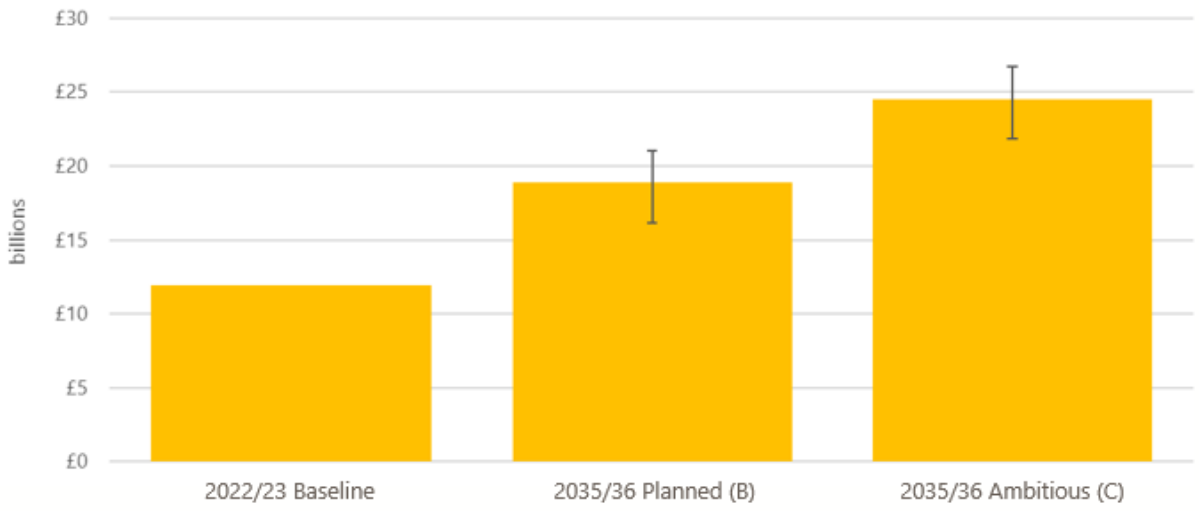
2.4 Combined impact

To estimate the future demand for community services, there were two important factors to consider. Firstly, the likely impact of demographic growth, and secondly, the impact of reducing avoidable acute care. Each has already been described individually but we now consider their combined impact.

This shows that, from a baseline of £11.9 billion in 2022/23, the combined impact of demographic growth and the Planned (B) scenario would increase community spend by **£7 billion to £18.9 billion – an increase of 59%** (range 40-81%) – by 2035/36.

If instead, the Ambitious (C) scenario were the one set, then this would increase community spend by **£12.6 billion to £24.5 billion – an increase of 106%** (range 74-143%).

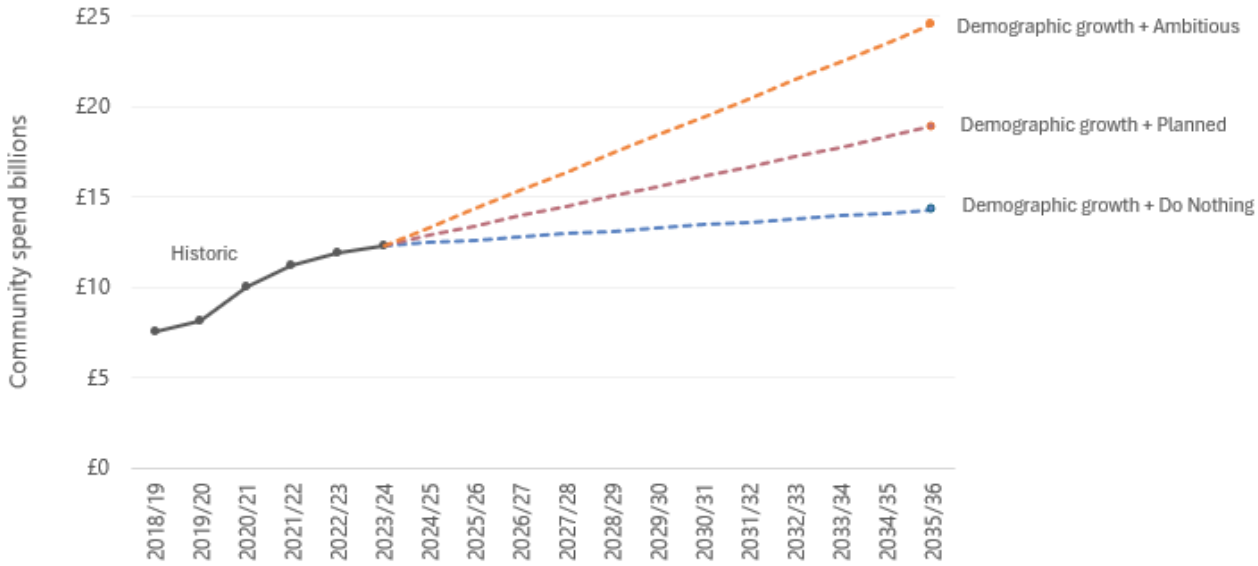
Figure 10 - Community services spend in 2035/36[23]



[23] Please note that the ranges shown on these charts are the P10 and P90 values for estimates from avoided activity only.

For further context, we also present the historical and projected spending on community services together. These highlight the truly unprecedented future investment required for community services if the challenges of demographic growth and left shift were to be successfully tackled.

Figure 11 - Community services spend with historical numbers taken from the question to parliament



3. Recommendations and next steps

Although this report was necessarily rapid in nature, it is hoped that the analysis, methods and findings from this report will be useful in helping understand the scale of the challenges faced by community services as they move towards 2035/36 under the auspices of the 10-year plan. However, one key finding must be that there are a number of important gaps when it comes to community services.

These include the national 'data gap'; a recurring theme in our packages of work for community services and also in Lord Darzi's Independent Investigation of the National Health Service in England. Although significant improvements have been made in the quality and coverage of CSDS, and these should be applauded, there are still further improvements to be made. Improvements may be secured in a variety of ways, but an early approach would be to continue to use current national data to highlight the data gaps and missing insights that might otherwise be available. Indeed, this approach is supported in NHSE's extant Community Health Service Data Plan[24] where it states that "*The more community data is used, the faster it will improve*".

There is also a 'parity gap' with the acute sector as discussed in our policy review, 'Shifting care from hospital to community'. This parity gap continues analytically. It can be observed in the different levels of sophistication between the acute NHP demand and capacity model, its processes interface and level of detail, versus the online Communities Demographic Growth tool prepared as part of this rapid community services work. For example, from the demand and capacity model, it is possible to understand how many of any particular procedure may be performed, in any setting, 20 years into the future and if this has changed due to demographics, mitigation, repatriation, etc. In comparison, for communities, we lack an understanding of anything above a broad and assumption-heavy estimate. It is therefore recommended that further valuable insights could be available if a community services tool continues to be developed to include a similar level of analytical rigour as that seen in the NHP demand and capacity model.

Part of developing a better community model is to find improved ways to classify community patients in ways that better describe their needs. There has already been much work done by NHSE in this area, including the standardisation of core components of community health services[25] and the development of community currency models[26]. Complementary to these is the cluster analysis performed as part of our community services work packages. In this analysis, the community CSDS data drives the clustering of patients into groups with similar levels and patterns of community

[24] https://www.england.nhs.uk/publication/nhs-community-health-services-data-plan-2024-25-to-2026-27/

[25] https://www.england.nhs.uk/long-read/standardising-community-health-services/#core-components-of-community-health-services

[26] https://www.england.nhs.uk/wp-content/uploads/2025/01/25-26NHSPS-Consultation-SD-Community-currency-guidance.pdf

services usage, and cluster summaries provide both estimates and ranges for a cluster's community service resource requirements. It is important to note that, since cluster analysis uses data at a patient level, it also provides a significant opportunity for powerful data linkage between community patients and their interactions with the acute sector.

A final gap is that of a 'research gap'. We have already highlighted how the Monitor report 'Moving Care Closer to Home' is a rare source of how resources might need to shift if acute activity is to be avoided. Our evidence review also finds a similar lack of reliable and robust research into key community service interventions. If the aspirations of the shift from hospital to community are to be met, then closing this gap will be critical in helping to secure the right resources in the right places.

4. Appendix

4.1 CSDS data set construction

The first stage of the process was to construct a community services data set for use in the project. We used CSDS from the 2022/23 financial year and carried out various processing steps to generate a base data set. These steps were:

- Duplicates were removed where there was both a primary and refresh submission. The latest submission (whether primary or refresh) was the data used.
- Only contacts where the patient was seen are included. This translates to only including those contacts whose attendance status is Attended on time (5) or Arrived late but was seen (6). Therefore, contacts were excluded where the attendance status indicated a patient's contact was cancelled or DNAd. Contacts were also excluded if no valid attendance status was recorded.
- Data deemed as poor quality were excluded. These were small in magnitude. Poor data quality exclusions were as follows:
  - Person_ID was NULL; 19,334 care contacts (0.02%)
  - Sex/Gender was NULL or 'Unknown'; removed a further 9,002 care contacts (0.009%)
  - Age was NULL or >115 years; removed a further 786 care contacts (negligible %)
  - Local Authority was NULL; removed a further 1,723,961 care contacts (1.78%)
  - Local Authority was not in England; removed a further 22,578 care contacts (0.02%)

The second stage was then to consider the impact of the national mandate to record attendance status from January 2023. This change saw many providers start to submit attendance status codes for their contacts from 1st January 2023 onwards, when they previously did not. To minimise the risk of these 3 months of recording skewing results, we excluded all contacts from any provider where the provider had any monthly gaps in submitting attended attendance status codes. This further removed close to 20% of contacts.

This left us with the best quality data set possible based on 'consistent' providers only – those who consistently submitted attendance status codes both pre and post attendance status mandating from January 2023. To confirm that the results from our 'consistent' providers only data set were reasonable for England, we made comparisons to an all-providers version. These comparisons showed that our results based on the 'consistent' providers only could be considered representative of England.

Figure 12 - Percentage of community contact activity by age group

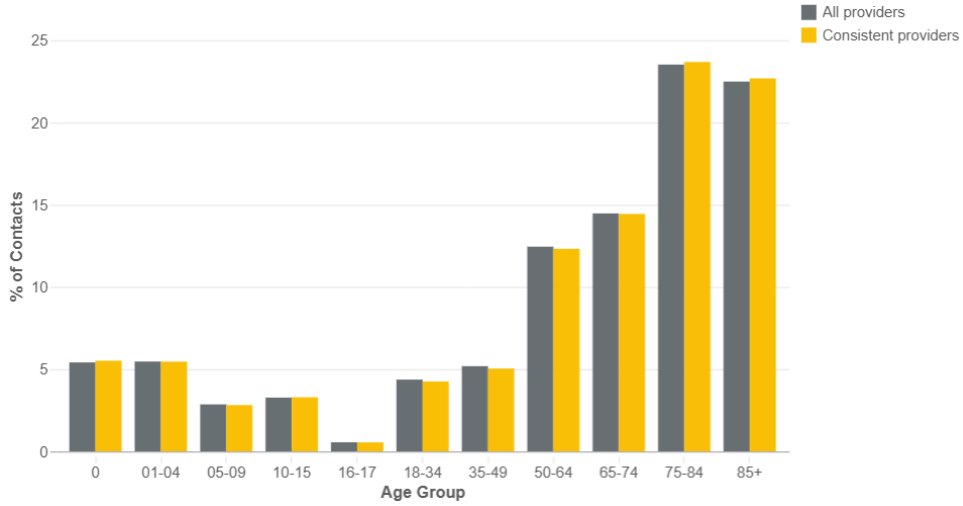


Figure 13 - Percentage of community contact activity by gender

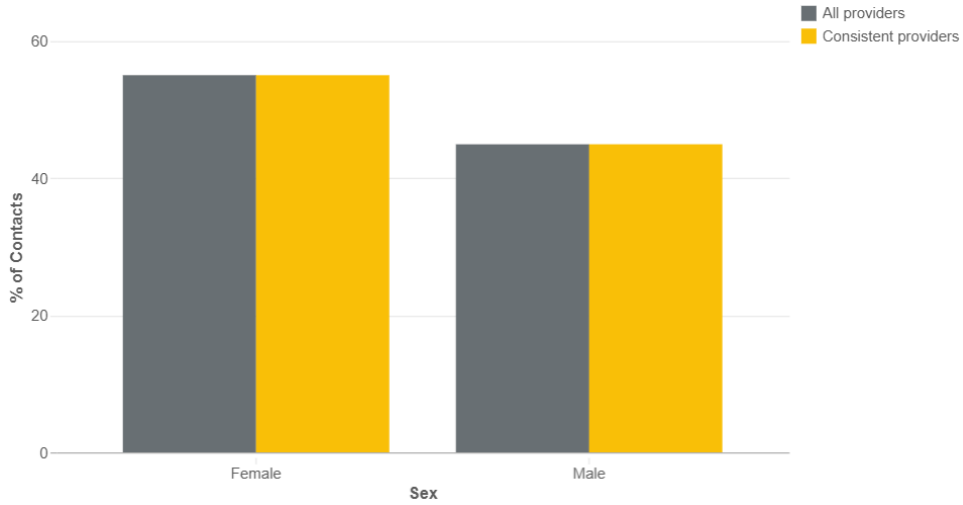
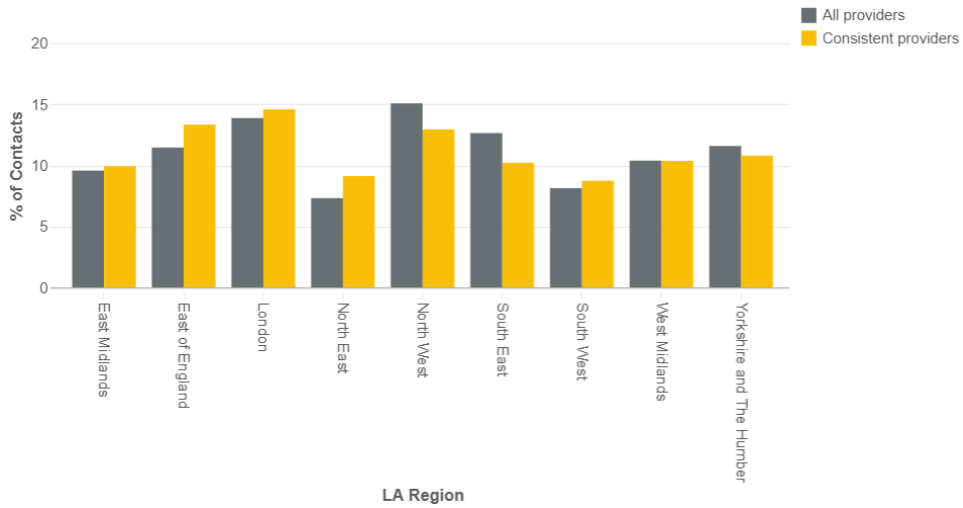


Figure 14 - Percentage of community contact activity by region



To avoid a situation where community contact patients had more than one age or gender in our year data period (2022/23) these were set to one value for the entirety of the year. Age was defined as the age at first care contact in 22/23. Gender involved a small number of patients, usually babies, who had occasional contacts under a different gender, and these were corrected and set once based on a visual inspection of the data.

4.2 Population projections

The methodology to add demographic growth to the CSDS data set used the ONS sub-national population projections by local authority, age and gender. This is the smallest available geography and is therefore the most accurate option. This is also the same methodology applied to the acute data within the NHP model, and it's sensible to follow the same approach. The population principal projections used were 2018-based and provided populations for each year from 2018 to 2043.

Population projections are for calendar years, but NHS planning and commissioning cycles are usually based on financial years. Therefore, we estimated financial year population projections from calendar years. For each financial year, this allocated 75% of the population from the first calendar year and 25% of the population from the second calendar year.

4.3 Method example

To aid understanding of the underlying methodology for calculating demographic growth[27] we provide the following example using dummy data.

First, the age, sex utilisation and local authority rate (c) is calculated from CSDS based on the number of patients (a) and their number of contacts (b). The estimated population size at that level is known for the baseline year (d) and the horizon year 2035/36 (e). The change in size of the population between baseline and horizon is calculated (f). Then, the assumption is made that the change in the size of the population will increase the number of patients by that same proportion. This gives an additional number of patients by 2035/36 requiring treatment from community services (g). Assuming utilisation remains the same and applying that to the additional patients, gives the total number of additional contacts which will be required by 2035/36 (h).

As the baseline utilisation is carried forward to the horizon year, any inequalities, gaps between need and supply or any community care that could be viewed as inappropriate or inefficient are also carried forward. Also carried forward is the current health status of the population.

[27] Calculations are at the level of a single year of age, sex and local authority, but results can be aggregated as required.

Figure 15 – Worked example showing the calculation of the additional contacts required to meet demographic growth

			Baseline 2022/23				Horizon 2035/36			
Sex	Age	Area	Community Patients	Contacts	Utilisation	Population	Population	Change in Population	Additional Community Patients	Additional Contacts
			a	*b*	*c=b/a*	*d*	*e*	*f=(e-d)/d*	*g=f*a*	*h=g*c*
Female	85	Local Authority 1	100	1,100	11	1,000	1,500	50%	50	550
Female	85	Local Authority 2	99	1,188	12	900	1,300	44%	44	528
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4.4 PBR exclusions and their effect

The cost of avoided hospital care is based on the NHP demand and capacity model activity output. This does not contain the full range of information which would allow for exact pricing of the activity. Costs are based on the HRG of the last episode in spell and the point of delivery. Non-elective short stay reductions are based on admission to discharge length of stay and not the PBR adjusted length of stay.

The excluded PBR adjustments and the direction of their effect are:

Adjustment not made	Adjusting for this would
Local prices	Increase costs
Best practice tariffs	Increase costs
Payments for per day, e.g. critical care	Increase costs
Unbundling	Unclear
Exact application of non-elective short stay costs	Increase costs
Elective/Daycase used for RDA/RDN	Unclear
Spell HRG	Increase costs

In addition, excess bed days costs and market forces factors are excluded from cost calculations.

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