

State of the Nation

The background of the entire page is a deep red color with a subtle pattern of small, glowing red dots. On the right side, there is a large, semi-transparent image of a pair of hands wearing white medical gloves. The hands are cupped together, holding a large, stylized NHS logo. The logo is composed of four red, geometric shapes that form the letters 'NHS' in a modern, blocky font. The overall aesthetic is clean, professional, and focused on healthcare.

A comprehensive, retrospective review of NHS data

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This report has been produced independently by Wilmington Healthcare

FOR HEALTHCARE LEADERS
HSJ

Wilmington
Healthcare

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Foreword



In 2023, the National Health Service (NHS) continues to grapple with a complex set of challenges.

The foremost issue is the ever-increasing backlog of over 7 million incomplete referrals awaiting treatment, largely a consequence of the COVID-19 pandemic. Despite significant efforts to alleviate this backlog, the NHS faces hurdles such as staff shortages and strikes that hinder its post-pandemic recovery.

This report provides a health check for the NHS, a patient, that could be argued, with multiple chronic and occasional acute conditions; major challenges in waiting list backlogs, high bed occupancy rates and prolonged hospital stays. Emergency and urgent care remains precarious, with worsening ambulance response times and longer wait times in accident and emergency (A&E) departments. Diagnostic test wait times are extending.

There are rays of hope. Elective procedures are nearly back to pre-COVID levels, outpatient care has largely rebounded, and the integration of telemedicine has played a pivotal role in achieving these successes. Ongoing efforts to reduce inpatient stays and shift towards more cost-effective elective care are underway. However we have never experienced waiting lists so large nor so long with quarter of a million incomplete pathways exceeding waits of more than 52 weeks.

Despite an increase in staff numbers, workforce shortages, especially in acute and specialist roles, remain a significant challenge.

One area that is part of the problem are health inequalities; however, focussing on these should be part of the solution, together with other policies in the wings such as the Major Conditions Strategy due to be published Spring 2024. Focussing on prevention, earlier diagnosis and greater flexibility should also be part of the answer, however, for these to impact, tenacity and time are required.

In summary, while the NHS has made progress in recovering from the pandemic in 2023, it faces long-term challenges that may take several years to address fully.

The challenges faced by the NHS are significant and multifaceted, requiring support from various sectors, including industry, to navigate successfully.

I commend the work of my Wilmington Healthcare colleagues to you. It will help you fully understand the scale of the challenge the NHS faces – and how best you might be able to help.



Jonathan Carney, Director of Innovation and Strategy, **Wilmington Healthcare**

Executive Summary

The latest financial year (2022/2023) has been another challenging one in the Health Service. Pressure from the centre for more activity to increase capacity and reduce the patient backlog has been constant; but workforce issues, including strikes, have hampered recovery in the post-COVID era.

But now, nearly eighteen months since the last major COVID-19 wave, it's a reasonable question to ask: has the NHS recovered?

Wilmington Healthcare has assembled State of the Nation, the latest series of NHS data visualisations, in part to answer this question, which is a complex one.

Activity and Recovery

On the surface, the data look scary: with some 7m patients on so-called 'incomplete pathways', it is going to be a long time still until that backlog is reduced to pre-COVID levels.

The data also show that the recovery is staggered – with frequent rises in activity, showing that the NHS is putting everything into reducing the backlog – then falling as more patients come into the system and create bottlenecks.

Before 2021, there was no-one waiting more than 52 weeks for treatment. Now, there are over 250,000.

Not only that – there are health inequalities at play, so that certain ethnicities and patients from deprived areas are disproportionately impacted by the effects of the backlog.

That said, the data also show some reasons to be hopeful. Elective activity is just about where it was prior to the pandemic. Outpatient care has largely recovered, with a good deal of this success linked to increased use of telemedicine. Inpatient admissions across acute trusts are also down, perhaps as new digital initiatives such as virtual wards alleviate pressures.

NHS decision makers are particularly keen to reduce inpatient stays – many of which are unnecessary. As elective activity increases, spend needs to increase, and the need to reduce costly, unplanned care increases further. There is therefore a strong incentive to keep patients out of hospital for long stays, and out of hospital altogether if it can be achieved.

Indeed, elective care is always more economical, and our data clearly shows that non-elective services put the greatest strain on the health service.

Collectively, it is further evidence of the necessity of more effective population health management, whereby early intervention, health prevention schemes and community based long-term condition management can help control the exacerbations and emergencies that lead to avoidable non-elective admissions.

In short, the NHS needs to get patients into the system and onto pathways earlier – planned care is on average around 2.5 times cheaper than unplanned.

One striking feature of our data is around bed days. Bed occupancy is nearly at maximum, and there has

also been a huge jump in length of stay. This so called 'bedlock' is probably the biggest hindrance to the recovery plan, and the NHS will need to improve its discharge rates if this is going to improve.

Bed occupancy rates may be having a knock-on effect in other parts of the health service. For example, the data show that fewer patients attending A&E are then being referred to a first appointment. This will ultimately mean that these patients are managed by primary care. While an optimist might suggest that this is what NHS long-term planners intended, it could also simply be an effect of the maxed-out capacity of secondary care. Other data show fewer referrals are coming from GPs, and only slightly more from within secondary care.

Four-hour waits to attend A&E services are now common, and this may be behind the government's recent move to shift their target – now, 76 per cent of A&E patients should be seen within four hours – a steep cut from the previous target of 95 per cent.

Healthcare Equity

Unsurprisingly, the data show that overall the population is ageing, and is afflicted by increasing numbers of long-term conditions and comorbidities. It is worth mentioning again that health inequalities are at play here and in the most deprived quintiles, these are on the rise. It will be imperative for planners to aim public health management – including such measures as obesity drugs and social prescribing – at these more deprived population groups.

Poorer communities also make up the biggest proportion of did-not-attends (DNAs) – increasingly a problem for the NHS for both outcomes and cost, and often leading to even more non-elective emergencies.

Being in the poorest quintile also means you're more likely to have a longer length of stay, more complications, and incur more cost. You're also much more likely to be admitted to hospital in the first place. This inequality is particularly evident for respiratory patients.

In cancer, the likelihood of metastatic cancer taking hold – cancer that is more difficult to treat and associated with poorer outcomes – is five percent higher if you are in the most deprived quintile than the least deprived.

There are around 50 per cent more type 2 diabetes registrations in this quintile, and obesity is recorded around 50 per cent more frequently in the 20% most deprived cohort than in the least deprived patient group also.

Therapy areas

The data show rather good news for ophthalmic patients. Waiting lists are getting shorter and outpatient activity has seen several annual increases. Procedure numbers are also up in dermatology and respiratory. But respiratory also manages the fastest growing waiting list.

Diagnostics also see a rise with those waiting for tests up half a million.

While breast cancer referrals have gone up, virtually all other therapy area referral levels have gone down.

Prescribing insights

We've also seen a big jump in prescribing costs. Hospital spend is accelerating, but so is spend in primary care.

Antidepressant prescribing – such a notable feature of the pandemic and one of the headline features of our last State of the Nation report – has gone right down again.

However anticoagulant and diabetic drug prescribing is growing by 5 per cent. Neuromuscular spend has seen a steep increase as new drug classes come online for diseases such as muscular dystrophy and in general the NHS is spending far more on the latest generation of innovative biologic medicines.

Workforce insights

Given the figures for NHS vacancies – which are going up – it may come as some surprise to learn that overall headcount is going up, with higher nurse, doctor and pharmacist recruitment visible. It's likely that acute and specialist staff are the roles that are lacking, as they take longer to recruit and train – or find from the small international pool with the necessary skills.

While headcount is increasing, it's still clearly not enough – staff shortages are one of the main reasons why the backlog is proving so difficult to shift.

Regional insights

These data show significant variance in length of stay – which we've already established is a big problem for the NHS's recovery. It's higher in some coastal regions such as Cornwall and Norfolk, that tend to have a higher proportion of older patients. CVD, cancer and COPD prevalence are also highest in such areas, most probably for the same reason.

Sometimes regional variations lack a simple explanation though – such as why Kent has the highest number of referrals to first consultant-led appointments, and Nottinghamshire the lowest. What does this tell us about the state of primary care in different parts of the nation?

Some areas such as Cambridge and North London spend more on prescribing – is this to do with a high proportion of teaching hospitals engaging more with innovative treatments?

As ever, Data can launch as many questions as it provides answers. What's clear in the meantime is that the NHS, while managing to claw itself back to some pre-COVID positions, is still suffused with multiple long-term challenges that will take years to solve.

1. Hospital Episode Statistics Overview

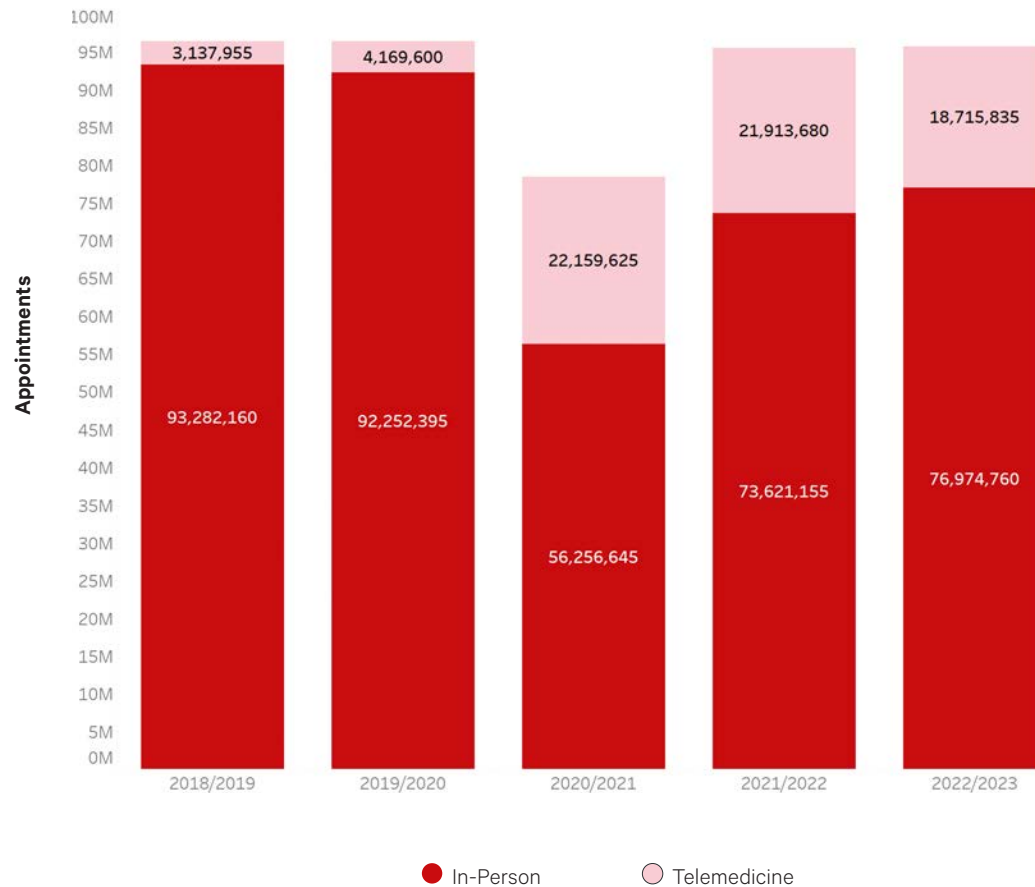
Spells by Admission Method, Inpatient, 2018/19 to 2022/23



Overall elective activity remains below pre-pandemic levels

Despite a return to relative normality for the national health service, elective activity across acute trusts has remained below pre-pandemic levels in the two financial years since 2020/21, when services were heavily disrupted by the COVID-19 pandemic. Furthermore, while non-elective (emergency) admissions were somewhat less impacted than planned care, they too have remained below their pre-pandemic levels. While the recovery of inpatient activity has not been as sharp as the decline in activity in 2020/21, the continued increase in elective activity in the latest financial year (2022/23), with elective spells increasing by 4.6% year-on-year and by 37.3% since 2020/21, can be viewed as a positive indication with respect to normal service being resumed.

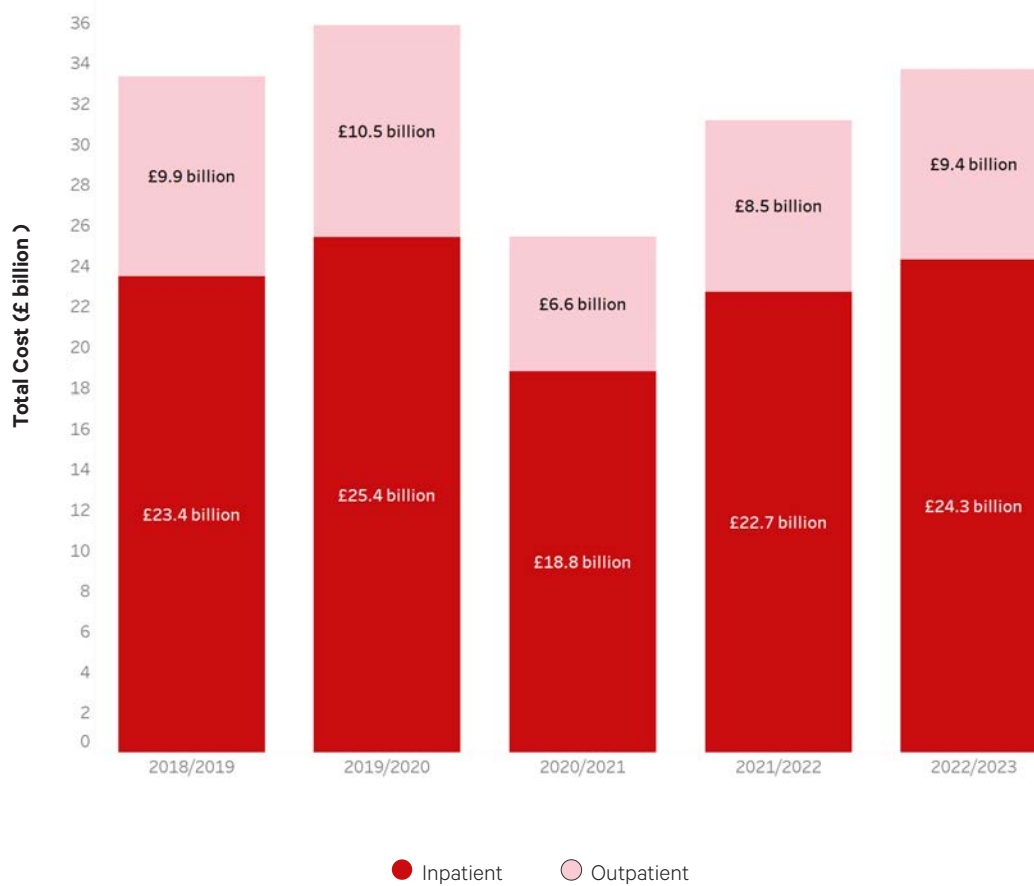
Appointments by Attendance Type, Outpatient, 2018/19 to 2022/23



Telemedicine here to stay despite modest decline in 2022/23

In 2020/21, we witnessed a significant rise in telemedicine appointments across outpatient care as the health service adapted to restrictions brought about by the COVID-19 pandemic. Despite a notable recovery of in-person outpatient activity, with in-person appointments up 36.8% to 77 million between 2020/21 and 2022/23, telemedicine remains a key feature of outpatient consultations, accounting for 19.6%, or almost a fifth, of all outpatient activity in 2022/23. This is despite a steady decline of telemedicine appointments in the two most recent financial years when compared to the pandemic year (2020/2021), where telemedicine appointments accounted for 28.3% of all outpatient activity. Overall, total outpatient activity has returned to near pre-pandemic levels having rebounded sharply in 2021/22.

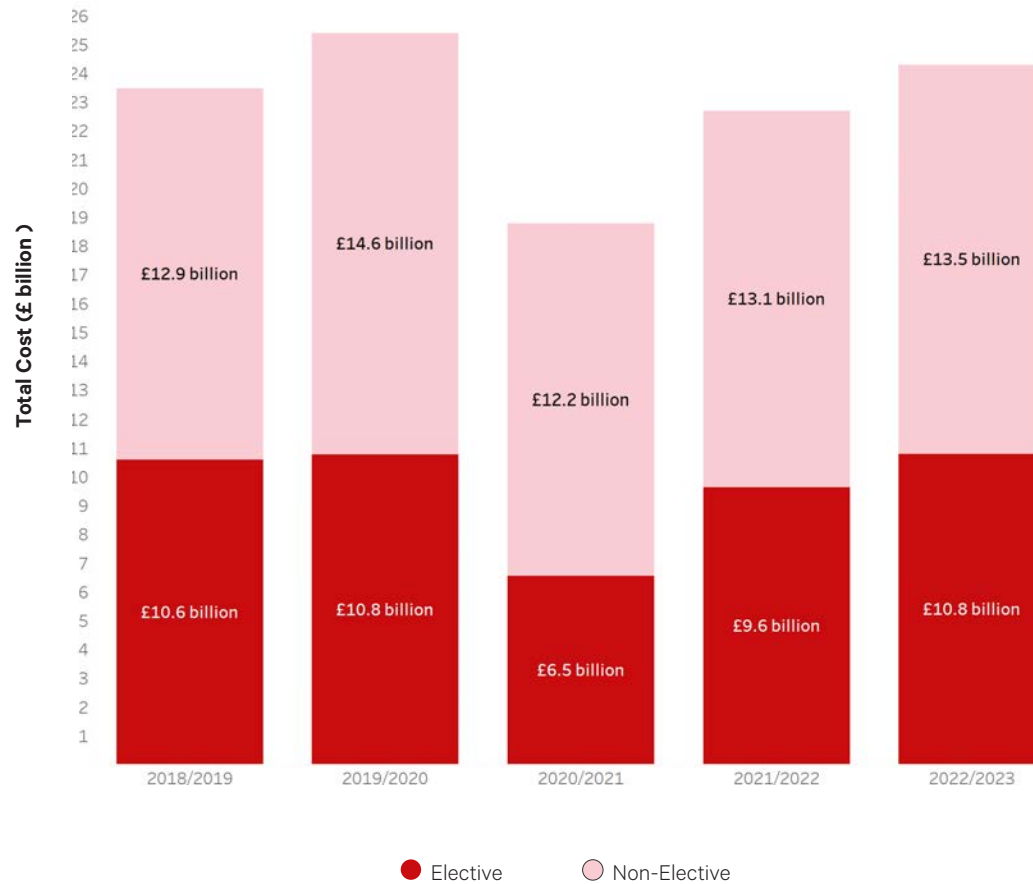
Total Cost by Setting, Inpatient and Outpatient, 2018/19 to 2022/23



Acute care costs continued to increase through 2022/23

Total costs across acute trusts increased again in the latest financial year as services continued to recover from the incidental impact of the COVID-19 pandemic. Inpatient activity continues to account for the majority of spend within secondary care, with 72.1% of total spend coming from admitted patient care. Despite a 32.6% increase between 2020/21 and 2022/23 to overall costs of £33.7 billion, acute trust spend remains below its peak of £35.9 billion in 2019/20.

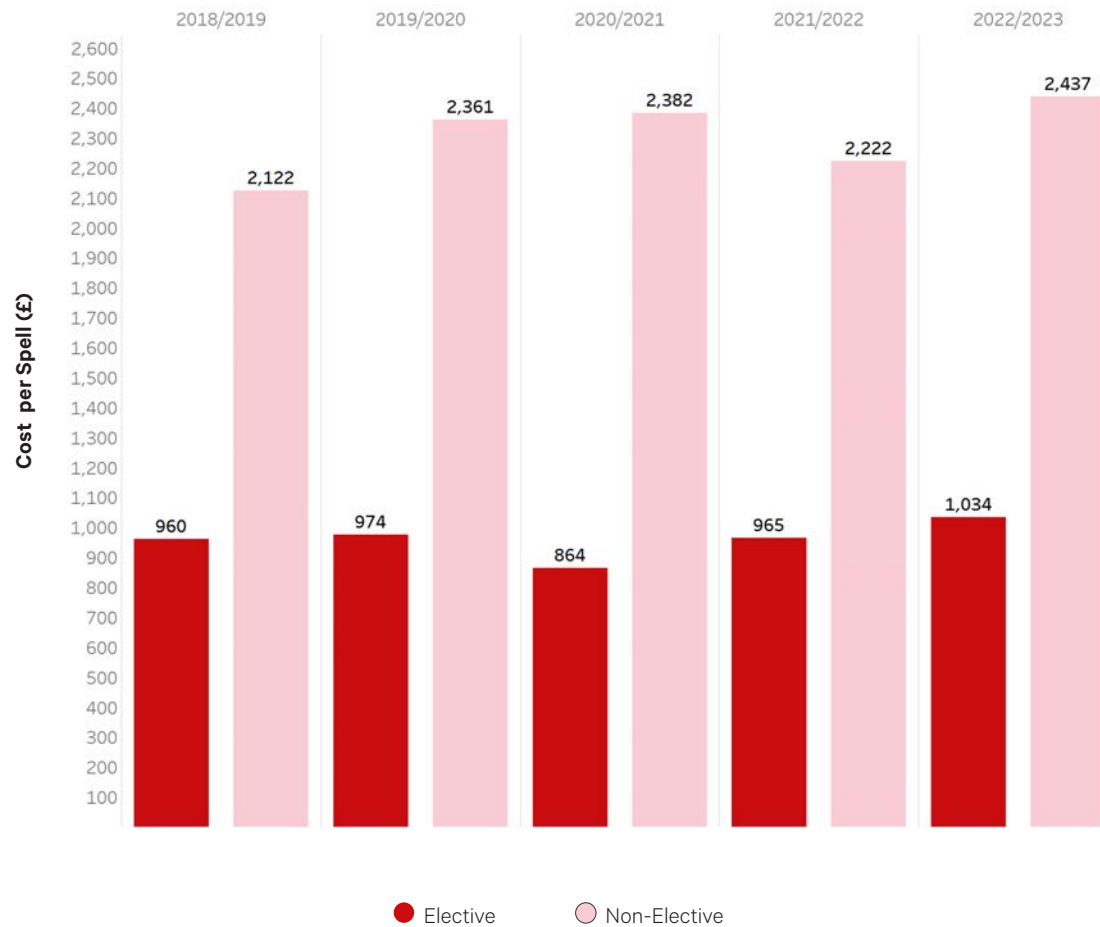
Total Cost by Admission Method, Inpatient, 2018/19 to 2022/23



Spend on elective care back to pre-pandemic levels

There was a sharp fall in elective costs in 2020/21 as the COVID-19 pandemic hindered planned care across the health system. With restrictions largely lifted, elective care costs have since returned to their pre-pandemic levels, rising to £10.8 billion in 2022/23. Non-elective (emergency) care costs did not fall as sharply as elective costs in 2020/21, but have also since risen steadily as barriers to inpatient care through emergency routes have also been lifted. However they remain below their pre-pandemic peak of £14.6 billion. Non-elective admissions continue to account for the majority of spend, with 55.6% of total inpatient spend going on emergency care, highlighting the pressure on integrated care systems (ICSs) to better manage population health and alleviate the burden of non-elective admissions on secondary care.

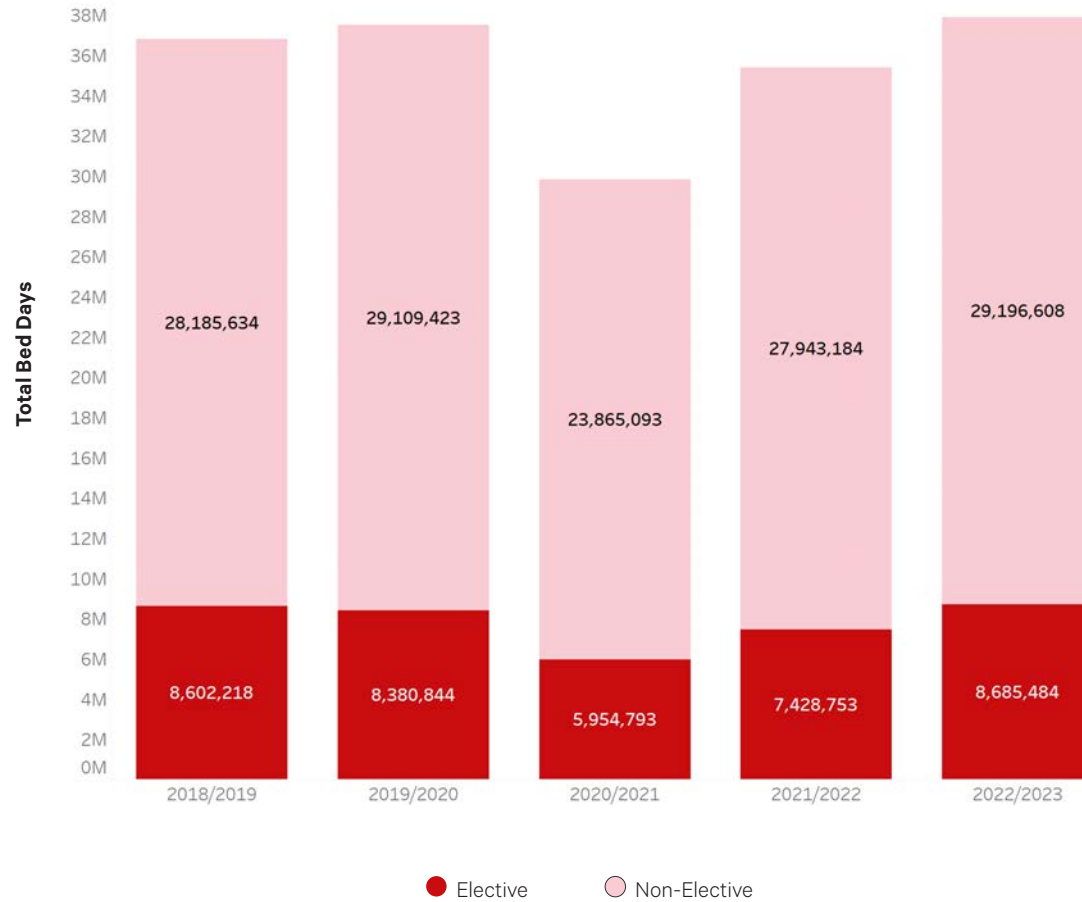
Cost Per Spell by Admission Method, Inpatient, 2018/19 to 2022/23



Non-elective costs per admission peak in 2022/23

Looking at average costs of admissions by admission method reveals a stark contrast between the average cost of an emergency (non-elective) admission vs the average cost of a planned, elective admission. Having fallen in 2021/22 compared to the two years prior, the average cost of an emergency admission rose to a peak of £2,437 in 2022/23, more than twice that of a planned admission and once more highlighting the financial burden that unplanned care has on the health service. Elective admissions also reached a peak of £1,034 per spell in 2022/23.

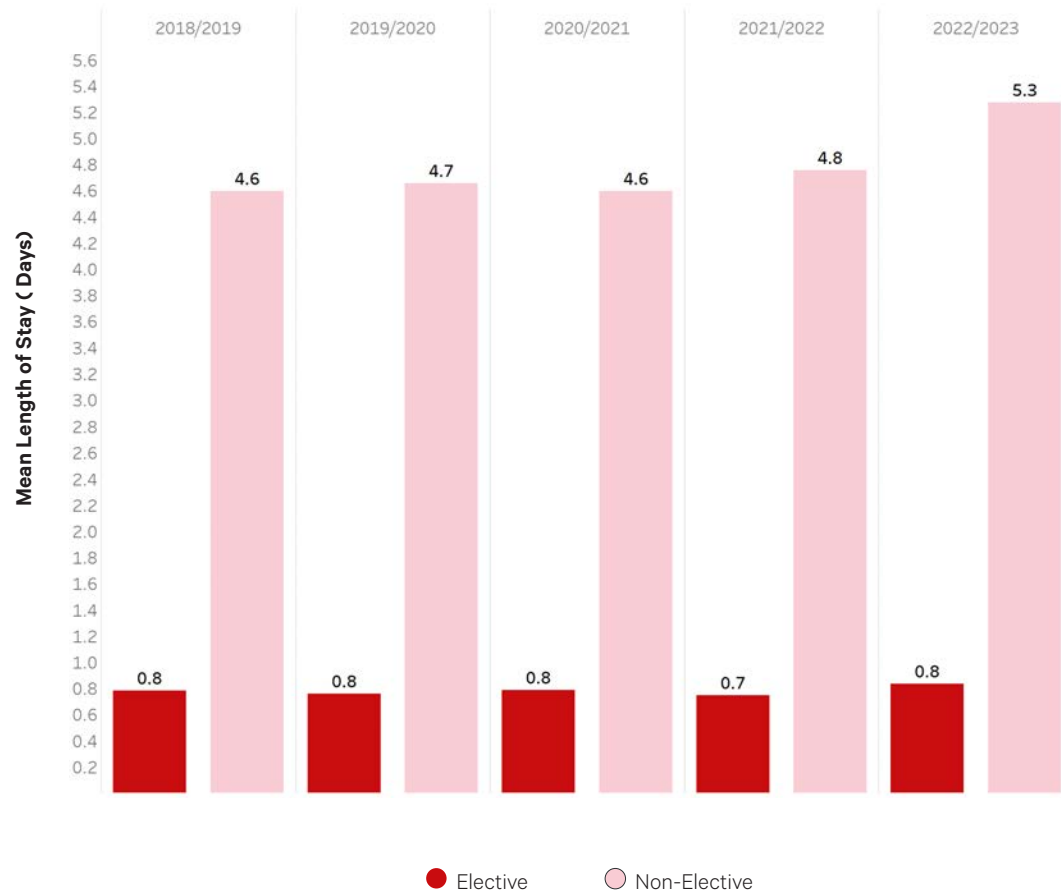
Total Bed Days by Admission Method, Inpatient, 2018/19 to 2022/23



Emergency admissions account for over three quarters of total bed occupancy

The variation in costs per spell by admission method are further illustrated by analysis of cumulative bed days across admitted patient care. Patients admitted through emergency means accounted for more than three quarters of overall bed occupancy across the health service in 2022/23, and subsequently incur the highest overall costs to the system. Unplanned admissions accounted for 77.1% of total bed days across secondary care in 2022/23, highlighting the considerable task facing the health system to better manage population health and lower the burden of emergency admissions. Total bed occupancy reached 37.9 million bed days in 2022/23 which represents a five-year peak and once more highlighting that the health service has largely recovered from the incidental impact of the pandemic in 2020/21.

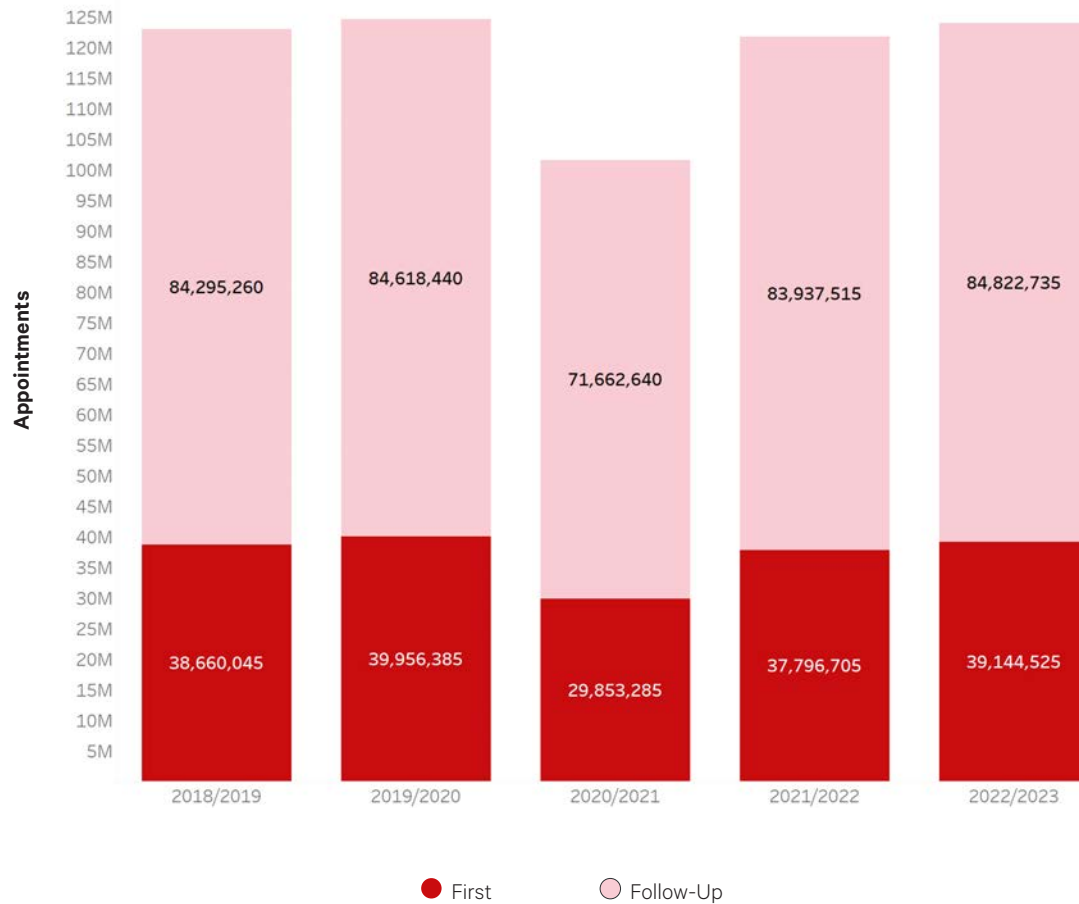
Mean Length of Stay (MLOS) by Admission Method, Inpatient, 2018/19 to 2022/23



Average emergency hospital stay lengthens significantly in 2022/23

There has been a marked increase in the average length of a non-elective hospital admission in the latest financial year, rising from an average of 4.8 days in 2021/22 to 5.3 days in 2022/23. In contrast, with a large portion of elective admissions being zero day/day case admissions, they remained low at 0.8 days on average. With the threat of lengthening non-elective admissions, the importance of reducing the emergency care burden on the health service is evident, with integrated care systems putting greater emphasis on prevention over treatment.

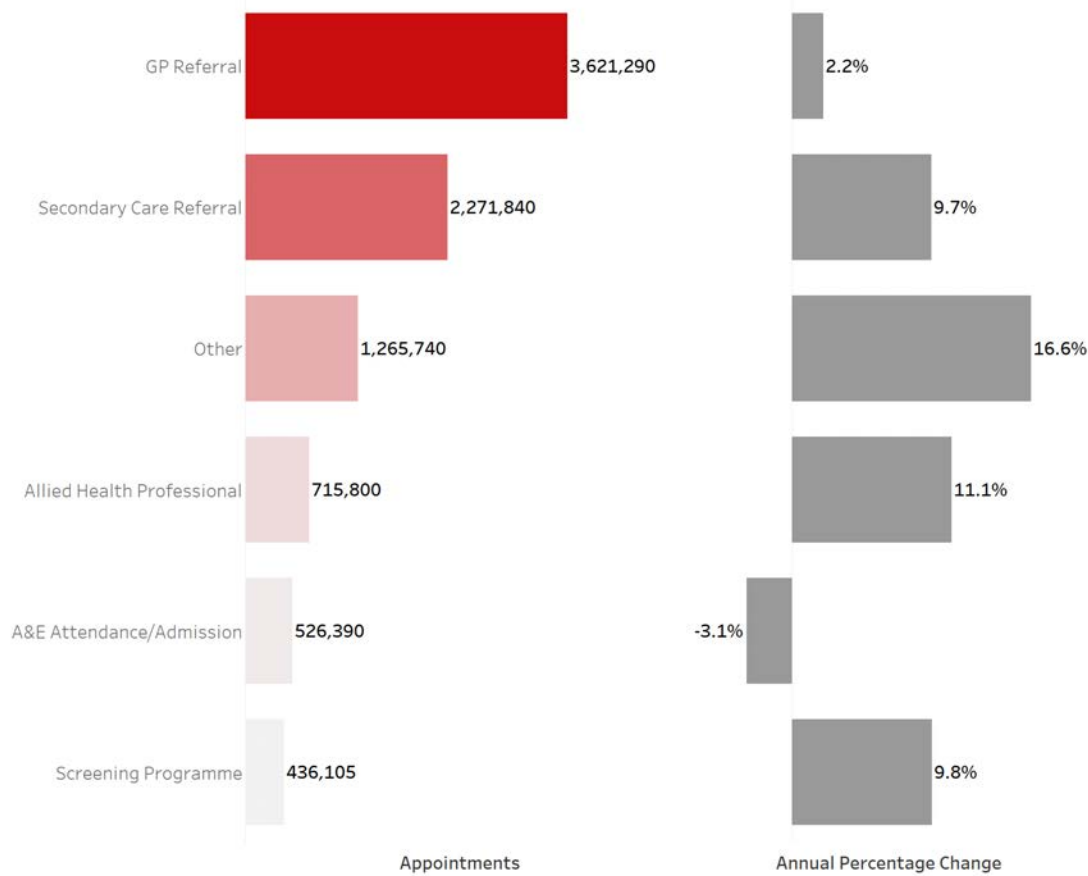
Appointments by First/Follow-Up, Outpatient, 2018/19 to 2022/23



First appointments close to returning to pre-pandemic levels

First appointments (i.e. initial consultations/referrals) across outpatient specialties fell by over a quarter (~25.3%) during the pandemic year 2020/21, highlighting the significant barriers that were put in place as the NHS fought to tackle the COVID-19 pandemic. Follow-up appointments also dropped off (~15.3%) over this period. With relative normality restored, outpatient activity has near enough returned to their pre-pandemic levels, with both first appointments and follow-up appointments across outpatient specialties close to their expected level in the latest financial year.

First Appointments by Referral Source, Outpatient, 2022/23

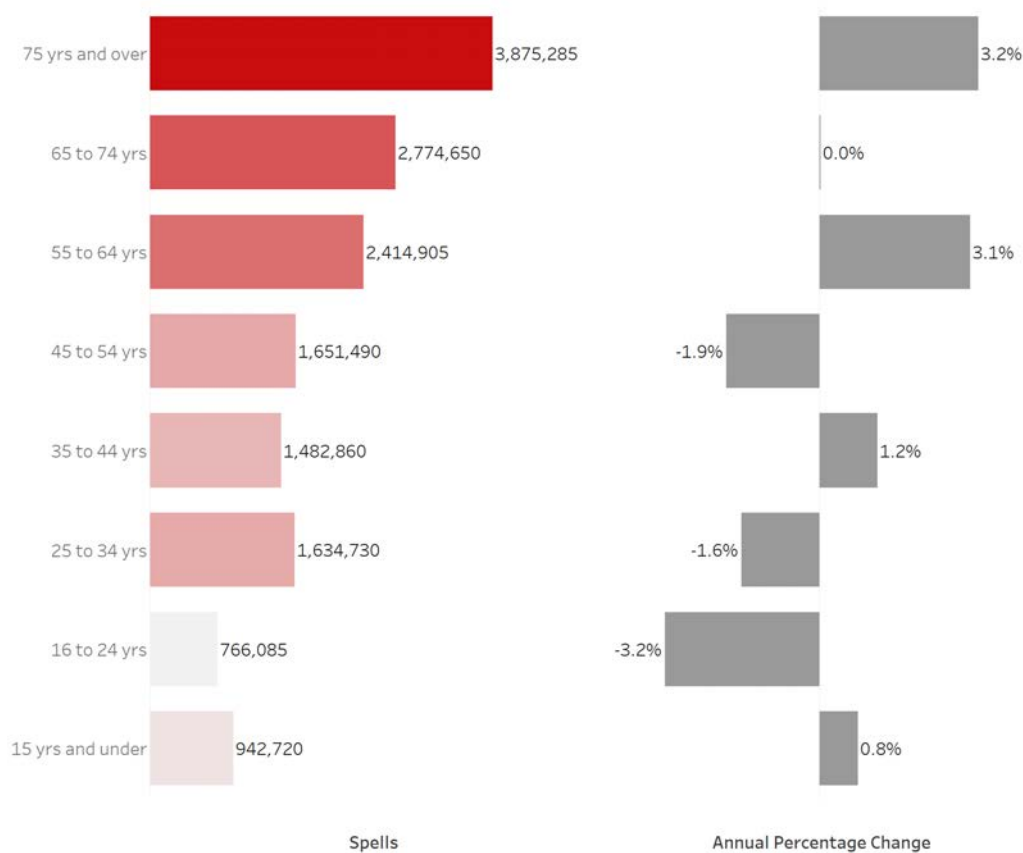


Over half a million referrals following A&E visits

Although the majority of referrals to outpatient care come from GP (primary care) referrals (41%) and secondary care (25.7%), almost 6% of all referrals, or over five hundred thousand outpatient appointments, were made following an A&E attendance/admission in the 2022/23 financial year. Over four hundred thousand referrals were made via national screening programmes, while over 8% of first appointments followed an allied health professional referral.

2. Demographic Segmentation and Health Inequalities

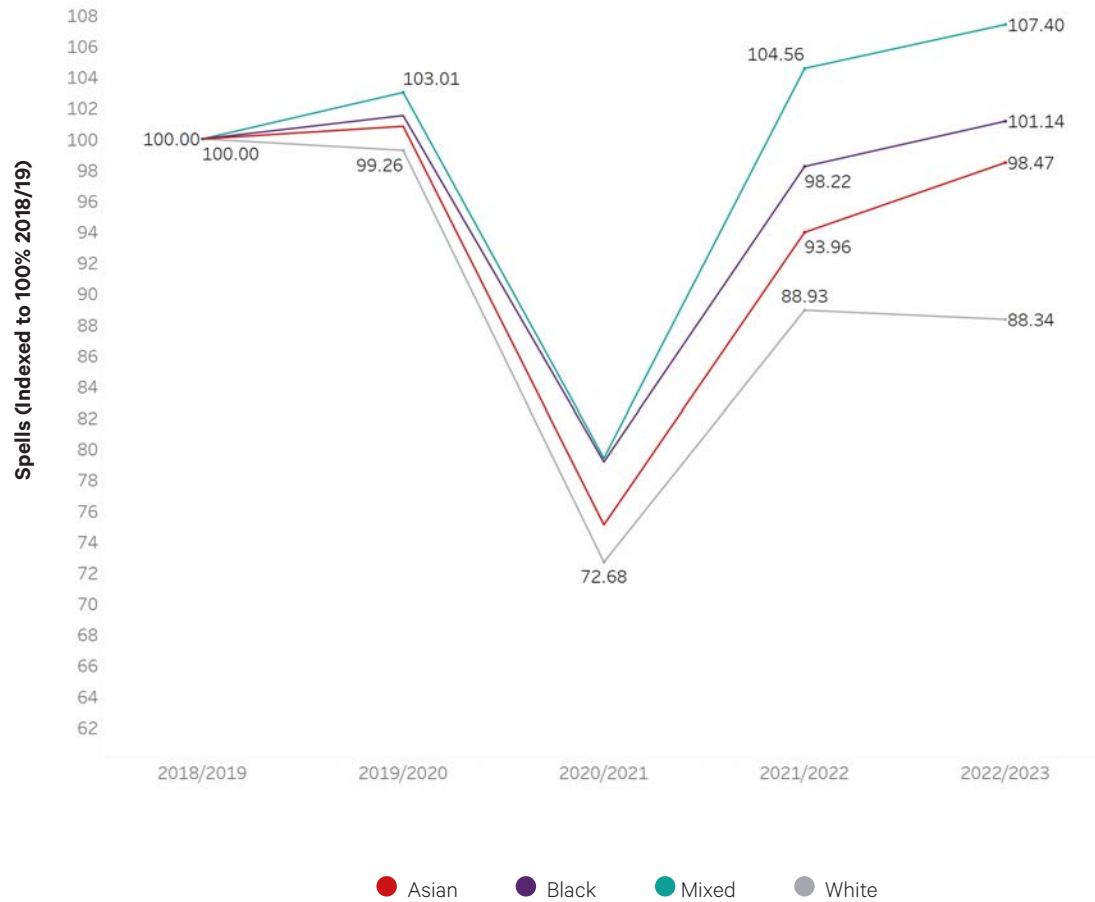
Spells by Age Band, Inpatient, 2022/23



Patients aged 75 and over account for a quarter of hospital admissions

Patients in the 75 and over age band accounted for approximately a quarter of total hospital admissions in 2022/23 following an annual increase of 3.2%, which represented higher growth than any other age band. An ageing population in England will continue to place pressure on the health service with admissions in this group expected to grow over time. Patients aged from 55 and above now account for 58.3% of total hospital admissions. In contrast, admissions in the 16-24 yrs, 25-34 yrs and 45-54 yrs age bands all saw annual percentage decreases in the latest financial year.

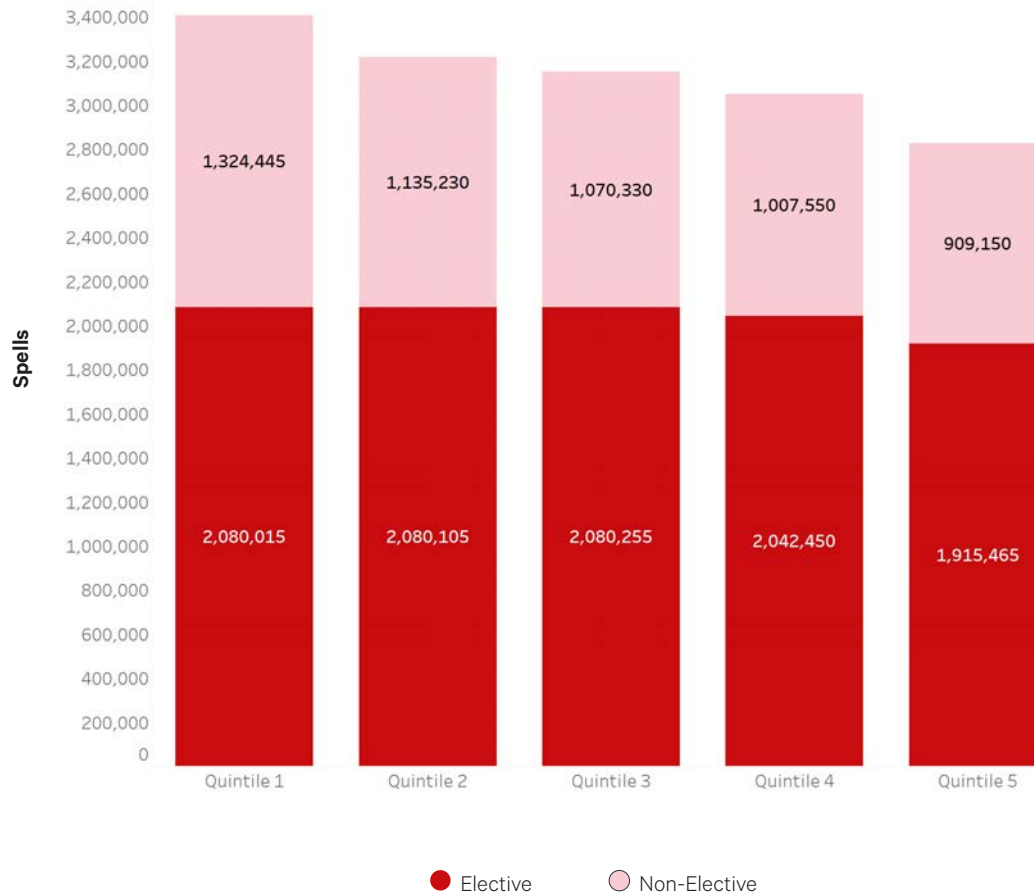
Indexed Spells by Ethnicity, Inpatient, 2018/19 to 2022/23



Fastest growth in admissions is seen in minority ethnic groups

Although patients of all ethnicities saw a significant drop off in admissions following the incidental impact of the pandemic on the health service in 2020/21, recovery rates in admissions across different ethnic groups shows significant variation. Admissions from the majority white population remain more than 10% below their pre-pandemic level in the latest financial year for example, whereas admissions from black and mixed minority groups have since returned to their pre-pandemic levels, while admission from Asians are now overall flat in the latest financial year compared to four years ago. Interestingly, while admissions have grown across all ethnic groups in the latest financial year, admissions in the white population group have shrunk year on year.

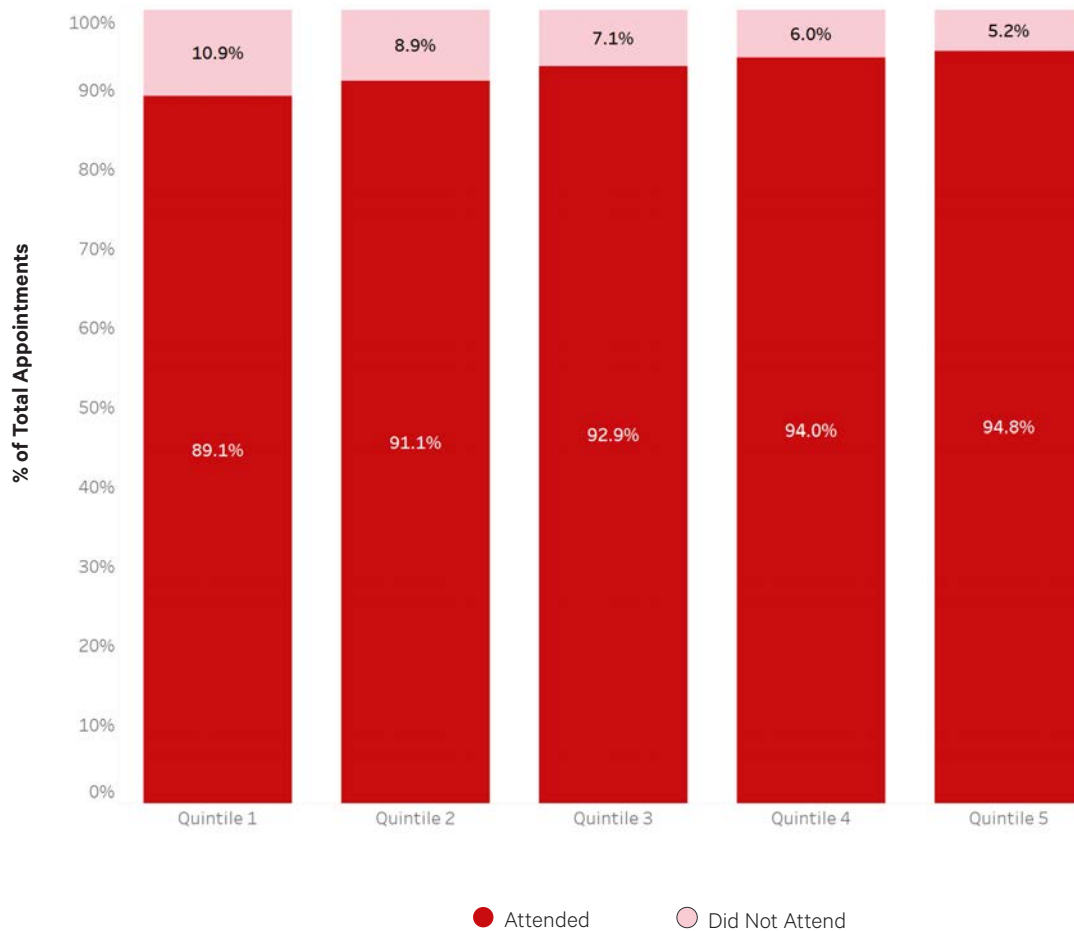
Spells by Admission Method and IMD Quintile (where 1 = most deprived, and 5 = least deprived), Inpatient, 2022/23



Non-elective (unplanned) admissions are highest in socioeconomically deprived communities

Viewing the admitted patient care dataset by socioeconomic profile (i.e. index of multiple deprivation; IMD), a stark picture emerges with respect to the volume of emergency care in more deprived patient groups. Indeed, while the volume of elective care is relatively evenly distributed across the five deprivation quintiles, non-elective (emergency) care is considerably higher in the 20% most deprived population. In the latest financial year there were over four hundred thousand more emergency admissions in the most deprived 20% of the population compared to the least deprived 20% of the population. Given the disproportionate resource burden that non-elective admissions have on the health service, this reinforces the need for new strategic initiatives such as Core20PLUS5 to tackle health inequality. ICSs are expected to drive these initiatives and improve population health against a backdrop of heightened pressures since the COVID-19 pandemic and growing disparity resulting from the cost of living crisis.

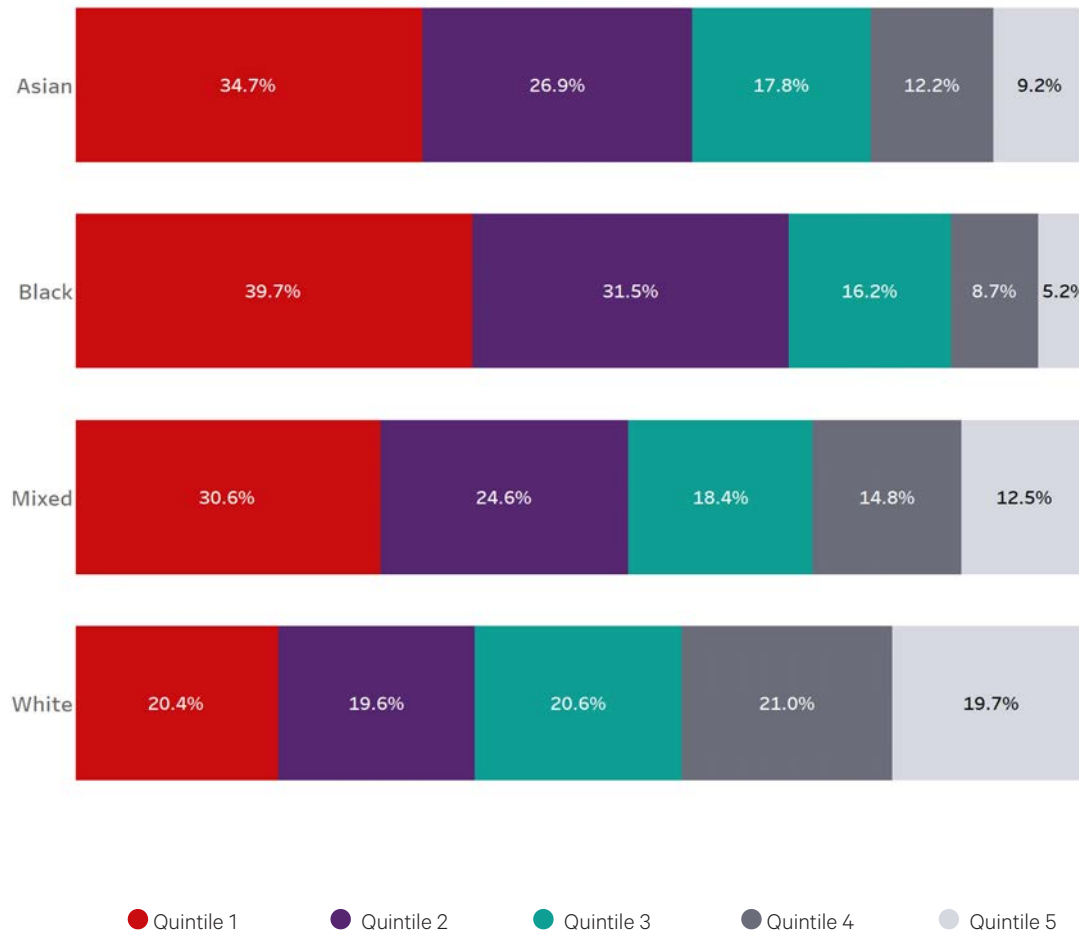
Appointments by Attendance Status and IMD Quintile (where 1 = most deprived, and 5 = least deprived), Outpatient, 2022/23



DNA rates are highest in most deprived 20% of the population

Analysis of attendance status of outpatient appointments across deprivation quintiles reveals a stark contrast in attendance rates between the most and least deprived in England. In the latest financial year, the 20% most deprived (Quintile 1) had a did not attend (DNA) rate more than twice that of the least deprived 20% (Quintile 5) when viewed as a percentage of total outpatient appointments. Indeed, there is a linear relationship between DNA rates and socioeconomic profile of patients, clearly highlighting that measures need to be taken to help drive access to care across the more deprived sections of the population and mitigate any impact that DNA rates have on subsequent patient outcomes such as rates of non-elective admissions.

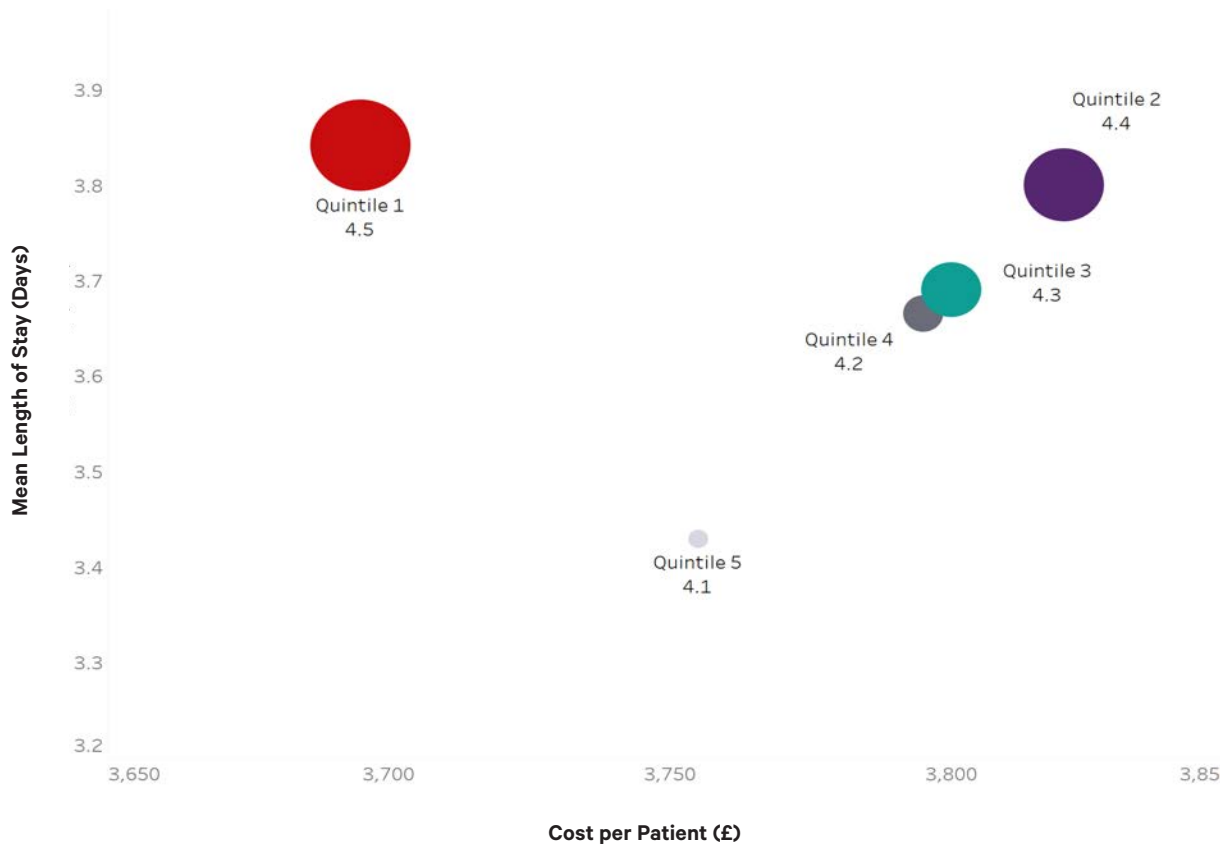
Patient Distribution by Ethnicity and IMD Quintile (where 1 = most deprived, and 5 = least deprived Inpatient, 2022/23)



Minority ethnic patients disproportionately come from deprived areas

While health inequality impacts patients from all ethnic backgrounds, patients from minority ethnic groups are disproportionately likely to come from areas affected by socioeconomic deprivation. Indeed, while 40% of the white population come from areas with high deprivation (Quintiles 1 and 2), over two thirds of black patients admitted to secondary care come from areas of higher deprivation, while the same is true for over 60% of patients of Asian ethnicity. Therefore, any efforts to tackle health inequality should also consider the impact of ethnicity on health outcomes as the two are not mutually exclusive in many instances.

IMD Quintile Benchmark (where 1 = most deprived, 5 = least deprived), Inpatient, 2022/23

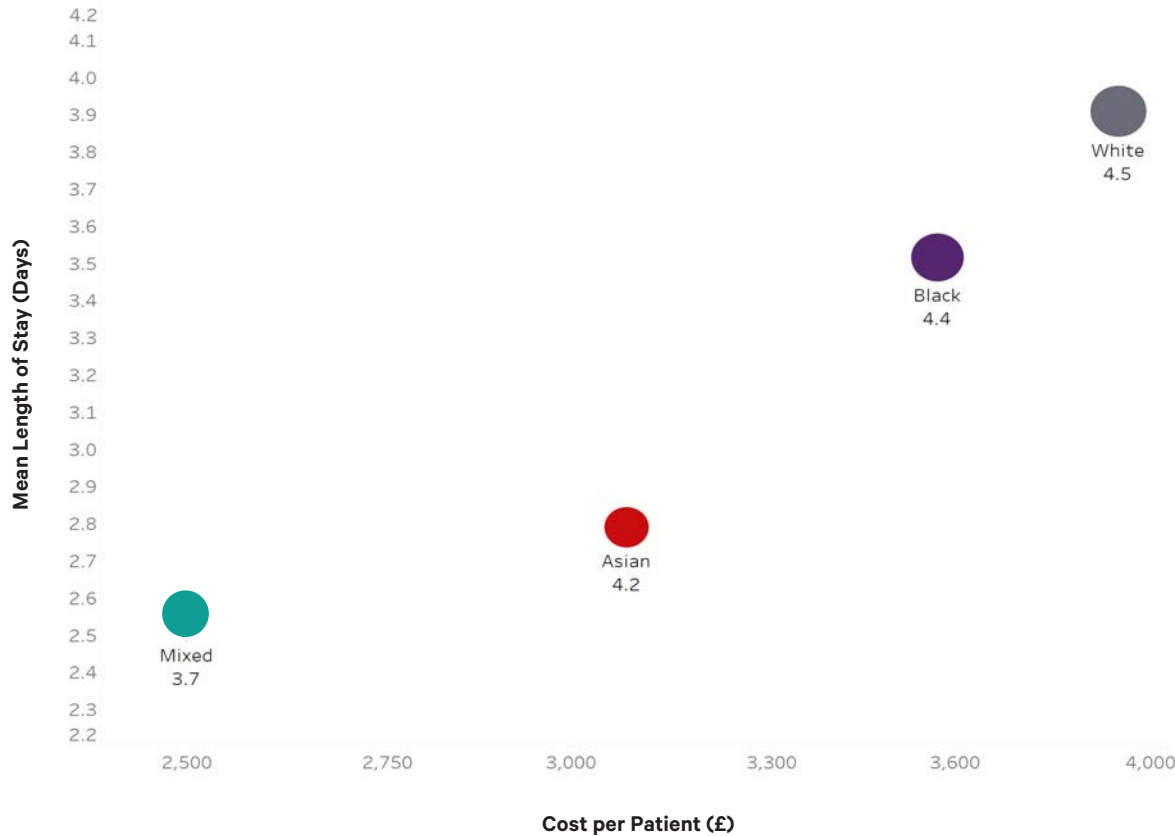


* bubble size denotes normalised complication and comorbidity (CC) score

Patients from deprived areas exhibit considerable disparity in health outcomes

Analysis of secondary care outcomes by deprivation further highlights the existence of disparity in terms of health across socioeconomically deprived communities. Patients from more deprived areas (Quintiles 1 and 2) have longer hospital stays on average than those in less deprived areas, as well as higher levels of complication and comorbidity (CC scores), both a likely consequence of disproportionately higher rates of emergency admissions. Despite worse aggregate outcomes, patients from the most deprived quintile exhibit the lowest per patient costs on average, a consequence of their geographical distribution, whereby a higher concentration of patients from deprived areas come from NHS England regions such as the North West and North East and Yorkshire, where aggregate costs are lower on account of market forces factors.

Ethnicity Benchmark, Inpatient, 2022/23

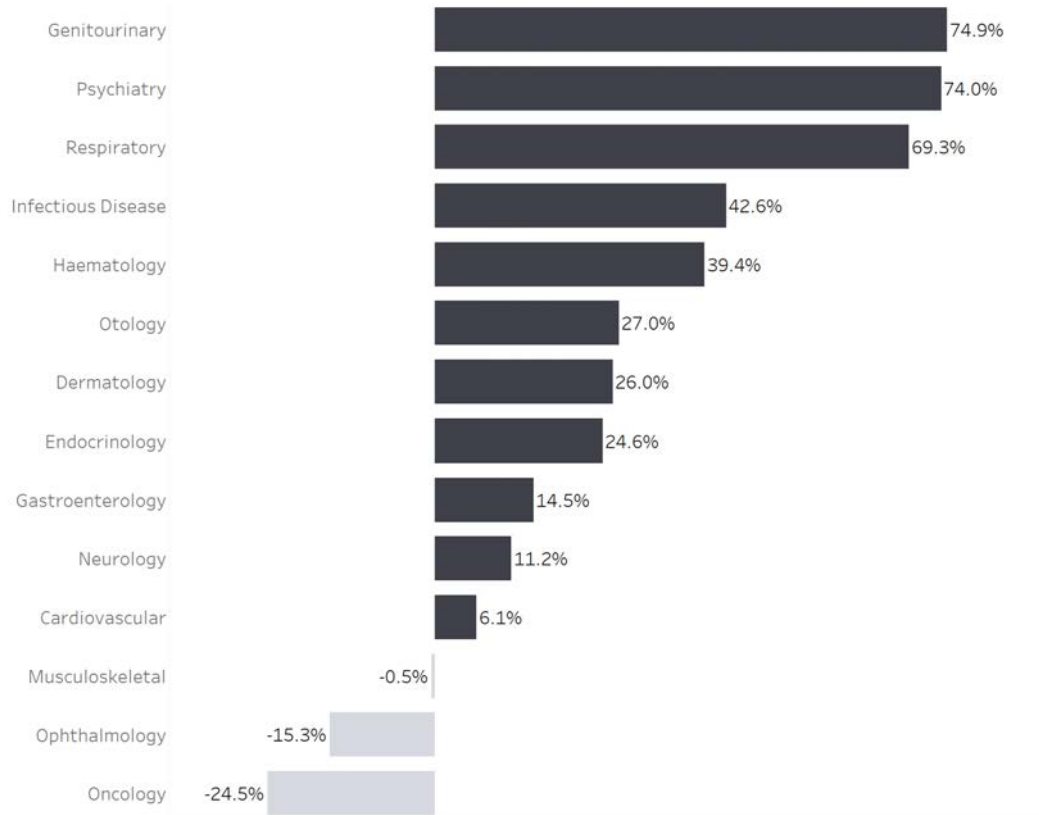


* bubble size denotes normalised complication and comorbidity (CC) score

Considerable variation in outcomes across patients of different ethnic backgrounds

There is also clear variation in outcomes when looking at secondary care activity by ethnicity. Patients from white backgrounds have longer average hospital stays, higher per patient costs and higher normalised complication and comorbidity (CC) scores than patients from minority ethnic groups. Conversely, patients from mixed and Asian ethnicities were associated with comparatively shorter hospital stays on average, lower per patient costs and lower aggregate CC scores.

Percentage Difference in Spells between Quintile 1 and Quintile 5 by Therapy Area (ICD-10 Chapter) Inpatient, 2022/23 (Quintile 1 = most deprived, Quintile 5 = least deprived)

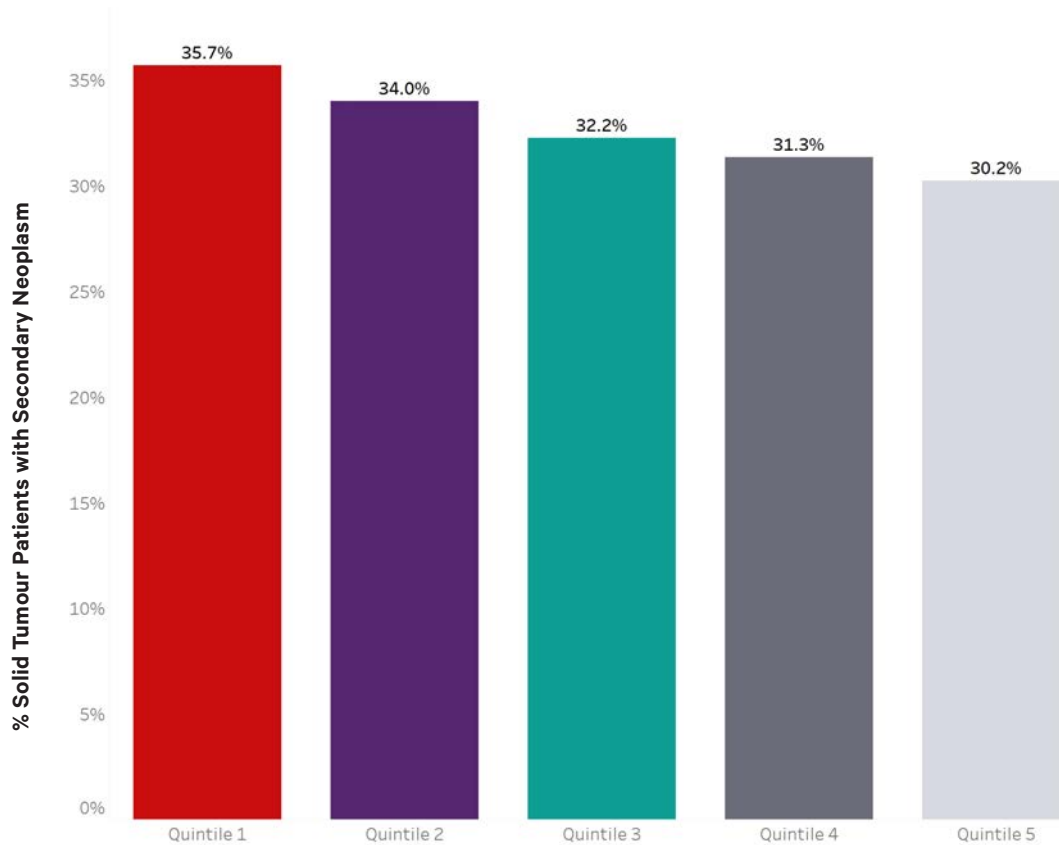


Percentage Difference in Spells between Quintile 1 and Quintile 5

Deprivation is associated with higher admission rates across all therapy areas except oncology and ophthalmology

The impact of socioeconomic deprivation can also be viewed in terms of admission rates by therapy area. Comparing admission rates by therapy area in the most deprived 20% of the population (Quintile 1) to the least deprived 20% of the population (Quintile 5) reveals that patients from the most deprived areas had higher admission rates across all therapy areas, with the exception of musculoskeletal, ophthalmology and oncology. Admissions relating to diagnoses in genitourinary, psychiatry, respiratory, infectious disease and haematology were considerably higher in Quintile 1 than Quintile 5, illustrating higher burden of these disease areas in socioeconomically deprived communities. Conversely, fewer admissions in oncology and ophthalmology, while possibly suggesting lower burden of disease due to variation in age-related demographics, could also signify less frequent admissions for treatment, in turn impacting outcomes if treatment rates are lower in deprived populations.

Percentage Solid Tumour Patients with Secondary Neoplasms by IMD Quintile, Inpatient, 2022/23 (where 1 = most deprived, 5 = least deprived)

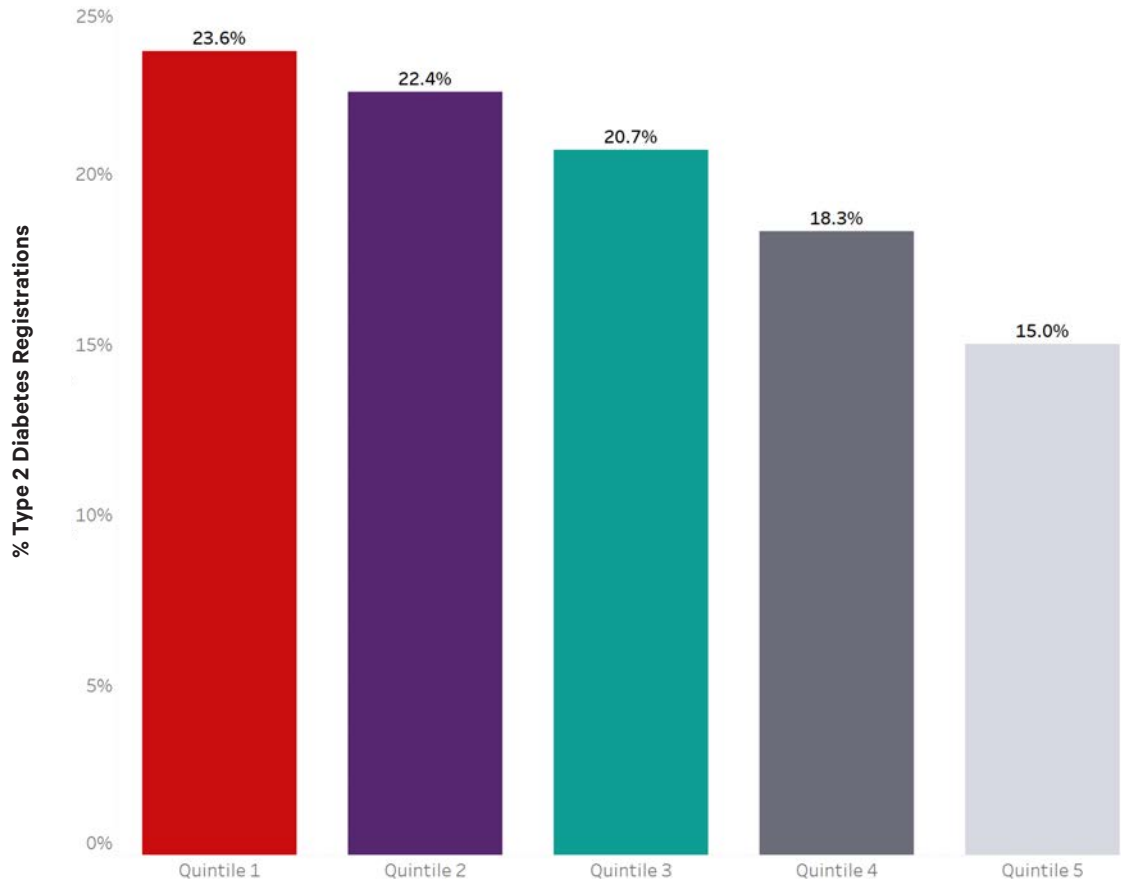


Prevalence of metastatic disease is highest in the most deprived patients group

Despite the observation that patients in the most deprived 20% (Quintile 1) have lower rates of admission for oncology than the least deprived (Quintile 5), analysis of prevalence of metastatic disease (i.e. secondary neoplasms) in solid tumour patients reveals a strong correlation between socioeconomic deprivation and prevalence of metastatic disease. Indeed, the most deprived patients (Quintile 1) are seen to exhibit the highest rates of metastatic disease at 35.7% of solid tumour patients, compared to 30.2% of solid tumour patients in the least deprived 20% of the population (Quintile 5). While socioeconomics have an impact across all therapy areas, the observation that deprivation is associated with higher rates of metastatic (secondary) cancer, despite an apparent lower burden of oncological disease, has implications in terms of health outcomes for patients in the most deprived 20% of the population.

Percentage Type 2 Diabetes Registrations by IMD Quintile

(where 1 = most deprived, 5 = least deprived)

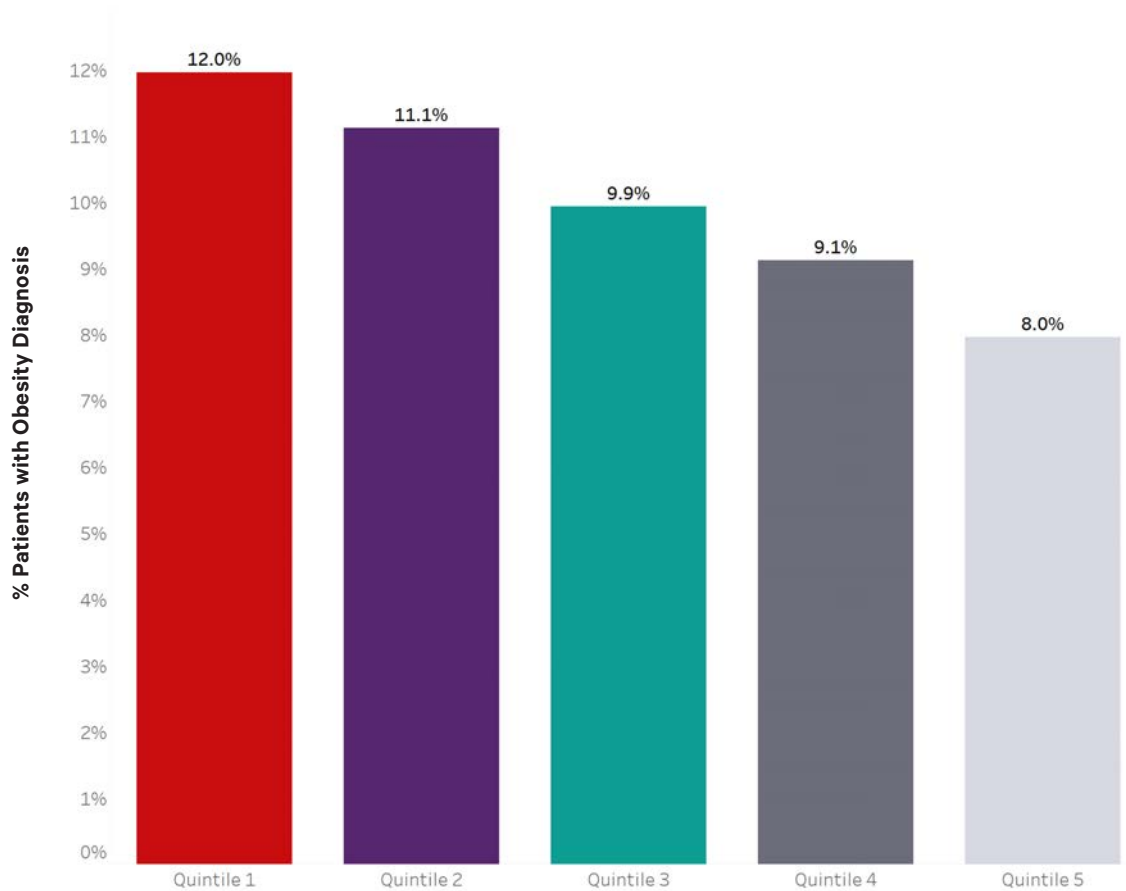


Deprivation is associated with higher rates of metabolic disease

Better management of lifestyle-related disorders such as type 2 diabetes is central to the health service's efforts to manage the health of its population, given the long-term implications of such conditions. Once more we see significant variation in the burden of disease across the socioeconomic spectrum, with more deprived populations associated with higher rates of type 2 diabetes than less deprived populations. Indeed, almost half of all type 2 patients on the national diabetes register come from the two most deprived population quintiles, highlighting once more the role of inequality in driving up disease burden and long-term health outcomes, and the importance of key strategic initiatives such as Core20PLUS5 in overcoming such disparity.

Obesity Prevalence by IMD Quintile Inpatient, 2022/23

(where 1 = most deprived, 5 = least deprived)

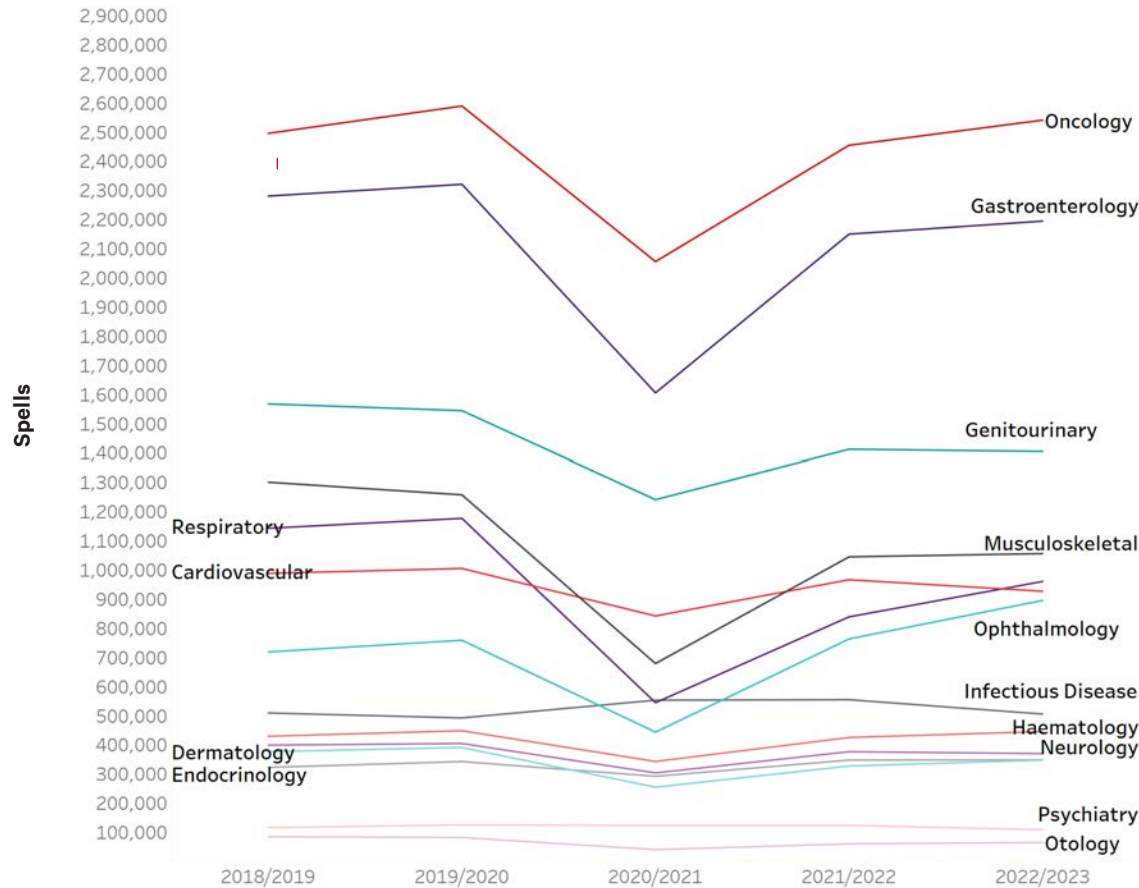


Obesity rates in secondary care are highest in patients from deprived areas

Observed variation in secondary care outcomes and burden of disease such as type 2 diabetes across patients of different socioeconomic backgrounds can be attributed to a wide range of factors. One such indicator is prevalence of obesity, given that obesity, like smoking and alcohol consumption, can have wide ranging consequences on health. Analysing the patient population in admitted patient care by the presence of an obesity diagnosis (ICD-10: E66) reveals a strong correlation between deprivation and rates of obesity, with patients in Quintile 1 (20% most deprived nationally) exhibiting higher rates of obesity (12.0% of patients) than the 20% least deprived patients (8.0% of patients). Indeed, there is a linear relationship between obesity diagnosis rates in secondary care and deprivation quintile. Economic concerns such as the cost of living crisis threaten to drive up this disparity further, as food insecurity is a risk factor strongly associated with obesity rates owing to poor quality diets.

3. Therapy Area Analysis

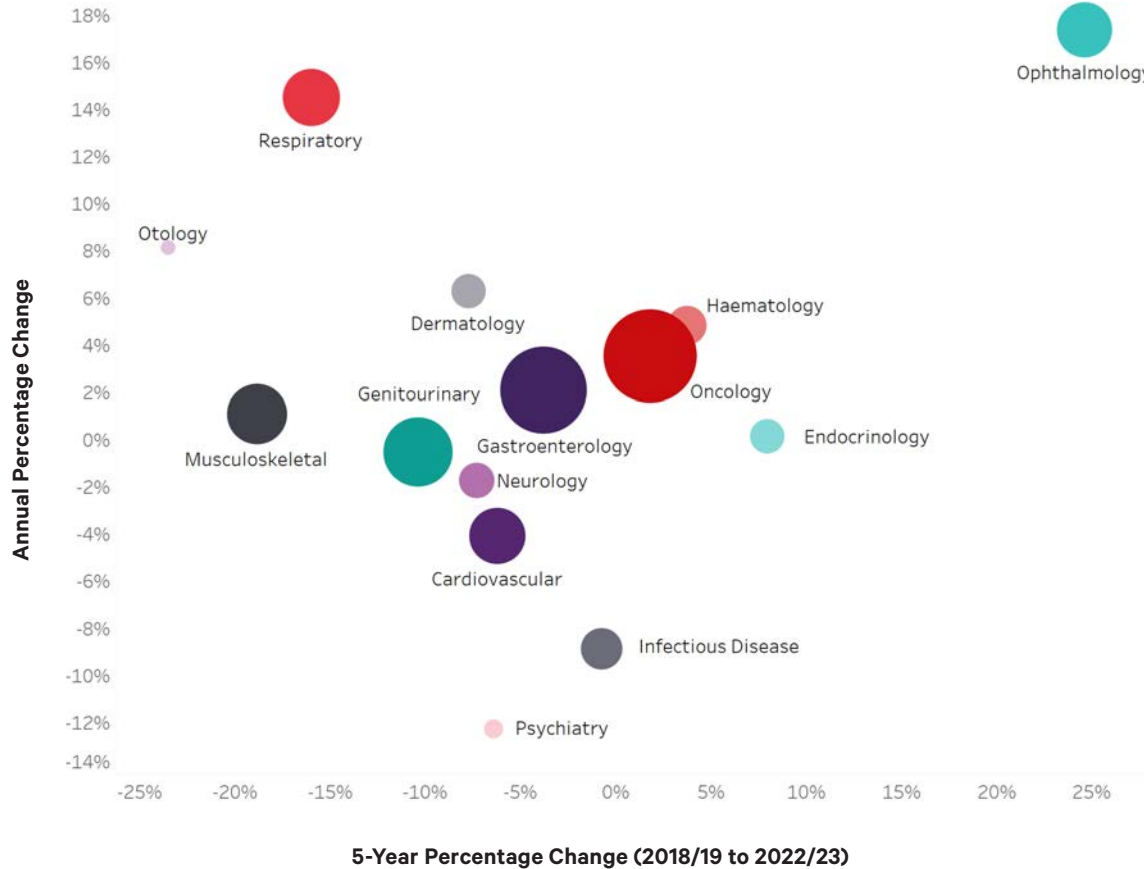
Therapy Area (ICD-10 Chapter) Trend Analysis, 2018/19 to 2022/23



Inpatient activity returns to near pre-pandemic levels across most therapy areas

With barriers to secondary care largely lifted, inpatient admissions have climbed back up to near pre-pandemic levels across most therapy areas when viewing admissions by primary diagnosis, having witnessed an incidental drop in 2020/21 due to the COVID-19 pandemic. The largest drops in admissions in 2020/21 were seen across oncology, gastroenterology, musculoskeletal and respiratory, while admissions in genitourinary and cardiovascular fell but not as sharply. Most areas have since recovered although cardiovascular and genitourinary admissions have fallen in the latest financial year. Admissions with primary diagnoses in oncology and gastroenterology make up the largest volume of inpatient activity with more than 2 million admissions.

Therapy Area (ICD-10 Chapter) Change Analysis, Inpatient, 2018/19 to 2022/23

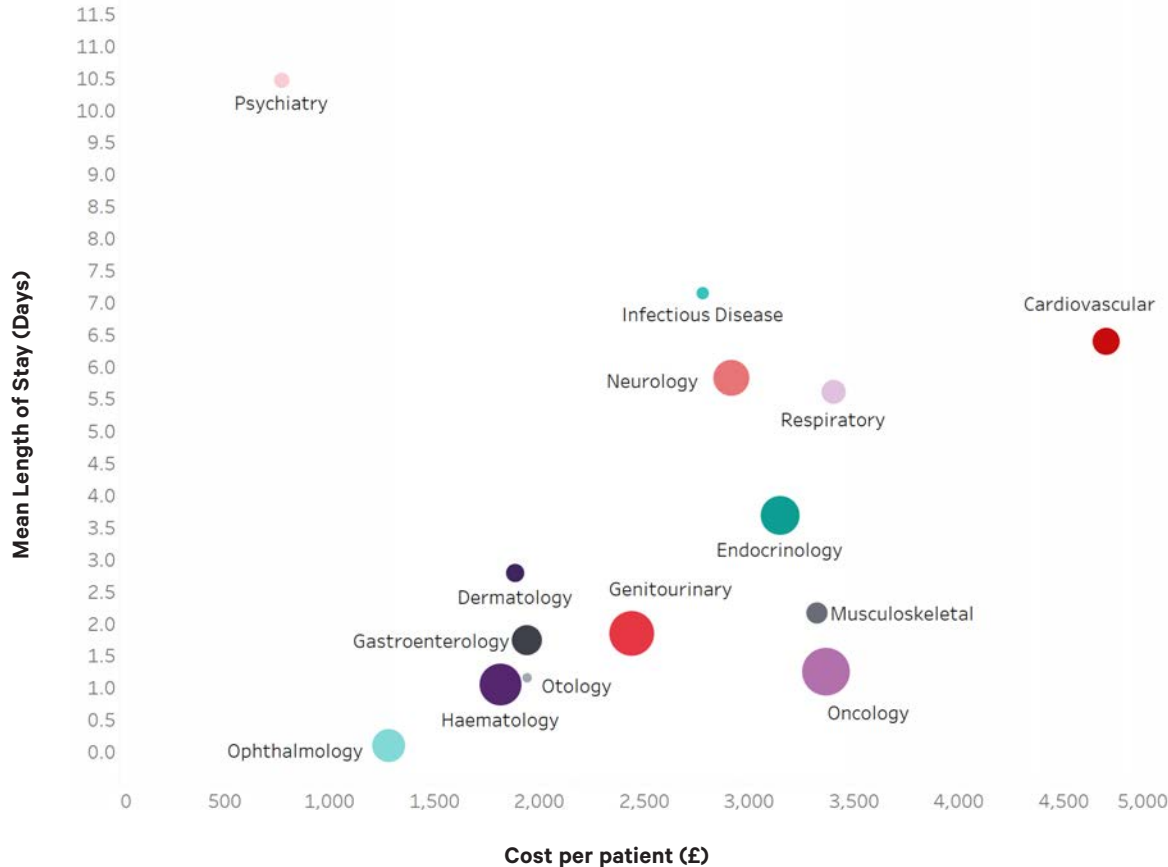


*bubble size denotes number of spells

Negative five-year growth across many therapy areas despite an uplift in admissions post-pandemic

Although a post-pandemic recovery has been seen across secondary care, admissions across a large number of therapy areas remain below their historic levels in 2018/19. Only ophthalmology (+25%), haematology (+4%), oncology (+2%) and endocrinology (+8%) have positive five-year percentage growth to this end, while admissions for all other therapy areas have seen a decline over this same five-year period from 2018/19 to 2022/23. In terms of the latest financial year, the largest annual percentage increases in admissions have been in ophthalmology (+17%), respiratory (+14%), otology (+8%), dermatology (+6%) and haematology (+5%), among others. Conversely, spells have fallen for admission relating to psychiatry (-12%), infectious disease (-9%), cardiovascular (-4%), neurology (-2%) and genitourinary (-1%) in the latest financial year.

Therapy Area (ICD-10 Chapter) Benchmark Analysis, Inpatient, 2022/23

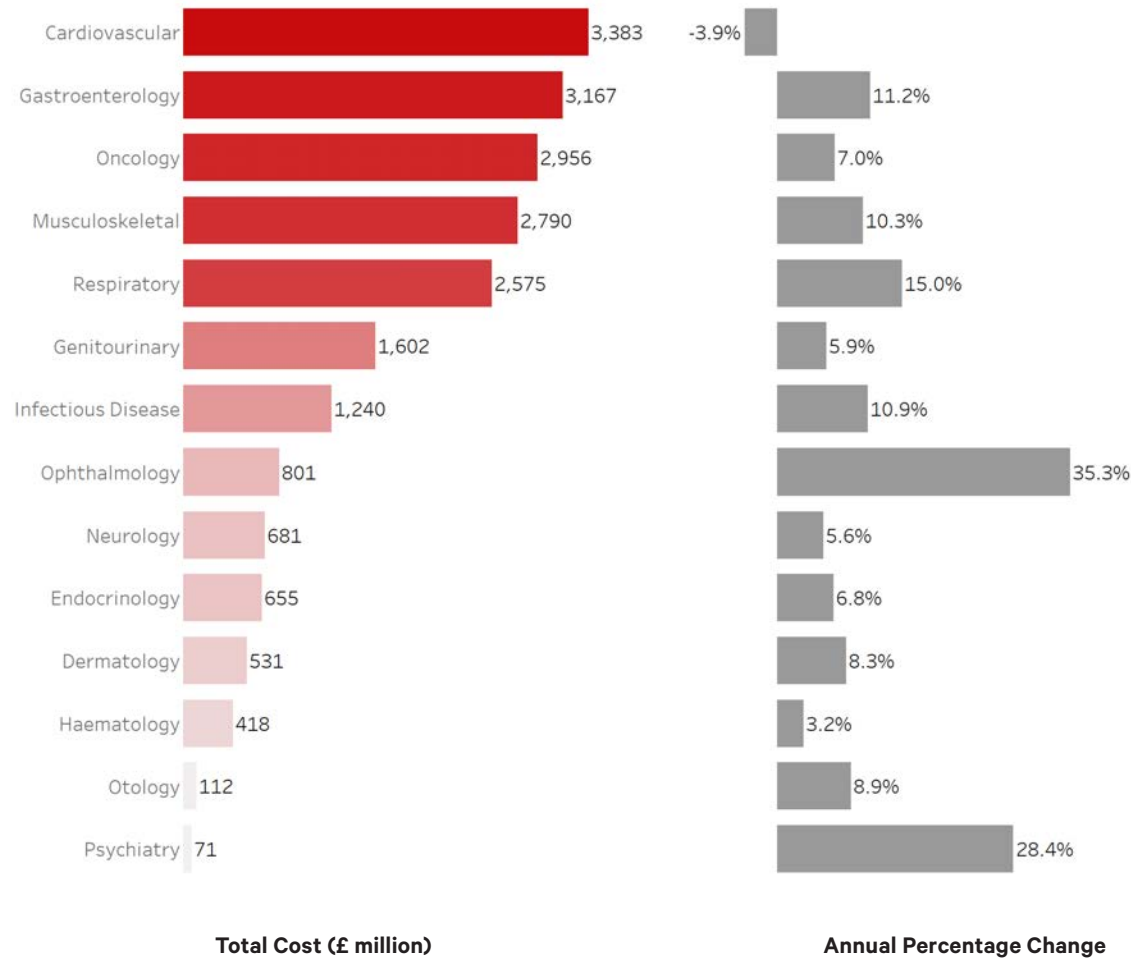


*bubble size denotes spells per patient

Cardiovascular admissions incur the highest costs on a per patient basis

There is considerable variation in resource utilisation outcome metrics such as mean length of stay and cost per patient when viewing admissions by primary diagnosis. In 2022/23, admissions for cardiovascular (CV) disease incurred the highest costs on a per patient basis (£4,702) by some margin, highlighting the complexity of managing patients with CV-related conditions. CV patients also incurred long hospital stays (6.4 days), with psychiatry (10.5 days), infectious disease (7.1 days), neurology (5.8 days) and respiratory (5.6 days) also resulting in lengthy spells in hospital on average. Oncology has the highest frequency of admissions per patient (2.9 spells per patient) as patients are often admitted as day case patients for treatment such as chemotherapy and radiotherapy.

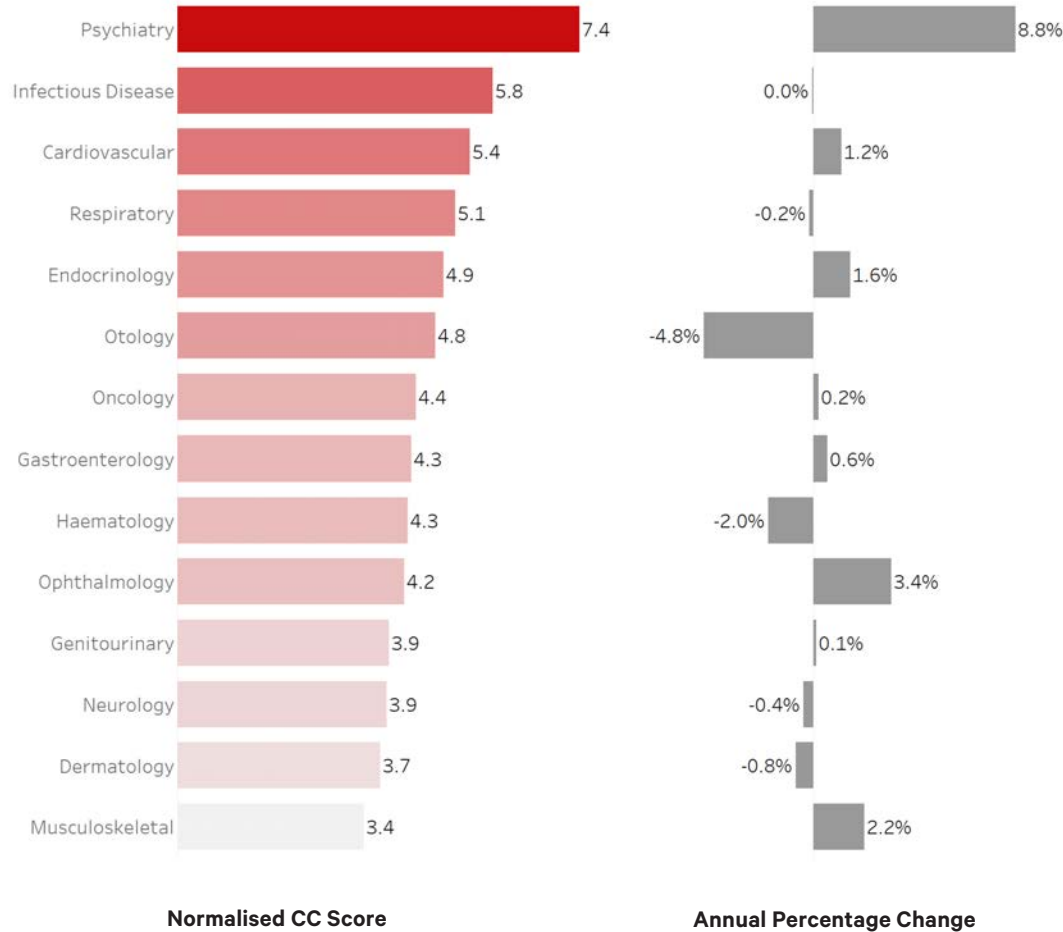
Therapy Area (ICD-10 Chapter) Cost Analysis, Inpatient, 2022/23



Costs continue to rise across most therapy areas in line with continued service recovery

In terms of costs generated through admitted patient care, there were five areas in 2022/23 that each accounted for spend of more than £2 billion. The largest areas of spend in acute trust care was in cardiovascular admissions, accounting for costs of £3.4 billion and representing a slight 3.9% decrease on the previous year. The other largest areas of spend, namely gastroenterology (+11.2%), oncology (+7.0%), musculoskeletal (+10.3%) and respiratory (+15.0%) all saw annual percentage increases in spend in the latest financial year however. The largest single increase in cost in the latest financial year came in ophthalmology, which saw costs increase by over a third compared to the previous year, a likely consequence of the significant effort to reduce the ophthalmology backlog and subsequent uplift in activity.

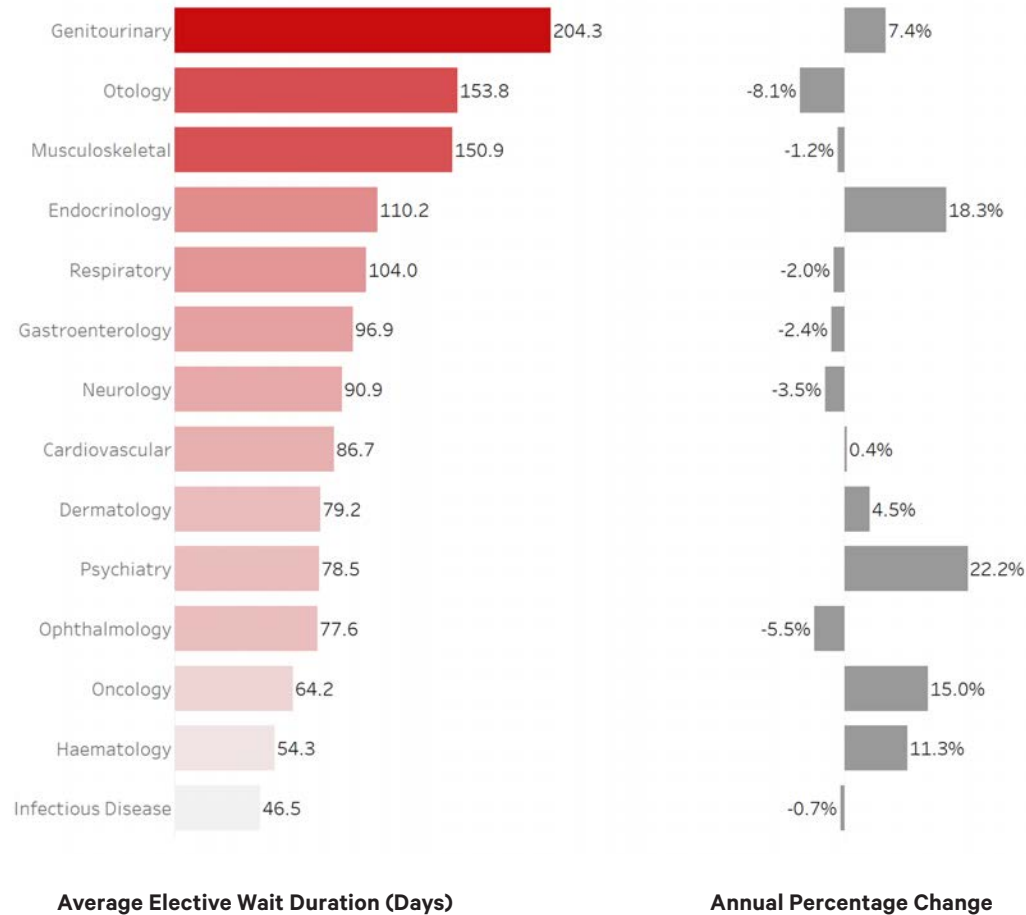
Average Normalised Complication and Comorbidity (CC) Score by Therapy Area (ICD-10 Chapter), Inpatient, 2022/23



Average CC scores were mostly flat in 2022/23

In the pandemic year 2020/21, barriers to secondary care meant admissions were associated with more comorbid and complex patients. However with services returned to relative normality, CC scores, which are ultimately a measure of clinical complexity and confer the level of reimbursement for inpatient activity, have been largely flat in the latest financial year across most therapy areas, the exception being in psychiatry which saw CC scores increase by 8.8%.

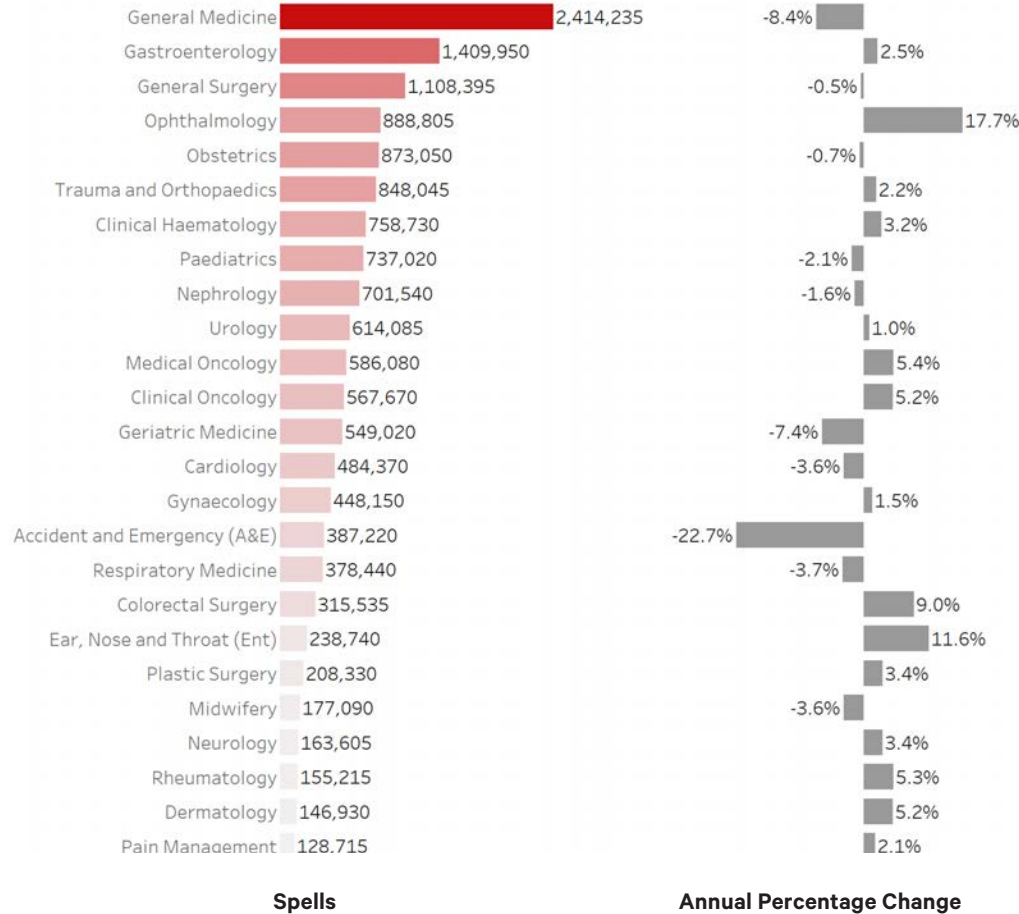
Average Elective Wait Duration (Days) by Therapy Area (ICD-10 Chapter), Inpatient, 2022/23



Elective wait times for admitted patients increase in several therapy areas

The impact of the COVID-19 pandemic on patient backlogs is well understood, and here we can view this in terms of average elective wait times by therapy area. With the recovery of elective activity in place, the impact of the pandemic is still being felt across admissions in a number of therapy areas. Genitourinary elective care had the longest wait times in 2022/23 at more than 200 days and an increase of 7.4% on the previous year. Increases in average elective wait times were also seen in endocrinology (+18.3%), psychiatry (+22.2%), dermatology (+4.5%), oncology (+15.0%), haematology (+11.3%) and cardiovascular (+0.4%).

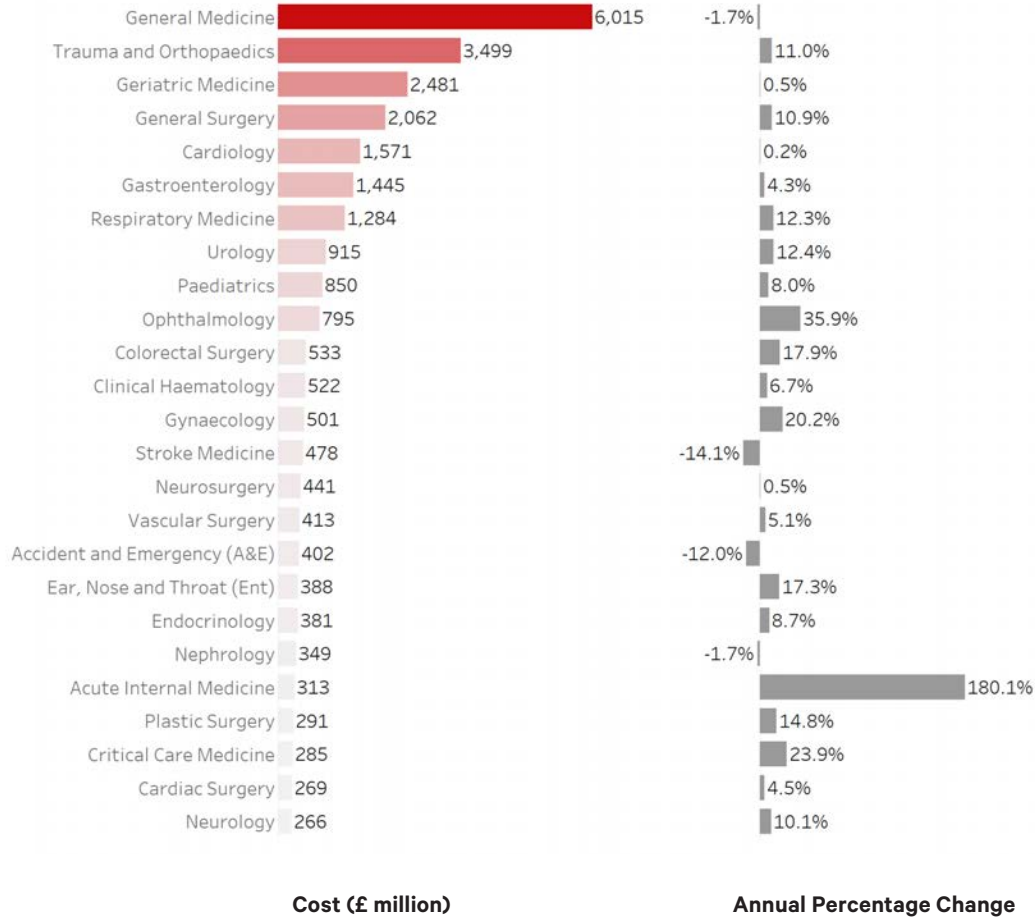
Spells, Top 25 Inpatient Treatment Specialties, 2022/23



Admissions higher across most major treatment specialties

Analysis of inpatient admissions by specialty rather than primary diagnosis also helps to understand those areas within secondary care experiencing significant volumes of admissions. General medicine, gastroenterology, general surgery and ophthalmology were the largest specialties in terms of admissions in 2022/23, with only ophthalmology seeing a significant double-digit annual percentage increase out of these major areas in the latest financial year – in contrast, general medicine admissions fell 8.4% over this period. Most other specialties were relatively flat in 2022/23, with more notable increases in admissions in colorectal surgery (+9.0%), ENT (+11.6%), medical oncology (+5.4%), clinical oncology (+5.2%), rheumatology (+5.3%) and dermatology (+5.2%).

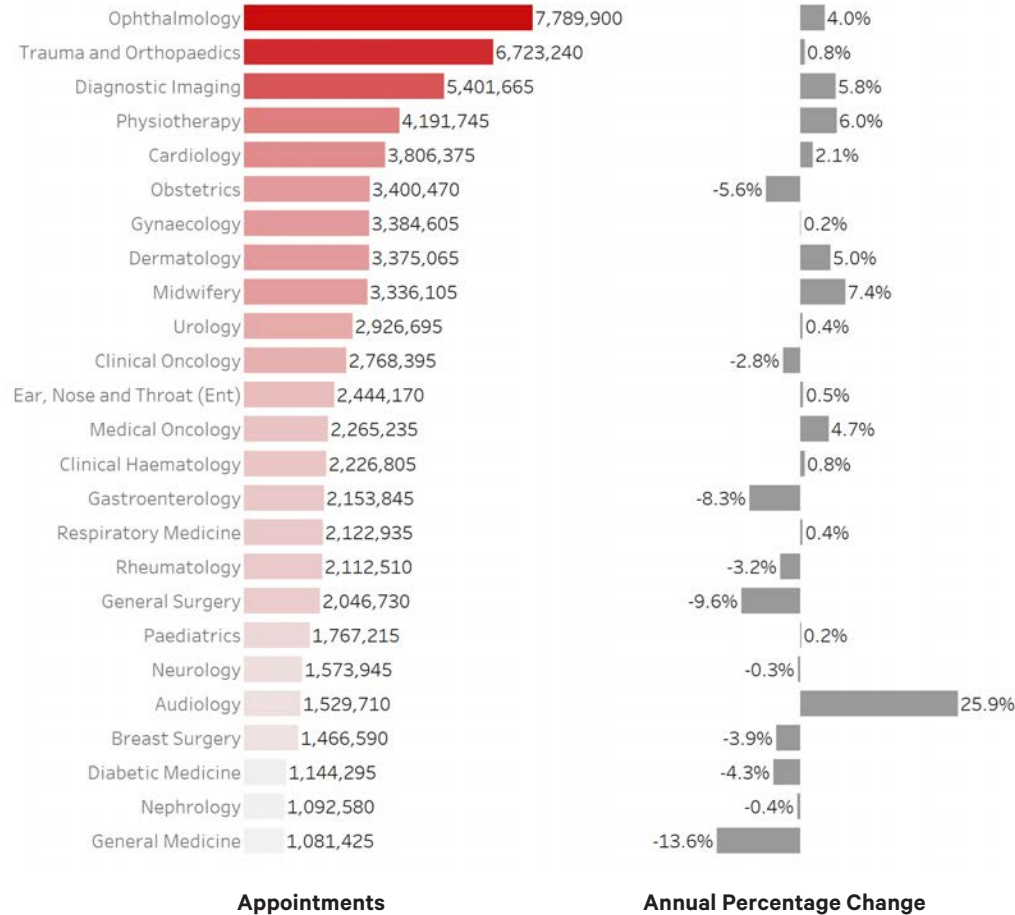
Cost, Top 25 Inpatient Treatment Specialties, 2022/23



General medicine incurred the highest spend in admitted patient care in 2022/23

The single largest specialty in terms of costs in 2022/23 was general medicine at over £6 billion, despite a slight percentage decrease compared to the previous year. Trauma and orthopaedics represented the second largest area in terms of cost at around £3.5 billion in 2022/23, with a double digit increase of 11.0% compared to the previous year. There was double digit growth in costs across a number of other areas too, such as general surgery (+10.9%), respiratory medicine (+12.3%), urology (+12.4%), ophthalmology (+35.9%), colorectal surgery (+17.9%), among others. Stroke medicine (-14.1%) and A&E (-12.0%) saw the largest drops in inpatient costs in 2022/23 incidentally.

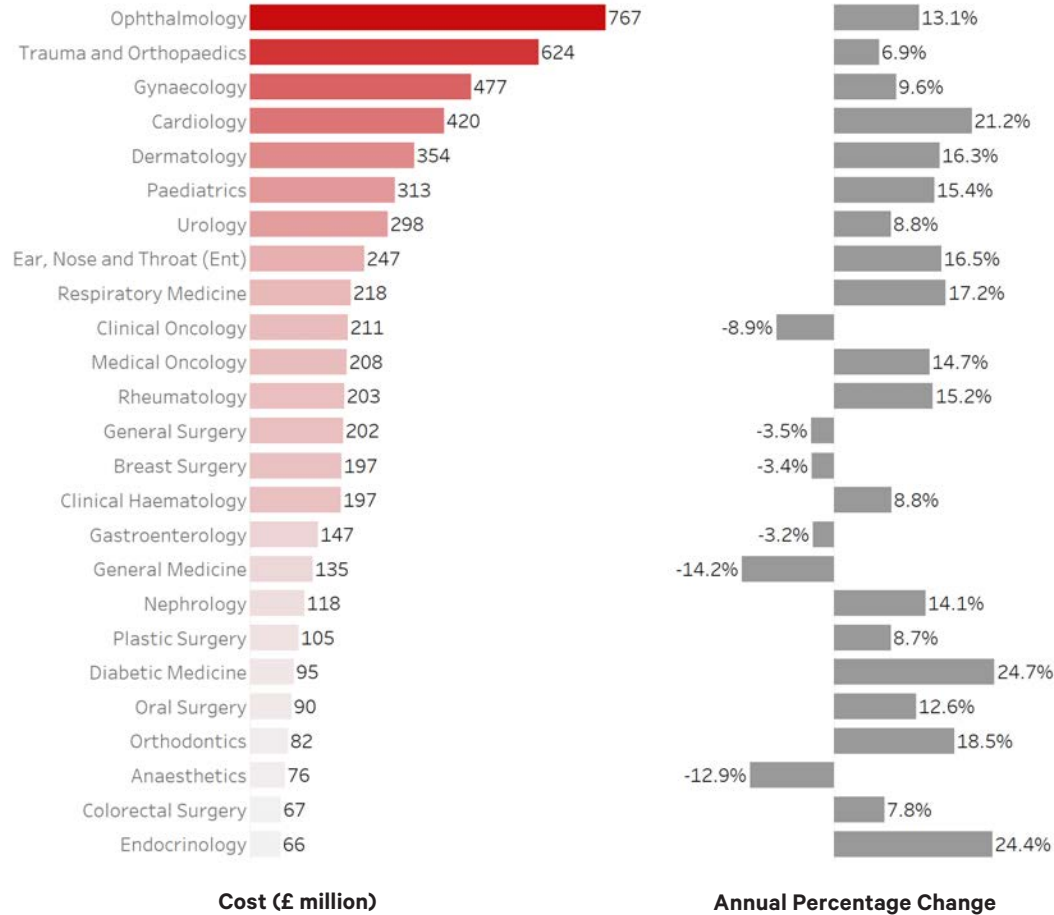
Appointments, Top 25 Outpatient Treatment Specialties, 2022/23



Small single digit increases in activity across most major treatment specialties

There were single-digit increases in activity across most outpatient specialties in 2022/23 as secondary care services continue to make their recovery following the COVID-19 pandemic. The largest specialties in terms of outpatient activity are ophthalmology (+4.0%), trauma and orthopaedics (+0.8%), diagnostic imaging (+5.8%), physiotherapy (+6.0%) and cardiology (+2.1%), all of which saw a modest increase in activity year-on-year. There were a number of declines in outpatient appointments by specialty also, with obstetrics (-5.6%), clinical oncology (-2.8%), gastroenterology (-8.3%), rheumatology (-3.2%), general surgery (-9.6%) and general medicine (-13.6%) among those areas seeing a fall in activity.

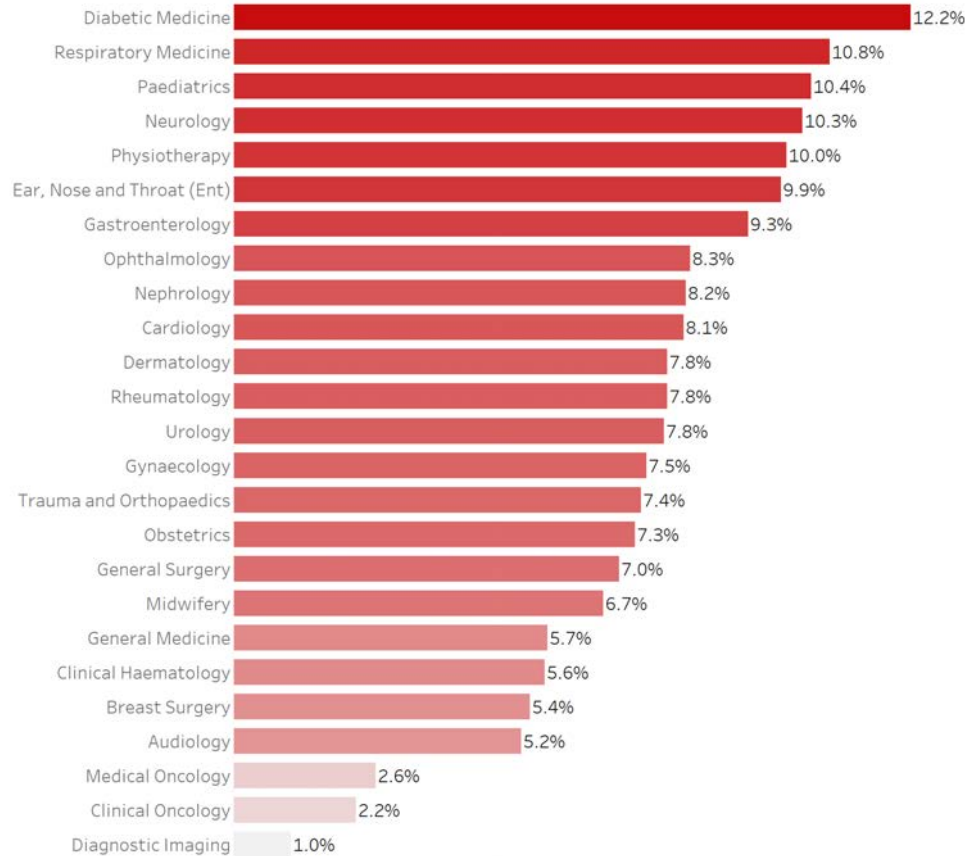
Cost, Top 25 Outpatient Treatment Specialties, 2022/23



Outpatient costs rise across major specialties in 2022/23

There were annual cost increases in the largest areas of spend across outpatient services in the latest financial year as referrals and outpatient activity continued to grow. Those areas which incurred the largest costs in 2022/23, namely ophthalmology (+13.1%), trauma and orthopaedics (+6.9%), gynaecology (+9.6%), cardiology (+21.2%), dermatology (+16.3%) and paediatrics (+15.4%), among others, all saw an increase in spend commensurate with the recovery of secondary care performance. The largest increases in spend came in diabetic medicine and endocrinology, perhaps illustrating increased referrals for patients with diabetes, or suspected diabetes.

Did Not Attend (DNA) rates (%), Top 25 Treatment Specialties by Appointments, Outpatient, 2022/23

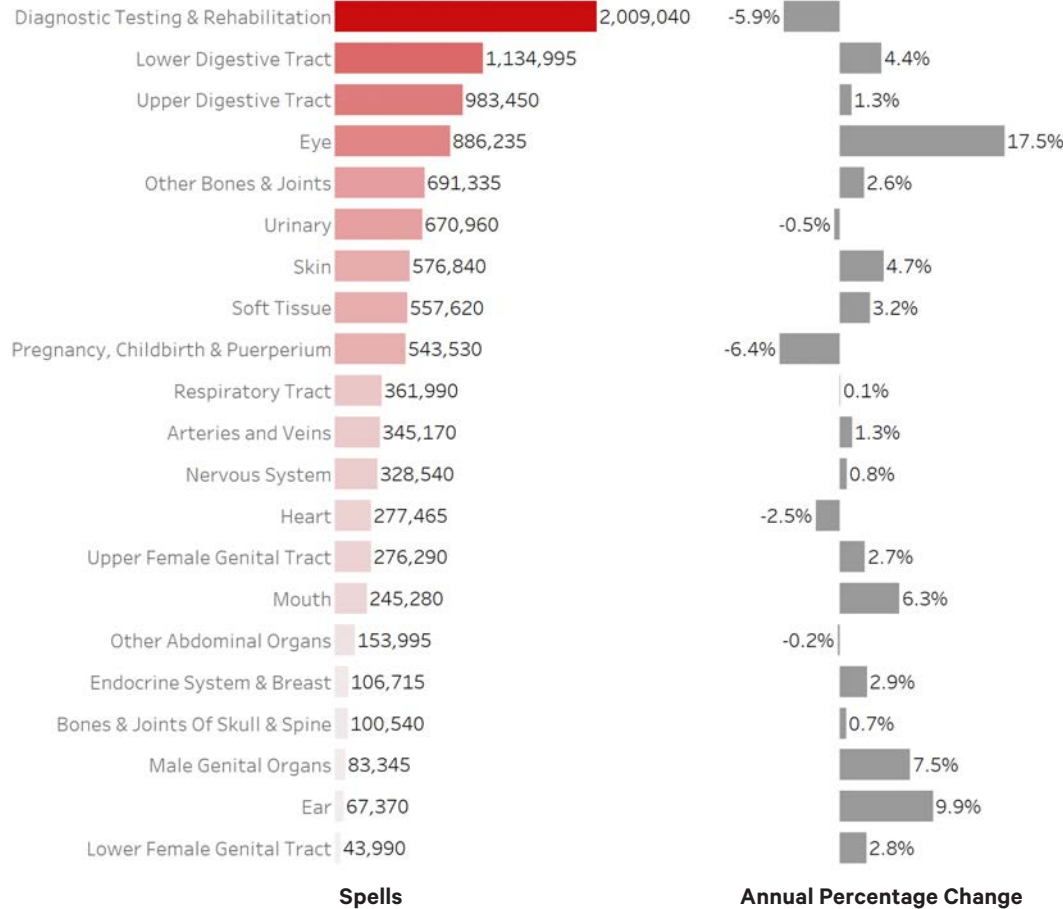


Did Not Attend Rates (%)

Did not attend (DNA) rates exceed 10% across some major outpatient specialties

There is considerable variation in the percentage of appointments resulting in a did not attend (DNA) across the top 25 treatment specialties in outpatient care. The national DNA rate across all outpatient activity was 7.7% in 2022/23, so any specialty with a DNA rate above this can be considered to have lower than average attendance rates. The largest deviations from the average were seen in diabetic medicine, respiratory medicine, paediatrics, neurology and physiotherapy, all of which had a 10% or higher DNA rate. Conversely, diagnostic imaging, clinical oncology and medical oncology had lowest DNA rates amongst major specialties by some margin. Those areas with high DNA rates should seek to address poor attendance to improve efficiency across the health service and minimise the impact of missed appointments on patient outcomes.

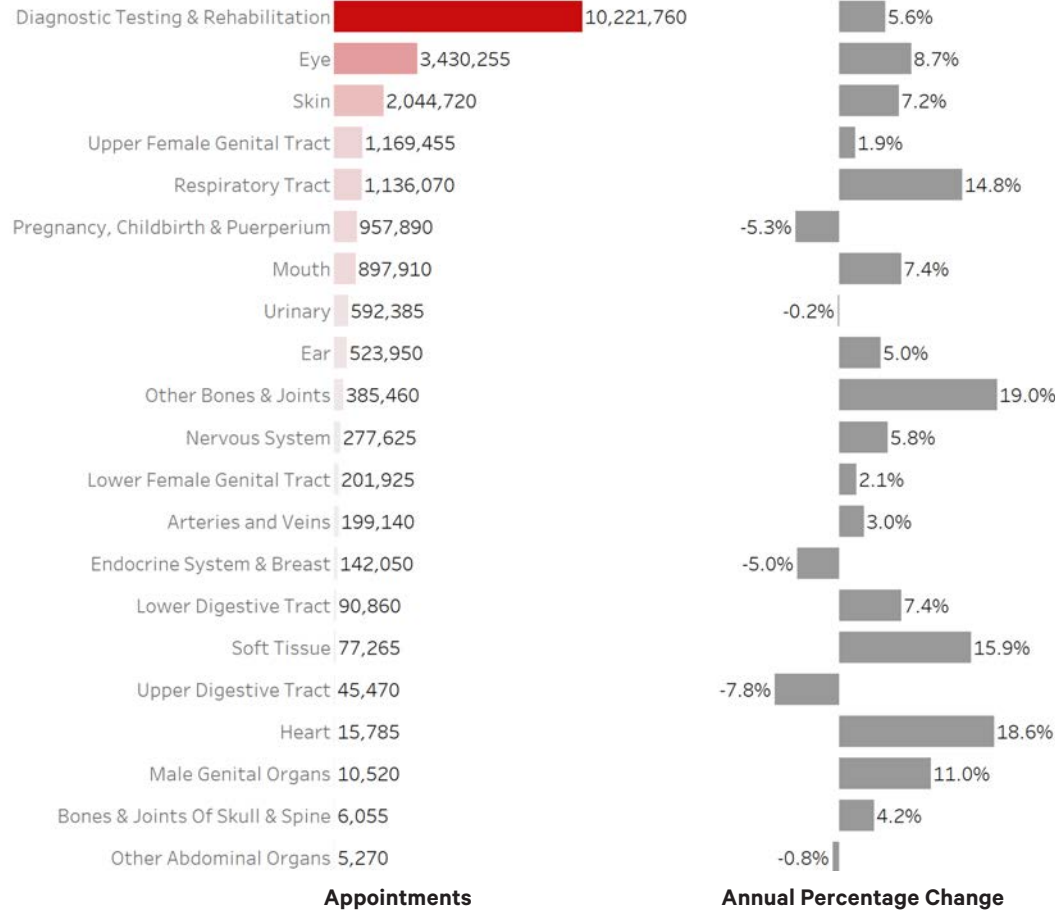
Spells, Inpatient Procedures by OPCS Chapter, 2022/23



Inpatient procedural activity slows following sharp post-pandemic recovery

Having recovered sharply in the 2021/22, inpatient procedural activity has slowed down in the latest financial year, with single digit changes in activity seen across most areas. Only ophthalmic procedures saw a large increase in activity in 2022/23, with an increase in spells of 17.5%. Admissions involving the other major procedural categories, namely lower and upper digestive tract, other bones and joints and urinary were relatively flat by comparison.

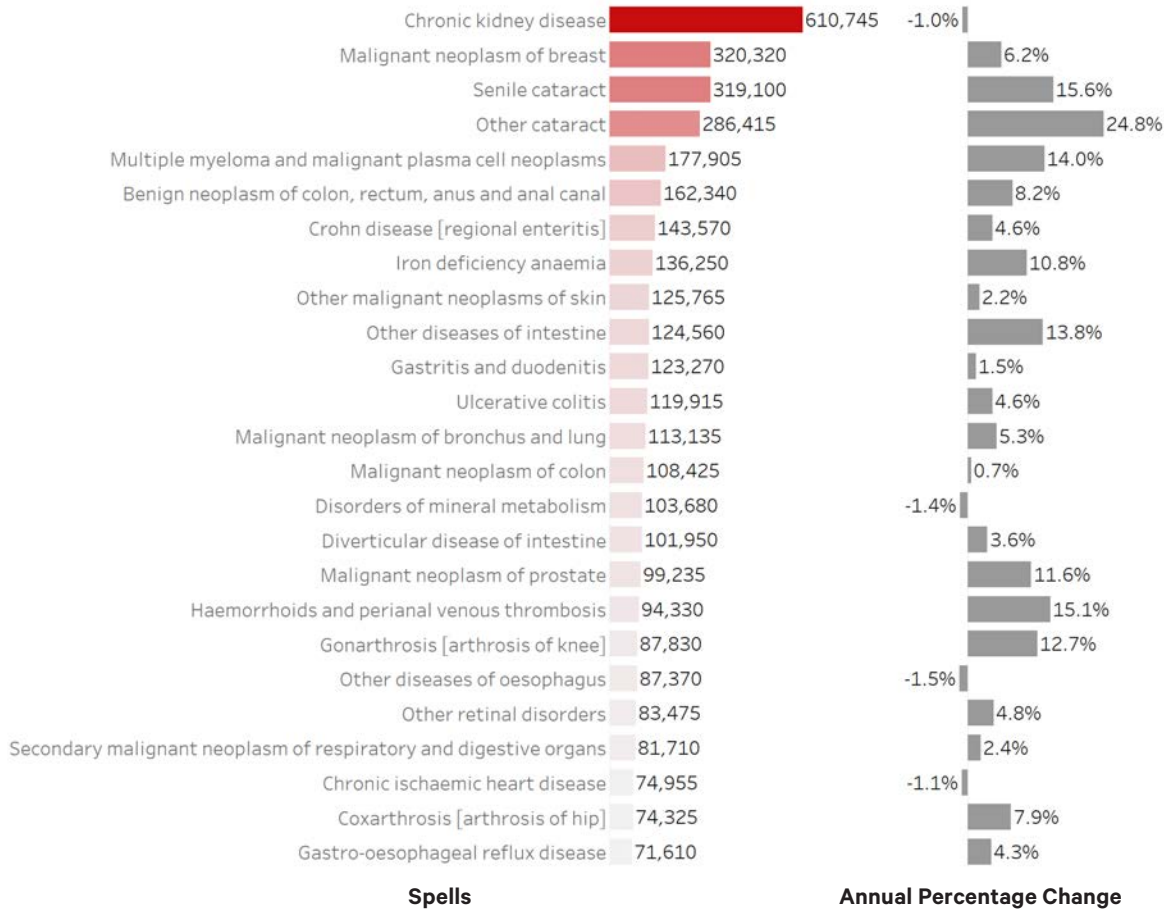
Appointments, Outpatient Procedures by OPCS Chapter, 2022/23



Outpatient procedures continue showing strong signs of recovery

The recovery of outpatient services continued through 2022/23, with most procedural areas seeing at least single digit growth in the latest financial year. Diagnostic testing, which makes up the largest area in outpatient at over 10 million appointments, was up more than 5%, while ophthalmic and dermatological procedure appointments were up 8.7% and 7.2%, respectively. Some of the largest increases were seen in respiratory tract (+14.8%), other bones and joints (+19.0%) and heart (18.6%).

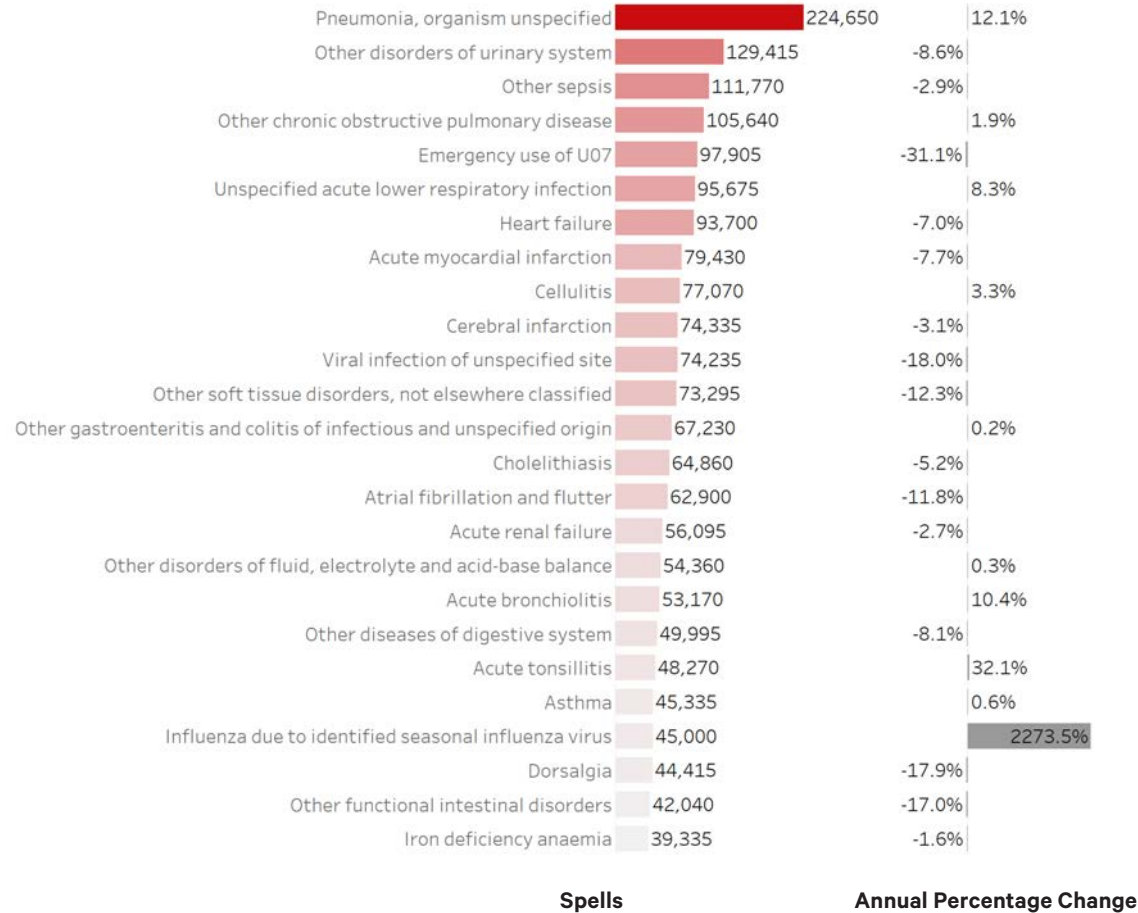
Elective Spells, Primary Diagnosis by ICD-10 Code, 2022/23



Chronic kidney disease comprises the largest number of elective admissions

We can view elective inpatient activity by primary diagnosis to understand the therapeutic indications that have the biggest burden on elective care across acute trusts. In terms of volumes of admissions, by far the largest indication was chronic kidney disease with more than six hundred thousand spells in 2022/23, a large proportion of which would be for treatments such as haemodialysis. Other diagnoses with a large volume of elective admissions include breast cancer, cataracts, multiple myeloma, benign colorectal neoplasms and Crohn's disease. There was double digit growth in elective admissions for a wide range of conditions in the latest financial year, highlighting the continued recovery of services and possible knock-on effect of the backlog that formed following the incidental impact of the COVID-19 pandemic.

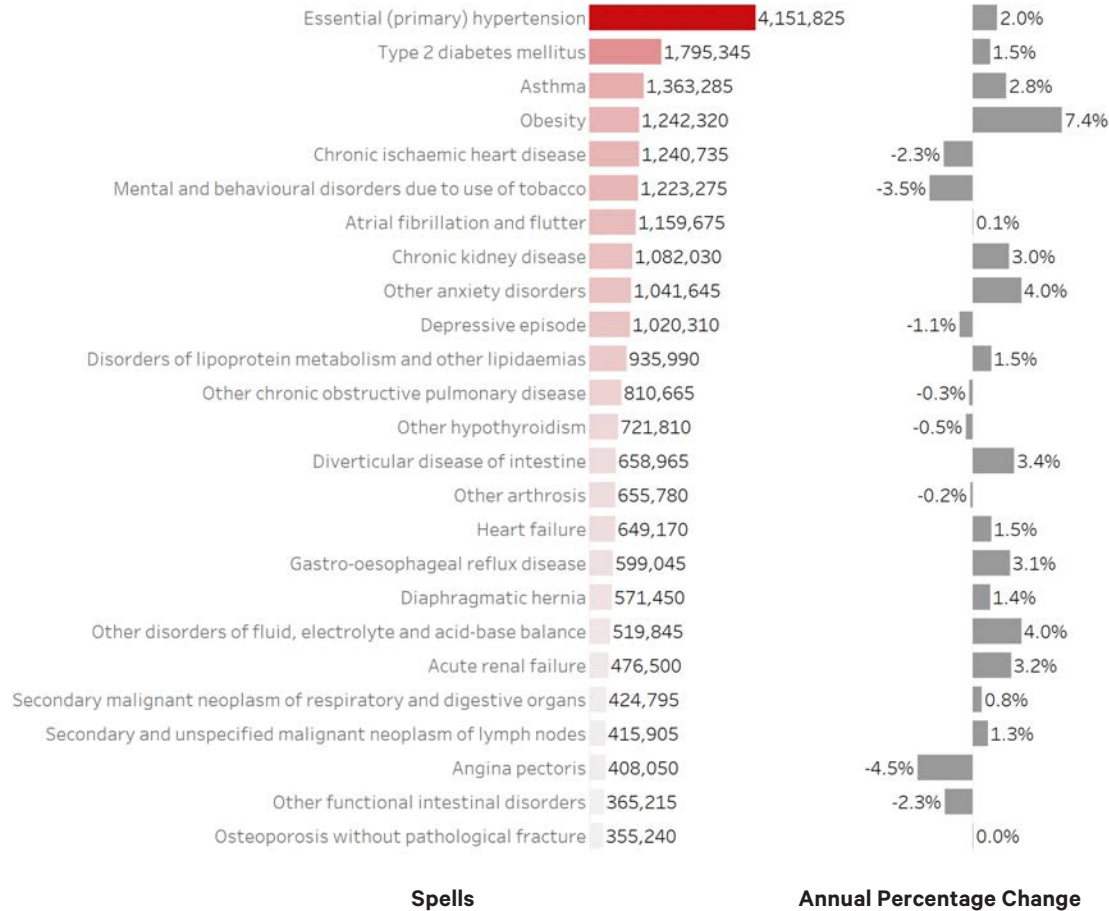
Non-Elective Spells, Primary Diagnosis by ICD-10 Code, 2022/23



Pneumonia was the biggest source of non-elective admissions in 2022/23

Viewing non-elective inpatient admissions by primary diagnosis provides a view of those acute conditions that put the biggest strain on inpatient services and secondary care resources as a whole. Acute infections, such as pneumonia, urinary tract infections, sepsis, COVID-19 (U07) and other respiratory conditions were the largest source of non-elective admissions in the latest financial year, followed by acute cardiovascular events such as heart failure, acute myocardial infarction and cerebral infarction. Although there was a double digit increase in pneumonia admissions, some conditions saw admissions fall in the latest financial year, most notably a more than 30% reduction in COVID-19 admissions. The largest single increase in admissions could be attributed to influenza and by some margin, with a more than 2000% increase in admissions in 2022/23. This is likely a consequence of a return to relative normality with the flu season having previously been curtailed by measures put in place to help curb the spread of COVID-19.

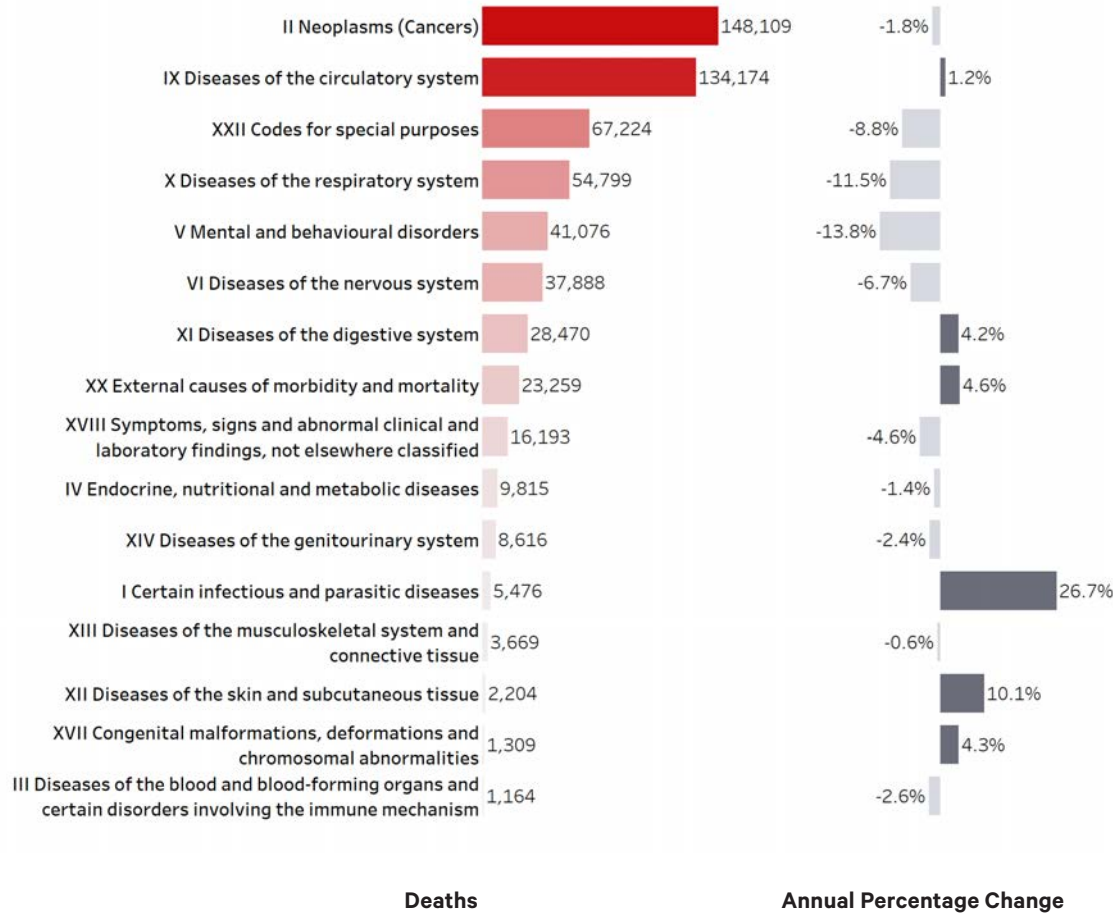
Spells, Secondary Diagnosis by ICD-10 Code, 2022/23



Hypertension is the most commonly coded comorbidity

Comorbidities and long-term conditions play a significant role in the health of the nation at large and viewing admissions data by secondary diagnosis helps to illustrate those long-term conditions that have a disproportionate impact on patients admitted to acute trusts. In terms of spells, the most commonly coded secondary diagnosis was hypertension, followed by type 2 diabetes, asthma, obesity and ischaemic heart disease. Spells with a secondary diagnosis of obesity saw the largest increase in the latest financial year, with 7.4% more spells coded with obesity than the previous year, thus illustrating the growing concerns around obesity and its impact on the health outcomes of the nation.

Mortality by underlying cause (ICD-10 Chapter) in England and Wales, 2021

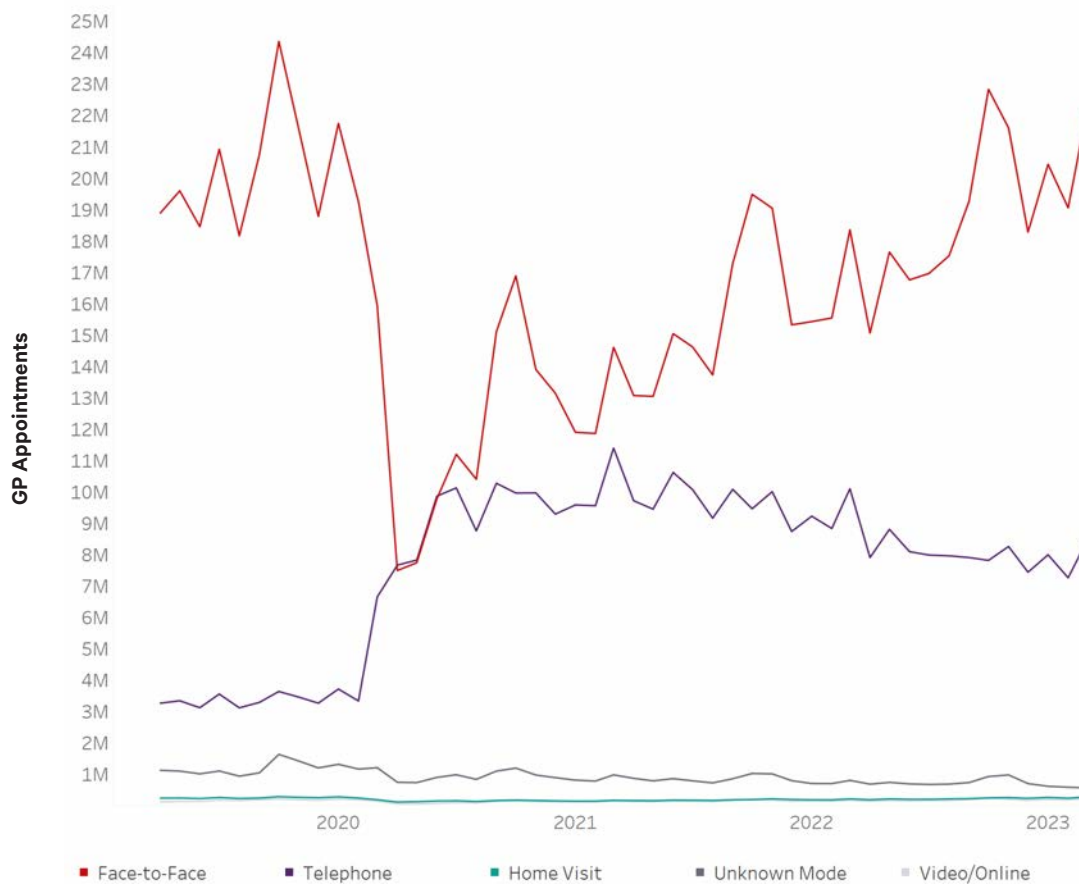


Oncology and cardiology remained the most common cause of death in 2021

The leading causes of mortality remained cancer and cardiovascular disease in 2021 across England and Wales. Despite reduced barriers to secondary care, oncological deaths were slightly lower in 2021 than the previous year, whereas cardiovascular deaths increased slightly. Deaths due to COVID-19 (codes for special purposes) remained high in 2021, though represented a decline of 8.8% on deaths due to COVID-19 recorded in 2020, as efforts to roll-out the COVID-19 vaccine took hold. There were also noteworthy drops in deaths due to respiratory (-11.5%), psychiatric (-13.8%) and nervous system (-6.7%) disorders in 2021.

4. Performance Indicator Analysis

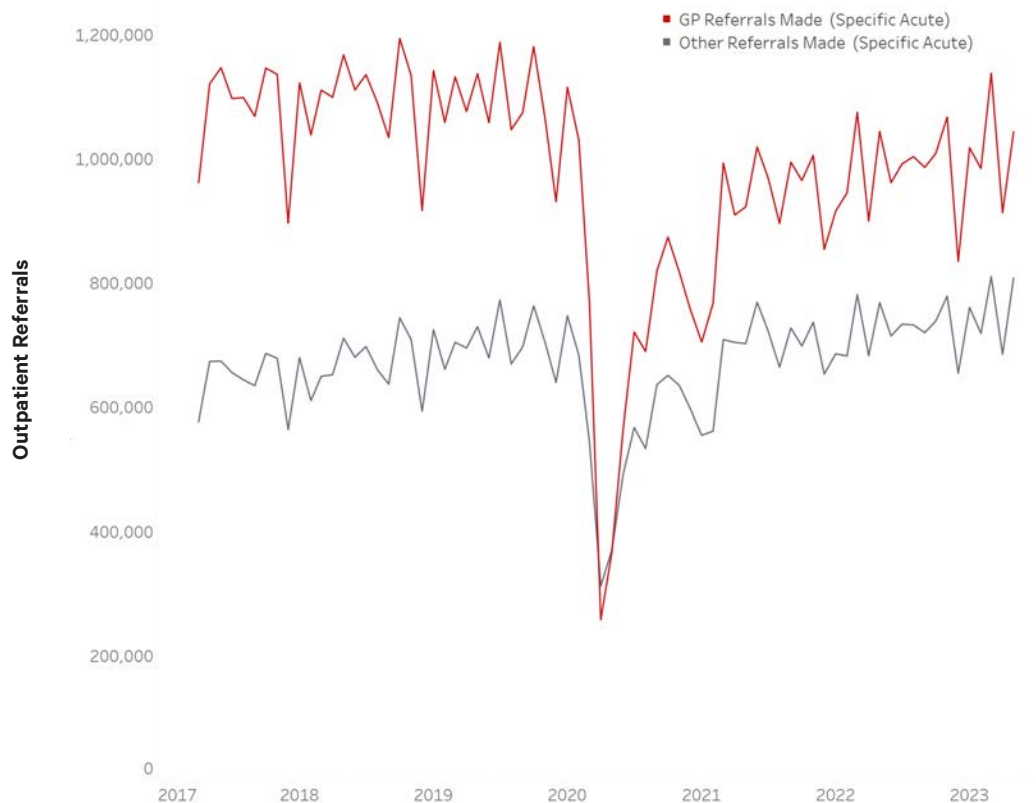
GP Appointments by Appointment Type, 2019/20 to 2022/23



Face-to-face GP appointments climb back steadily as telephone appointments here to stay

At the start of the COVID-19 pandemic, monthly face-to-face GP appointments fell by over 10 million as primary care was impacted by newly imposed restrictions on healthcare services. There was however an immediate rise in telephone appointments, which, having increased by almost 7 million per month in just a few months, have remained high ever since, despite the resumption of face-to-face GP services. Indeed, while the number of face-to-face GP appointments recorded at the end of this four-year period is now at its pre-pandemic level, telephone appointments remain at around 8 million per month. The average monthly volume of GP appointments for the last 12 months of this four-year period is almost three million appointments higher than the first 12 months of this period, illustrating higher engagement with primary care as the system compensates for the backlog, allied to the improved access to primary care associated with the availability of telephone appointments.

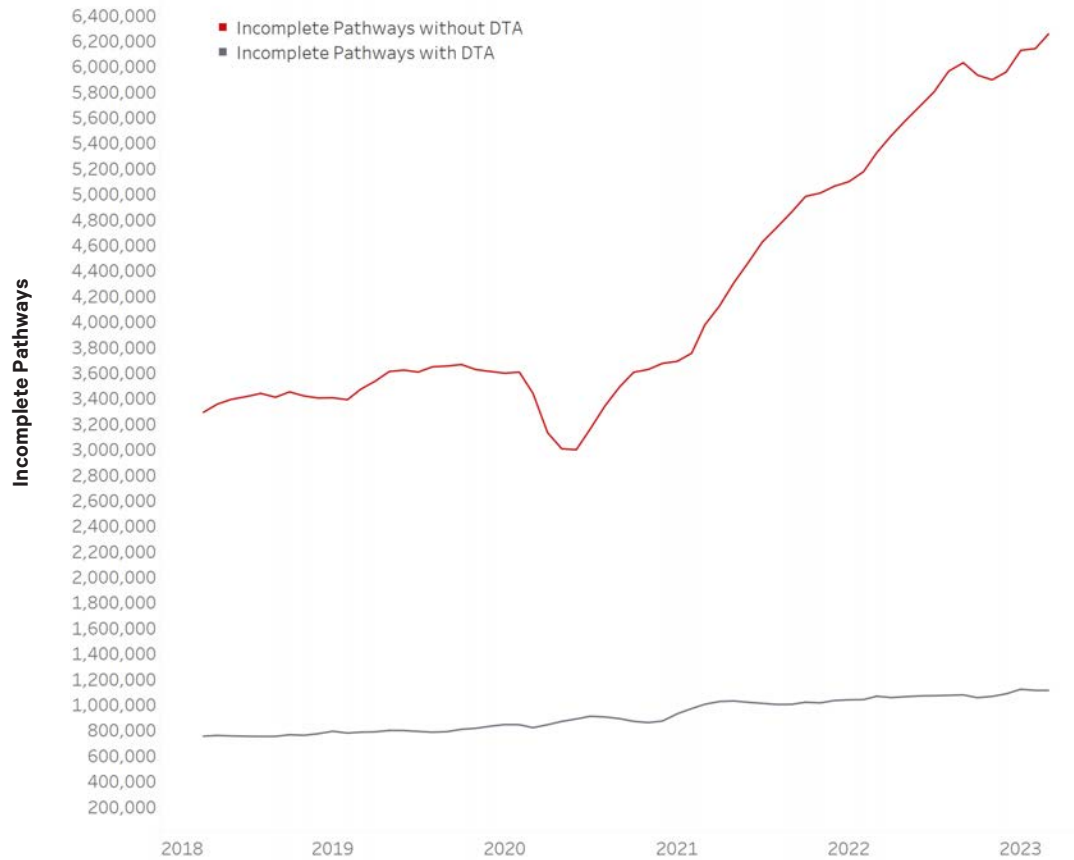
Monthly Referrals for First Consultant-Led Outpatient Appointments, April 2017 to May 2023



Average monthly referrals to secondary care return to pre-pandemic levels

Following a dramatic drop in referrals to outpatient at the height of the pandemic in April and May 2020, referrals to secondary care have since climbed back to their pre-pandemic levels. Outpatient referrals fell by around two thirds in April 2020 as restrictions to secondary care were imposed following the rise of COVID-19 admissions. With restrictions having eased, access to secondary care has since been restored, with outpatient referrals reaching pre-pandemic levels by around March 2021 at which time the first COVID-19 vaccine roll-out was shown to be successful. Despite this, monthly referrals from primary care (GP referrals) do remain slightly lower than their pre-pandemic average, with an average of 995,000 referrals in the twelve months to May 2023 compared to an average of 1.09 million monthly referrals in the twelve months to February 2020. Other referrals made are now higher than their pre-COVID-19 monthly average.

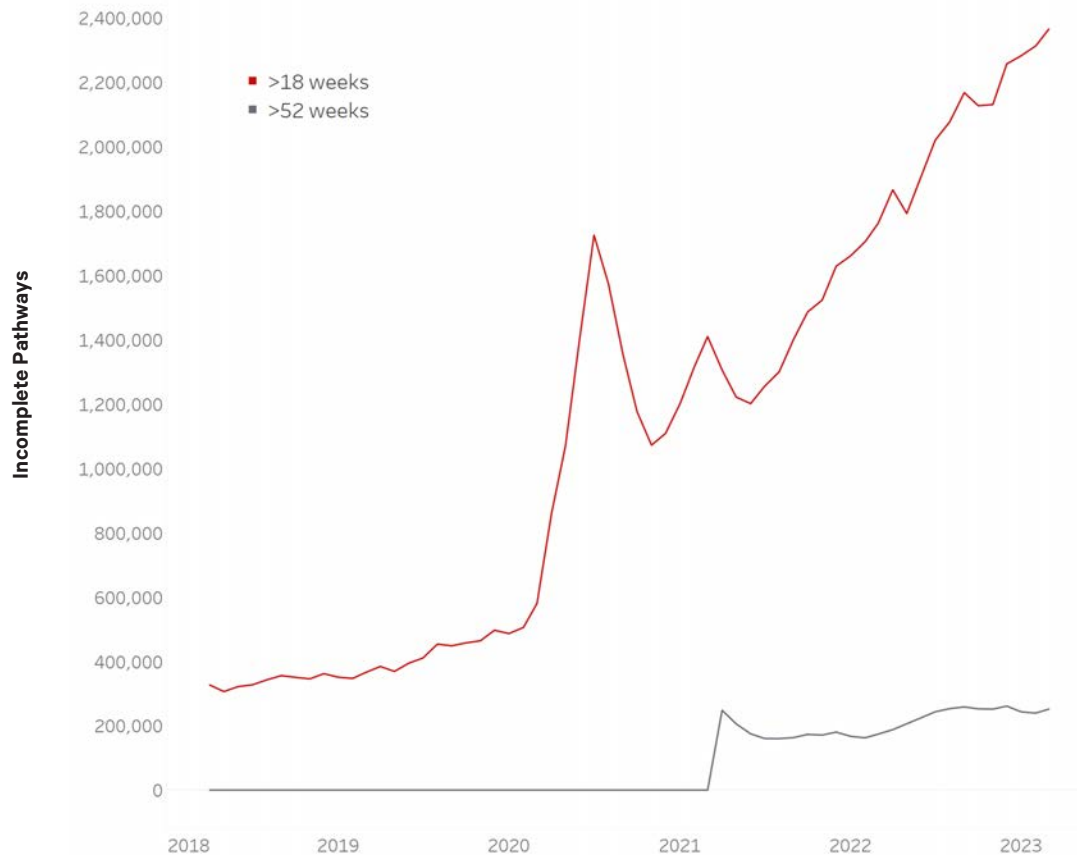
Incomplete Pathways by Admission Type, April 2018 to March 2023



Total incomplete pathways peak at over 7.3 million in March 2023

The number of people on the waiting list for consultant-led services in secondary care has increased dramatically in post-pandemic England. Total incomplete pathways peaked at over 7.3 million as of May 2023, a more than 70% increase compared to the pre-pandemic average. The largest increase in incomplete pathways has been in referrals without a decision to admit (DTA), up almost 80% compared to the monthly average prior to April 2020, while incomplete pathways for admitted patient care (i.e. with a decision to admit) have only increased by just over 40%. The backlog facing secondary care services in England represents a considerable challenge and will likely have a ripple effect across the healthcare system for years to come.

Incomplete Pathways >18 weeks and >52 weeks, April 2018 to March 2023



NHS England facing more than 2.3 million incomplete pathways >18 weeks

The number of referral to treatment pathways breaching the 18-week wait time standard has increased dramatically since the start of the COVID-19 pandemic. Prior to April 2020, there were an average of around 400,000 breaches of the 18-week standard per month. However, since the resumption of referrals, the number of breaches has risen to more than 2 million. This represents an increase of over 500% in incomplete pathways breaching the 18-week standard, a clear illustration of the continued struggle facing the health service to cope with the backlog. This is further illustrated by the sharp increase in incomplete pathways >52 weeks, which stood at more than 250,000 as of May 2023. Efforts to reduce the backlog and the number of waiting list breaches are critical as the health service seeks to recover from the impact of the COVID-19 pandemic and minimise the impact of long waits on the health outcomes of the nation.

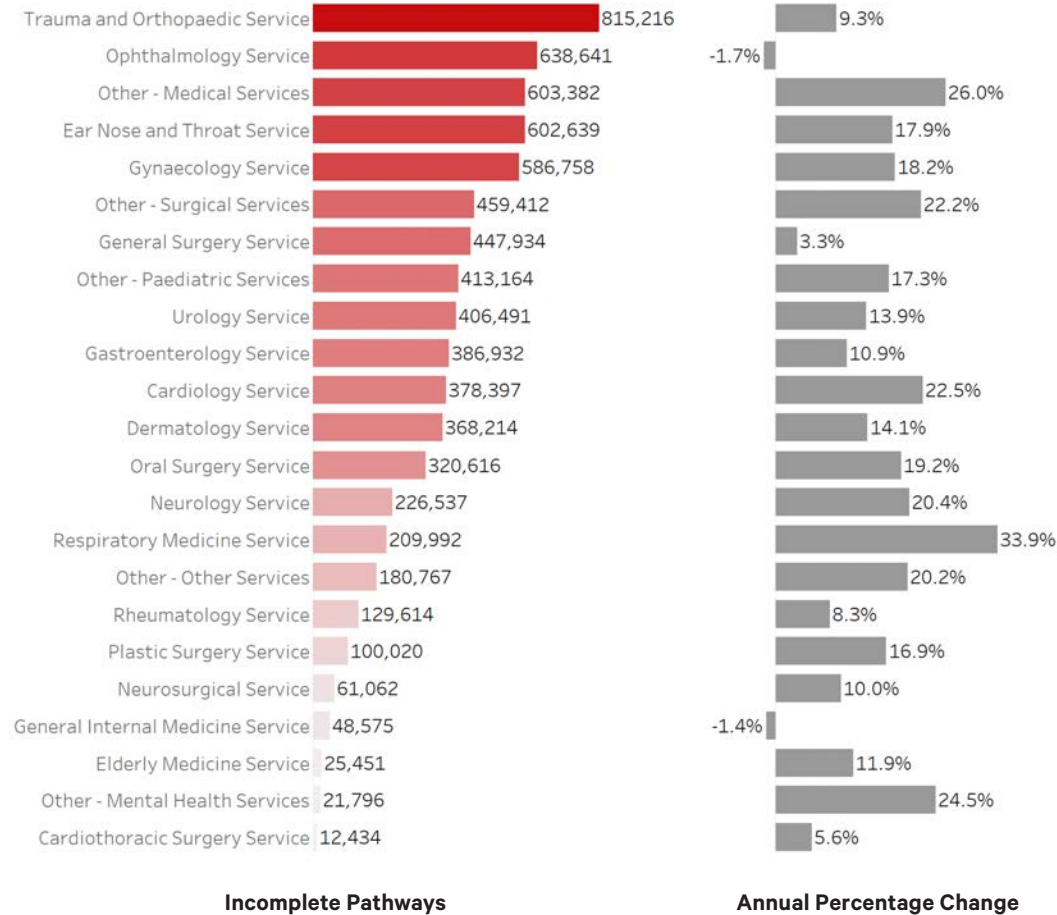
Completed Pathways by Admission Type, April 2018 to March 2023



Completed pathways back up to pre-pandemic levels

Analysis of monthly completed pathways data reveals a sharp drop in completed pathways through the peak of the COVID-19 pandemic as referrals into secondary care fell and planned services were put on hold. The knock-on effect of reduced completed pathway activity over this period is clear from the sizeable backlog that now faces the health service, despite the fact that monthly completed pathways have since returned to their pre-pandemic levels. Indeed, monthly completed pathways for non-admitted patients peaked at more than 1.2 million per month in the latest month at the time of writing (March 2023). Average monthly completed pathways for admitted patients in the latest six months remains slightly lower than the pre-pandemic average however.

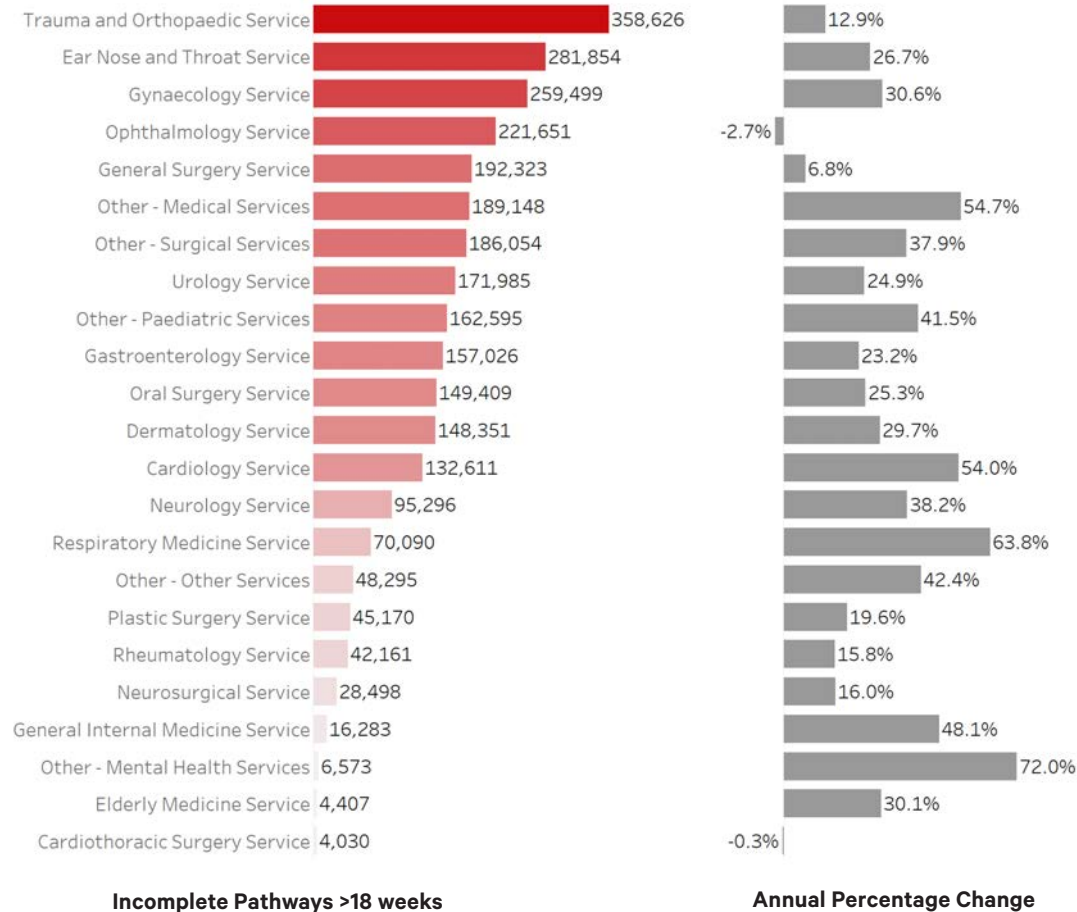
Incomplete Pathways by Service, March 2023



Incomplete pathways continue to rise across most specialities

There has been double-digit growth in the number of incomplete pathways across most major specialties when comparing the latest figures for March 2023 with those twelve months prior in March 2022. Specialties with the largest number of incomplete pathways included trauma and orthopaedics, ophthalmology, 'other – medical', ENT and gynaecology, all of which had more than 500,000 incomplete pathways as of March 2023. With a significant increase in activity observed in the last financial year, the ophthalmology service is the only major specialty to have seen a drop in incomplete pathways in the past 12 months. It is otherwise clear that most specialties are facing continued pressure to reduce backlogs.

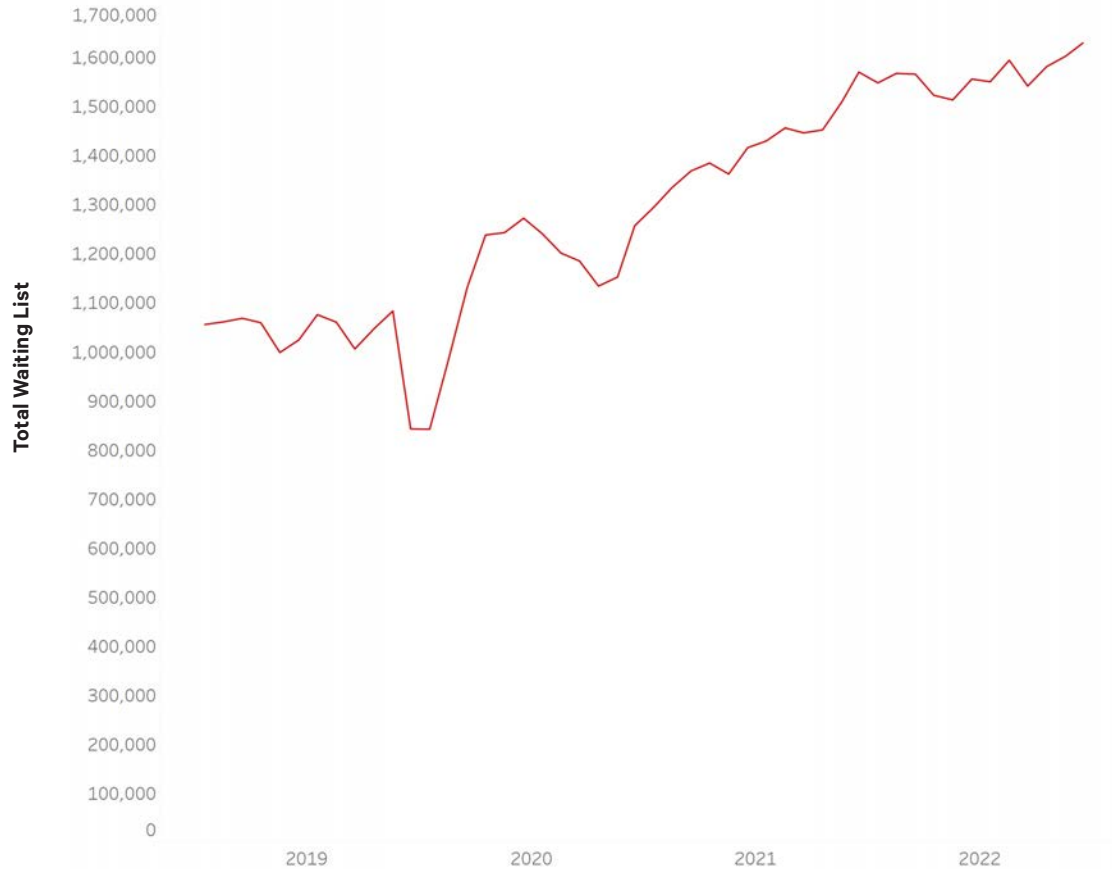
Incomplete Pathways > 18 weeks by Service, March 2023



Breaches of the 18-week wait time standard more than double in some specialties

A similarly stark picture emerges when looking at incomplete pathways that have breached the 18-week wait time standard by consultant specialty. Some services have seen the number of incomplete pathways breaching the 18-week standard increase by more than 50% in the 12 months to March 2023. In areas such as cardiology, where timely interventions can have a huge impact on patient outcomes, the critical state of affairs is clearly evident.

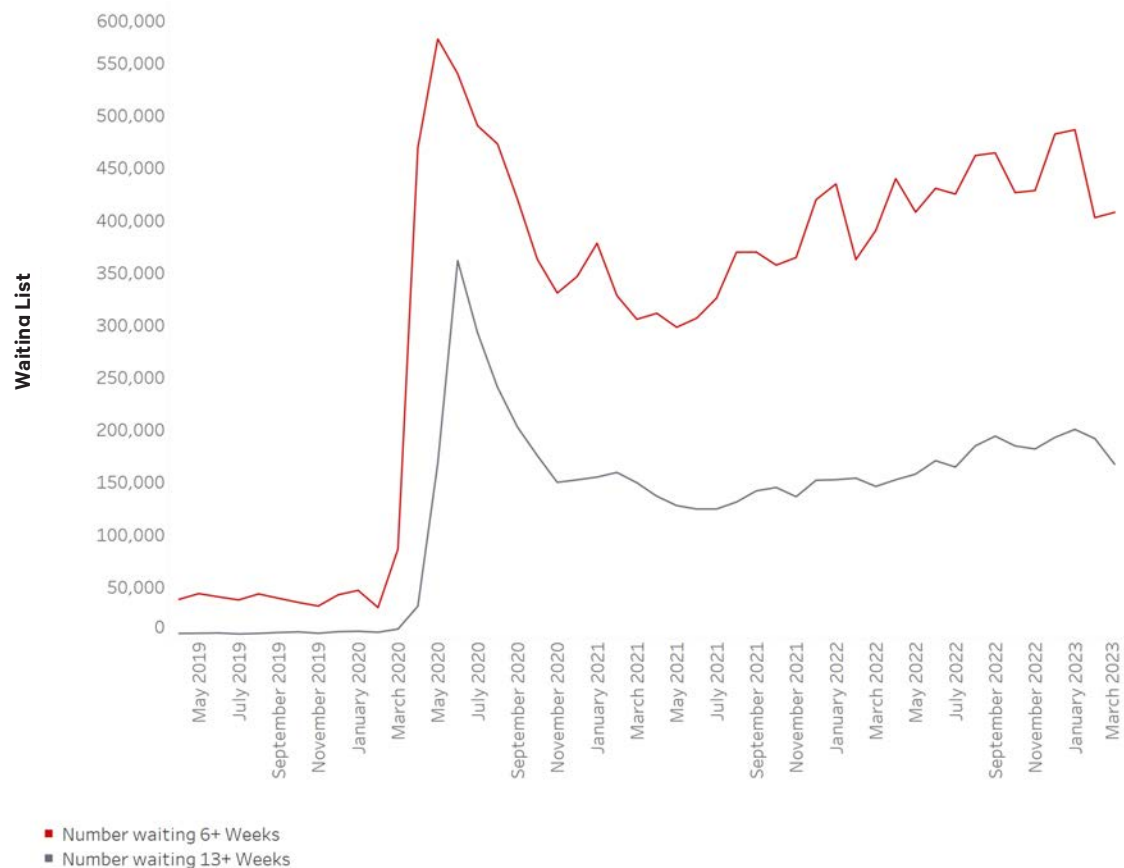
Diagnostic Waiting List, April 2019 to March 2023



Waiting list for diagnostic tests grows to more than 1.6 million

The impact of the pandemic on the health service can also be viewed in terms of the waiting list for diagnostic procedures. Prior to the pandemic the total waiting list for diagnostic tests/procedures stood at approximately 1 million. Following a sharp drop at the peak of the pandemic, when referral activity dropped, this waiting list has since steadily increased to more than 1.6 million by March 2023, highlighting the sizeable backlog in diagnostic activity facing the health service, with a growing list of patients awaiting diagnostic tests following referrals. Acute trusts have a huge task ahead with respect to both diagnosing and treating patients appropriately, and mitigating any impact that delayed diagnosis could have on patient outcomes.

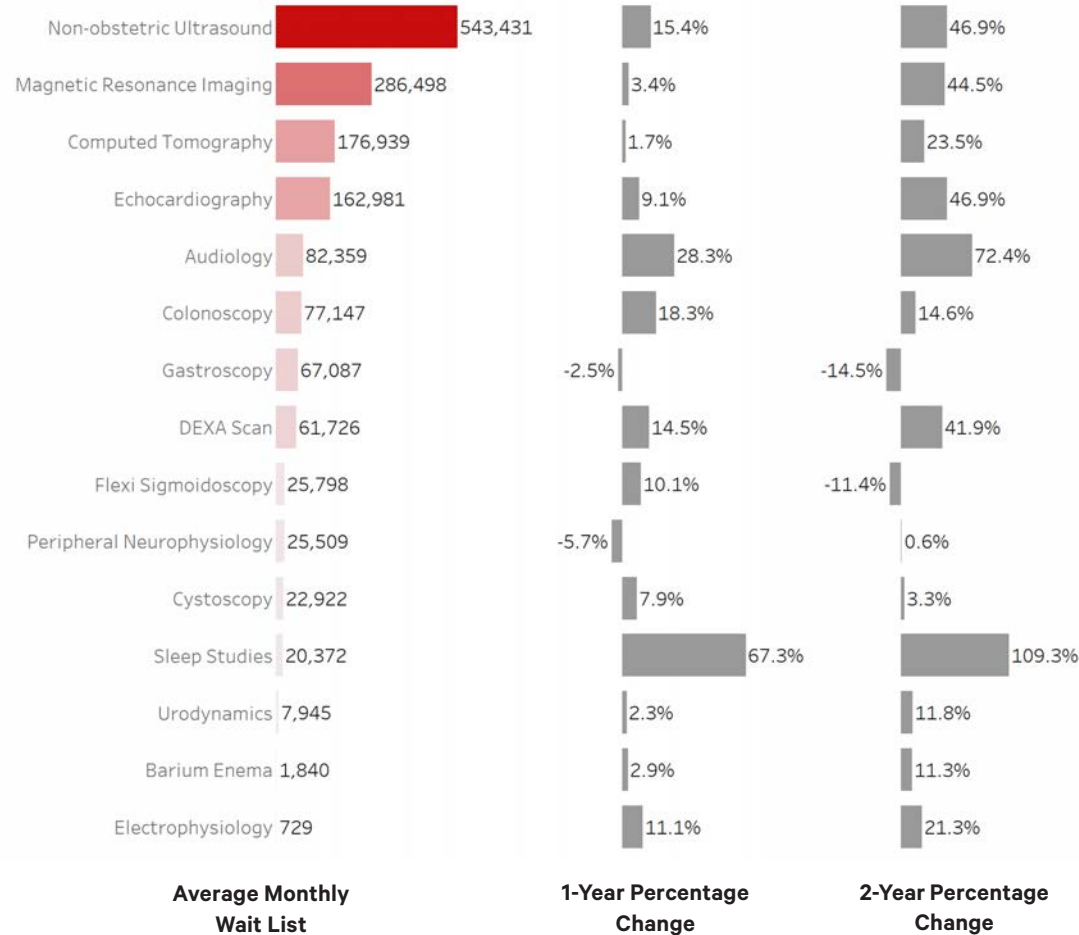
Diagnostic Waiting List Breaches, April 2019 to March 2023



Over 400,000 6-week standard breaches on diagnostic waiting list

The impact of the backlog on diagnostic activity is also apparent from the number of diagnostic test/procedures exceeding the 6-week and 13-week waiting time standards. Prior to the height of the pandemic, very few diagnostic tests breached these standards in England, however the impact of COVID-19 on the health service is clear from the huge jump in diagnostic wait list breaches from May 2020 onwards. While the number of breaches has come down from its peak, there remains a steadily increasing stream of patients waiting more than 6 weeks for diagnostic testing, with over 400,000 tests breaching the 6-week standard by March 2023, and over 160,000 tests breaching the 13-week standard in the same month.

Average Monthly Wait List by Diagnostic Procedure, 2022/23



Significant two-year percentage increases across major diagnostic categories

The four largest diagnostic procedure waiting lists, namely non-obstetric ultrasound, magnetic resonance imaging (MRI), computed tomography (CT) and echocardiography, have all seen sizable growth when viewing the average monthly waiting list for the latest financial year against the two prior years. Although the rate of increase in the waiting list has slowed down somewhat when compared to a year ago, the more than 40% increase in number of people waiting for ultrasounds, MRIs and echocardiograms compared to two years ago further highlights the size of the task facing the health service with respect to carrying out much needed diagnostic procedures.

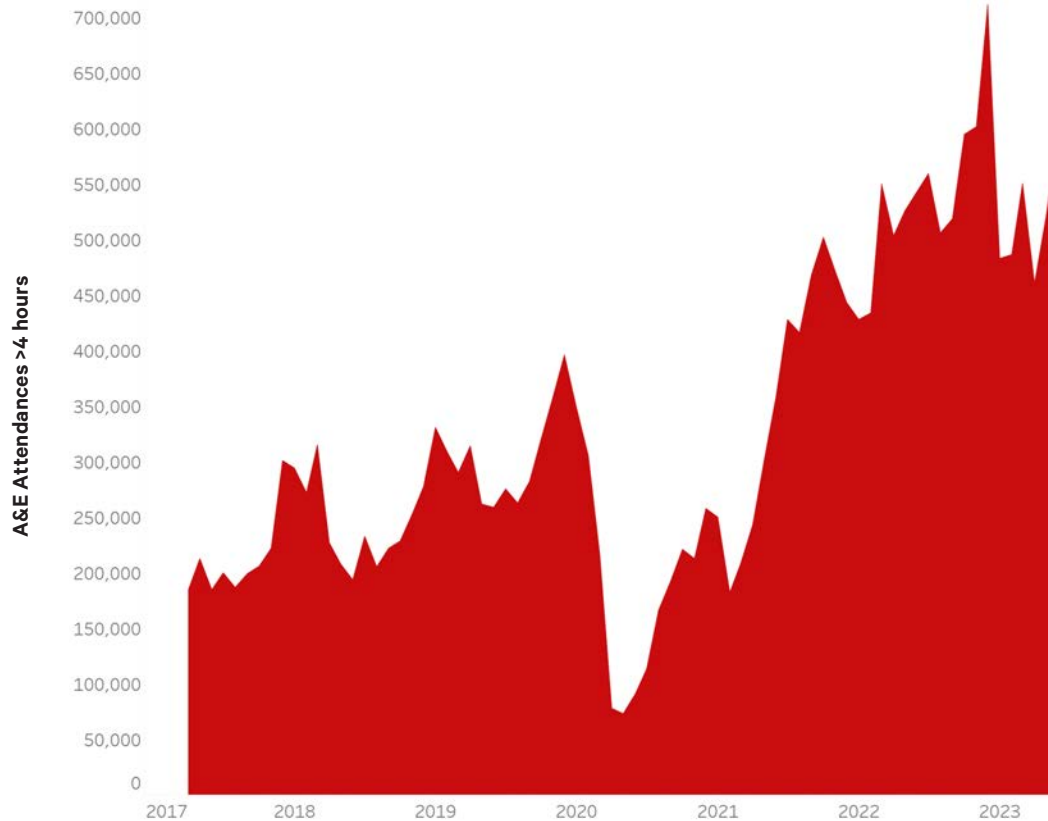
A&E Attendances by Department, April 2017 to June 2023



A&E attendances peak at nearly 1.4 million in June 2023

Accident and Emergency (A&E) attendances to both major A&E departments and other A&E/minor injury units have nearly returned to their pre-pandemic levels following an incidental drop in attendances due to COVID-19 restrictions and their impact on access to emergency care. Indeed, A&E attendances to major A&E departments have averaged around 1.2 million per month in the last six months, slightly below average monthly attendances to A&E in the two plus years prior to the pandemic. Although major A&E department attendances have remained slightly lower than historical levels, there was an alarming increase in attendances to nearly 1.4 million in the latest month at the time of writing (June 2023), which could be a consequence of a critical failure to deal with the backlog of patients awaiting treatment. This is only likely to increase as patient outcomes worsen without effective clinical interventions.

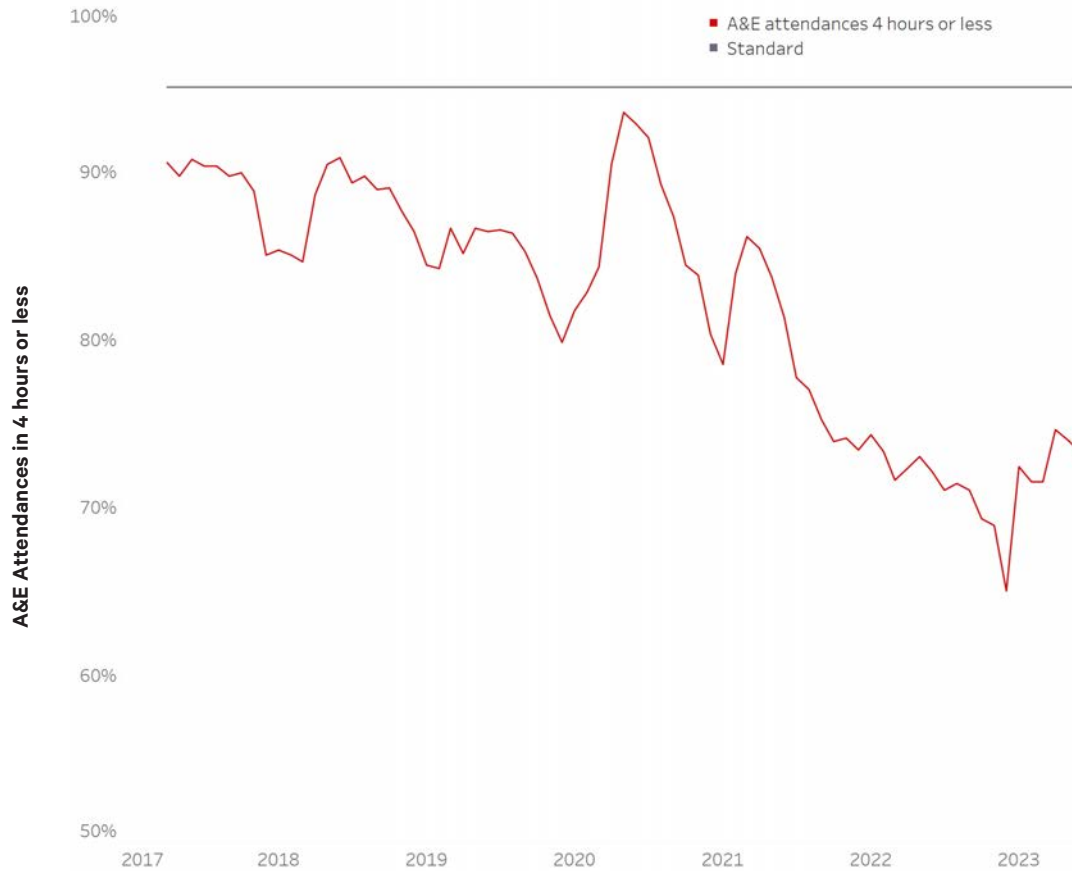
Monthly A&E Attendances >4 Hours from Arrival to Admission, Transfer or Discharge, April 2017 to June 2023



Alarming number of A&E attendances breaching 4-hour wait standard post-pandemic

Following a drop in A&E attendances during the height of the pandemic, over which time the number of attendances in breach of the 4-hour wait standard fell significantly, there has since been a sharp rise in the number of A&E attendances in breach of the 4-hour standard from arrival to admission/transfer/discharge. Indeed, as of June 2023 there were almost 600,000 attendances in breach of this standard, over twice the monthly average recorded prior to the pandemic. This serves to further highlight the pressures the health service is currently under, not only with respect to the backlog in elective referrals, but also in terms of the impact this is having in terms of its ability to cope with the volume of patients entering secondary care via the emergency route. With a peak of more than 700,000 A&E attendance breaches in December 2022, the health service is in a precarious position with respect to avoiding a similar scenario going into the next winter season.

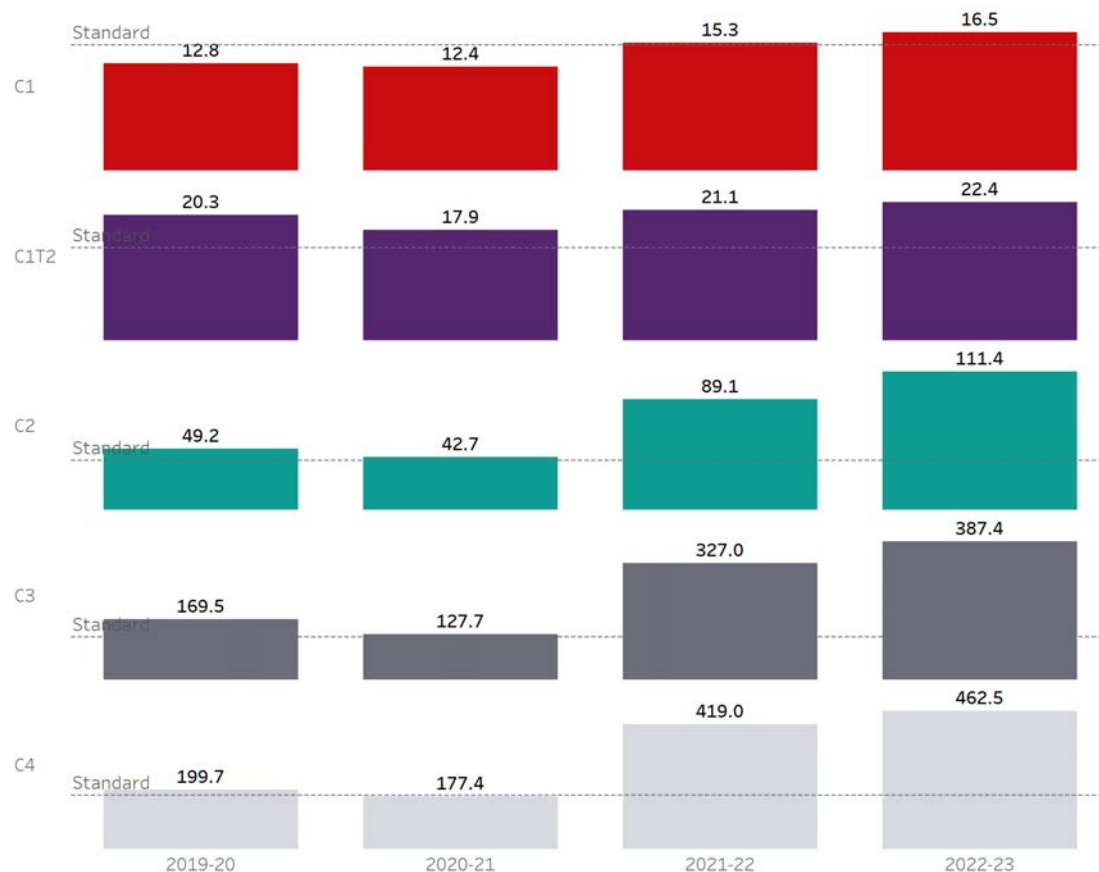
Percentage of Monthly A&E Attendances 4 Hours or Less, April 2017 to June 2023



A&E attendances within 4-hour standard fell to 65% in December 2022

With the number of A&E attendances in breach of the 4-hour standard rising, the same trend can be viewed in terms of % of total A&E attendances within the four-hour standard. Although there was a declining trend in A&E performance prior to the pandemic, A&E attendances within the 4-hour standard remained between around 80% and 90% historically. As normal services resumed post-pandemic, the decline in A&E performance has accelerated, dropping below 70% for the first time in October 2022 and reaching a low of 65% in December 2022. While performance remains way below the standard at the time of writing, the percentage of A&E attendances within standard has moved in a more positive direction in the last few months, hinting at a possible recovery. That said, system pressures remain and the health service faces an uphill task to return to pre-pandemic levels of performance across A&E departments.

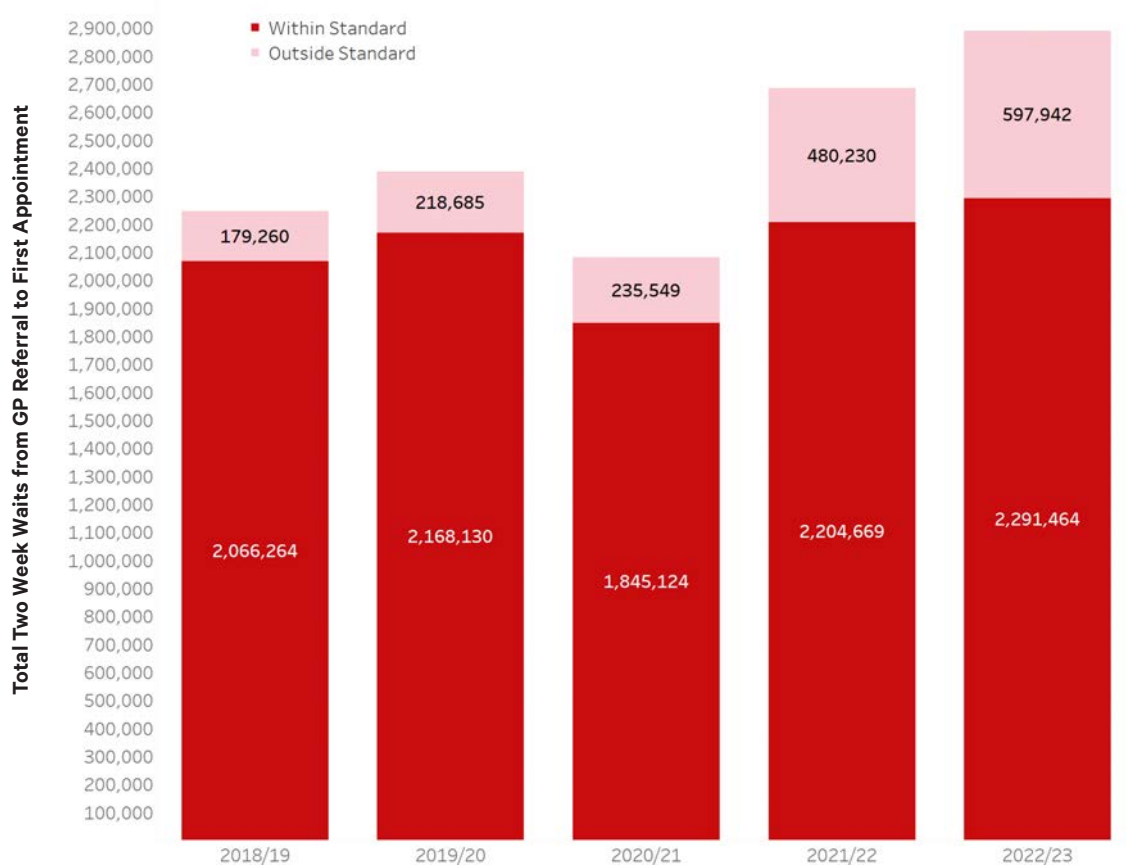
Ambulance Response Times (90th centile in minutes) by Category, 2019/20 to 2022/23



Ambulance response times worsen according to 90th centile data

Analysis of ambulance system indicator data also reveals significant pressure on the emergency services post-COVID-19. Looking at the 90th centile of response times in minutes for the last four years across the different categories of ambulatory response reveals performance has now fallen outside of the standard in all categories, with C1 (immediate response to a life-threatening condition), C2 (serious condition requiring rapid assessment), C3 (urgent problem) and C4 (non-urgent problem) response times all worsening in 2022/23 compared to two and three years prior. The pressure on the ambulance services is yet another example of how the health service is struggling to cope since barriers to secondary care were lifted following the peak of the COVID-19 pandemic, and the need to implement effective recovery plans to mitigate the impact of the backlog on system performance.

Total Two Week Waits (2WW) from GP Referral to First Appointment, Cancer Waiting Times, 2018/19 to 2022/23



Two-week wait referrals for suspected cancer over half a million higher in latest financial year compared to pre-pandemic

With COVID-19 restrictions on referrals to secondary care having eased in 2021/22, there has been a noteworthy increase in referrals on the urgent two week wait (2WW) referral pathway for suspected cancers in the past two years. Indeed, in the past financial year, there were 2.9 million such referrals, compared to approximately 2.4 million in the year prior to the pandemic. Not only have total referrals increased, but the number of referrals breaching the 2WW standard have also increased dramatically to nearly 600,000 in the latest financial year. With referrals for suspected cancer having fallen during the pandemic, the health service is facing an ever-growing crisis to tackle the patient backlog and diagnose patients in a timely manner to ensure the best possible outcomes.

Two Week Waits (2WW) from GP Referral to First Appointment (% within two weeks), Cancer Waiting Times, April 2017 to May 2023



Two week waits for suspected cancer referrals to first appointment performance slides to well below standard

The percentage of referrals for suspected cancer seen within the two-week referral period has slipped significantly in the three years since the start of the pandemic as secondary care services have struggled to cope with the patient backlog. In the twelve months to May 2023, on average less than 80% of urgent referrals have been seen within two weeks, well below the 93% standard. Although there have been positive signs of a recovery in the 8 months since September 2022, when performance fell to a low point of 72%, significant effort is required if 2WW performance is to get anywhere near to the 93% standard that was routinely achieved prior to the pandemic.

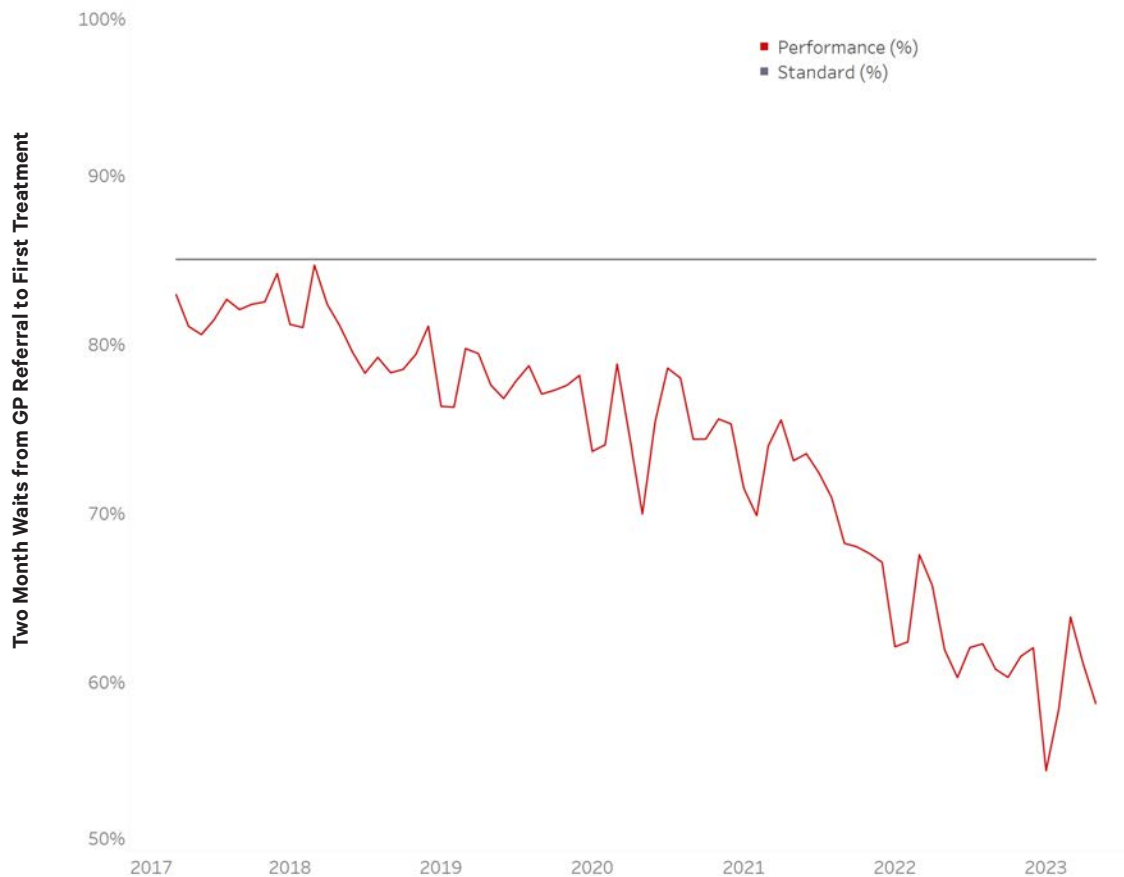
One Month Waits from Decision to Treat to First Treatment (% within one month), Cancer Waiting Times, April 2017 to May 2023



Treatment wait time performance also slipping within cancer care

One month waits for first treatment are also showing signs of a struggle with the percentage of patients receiving treatment within a one-month window following a decision to treat continuing to fall below the 96% standard in the last few months. Although the average performance for the past six months remains slightly over 90%, there is a noticeable downward trend in number of patients being treated within the one-month window, moving further away from the standard of cancer care. With the volume of new patient referrals increasing, this trend is only likely to continue as services struggle to cope.

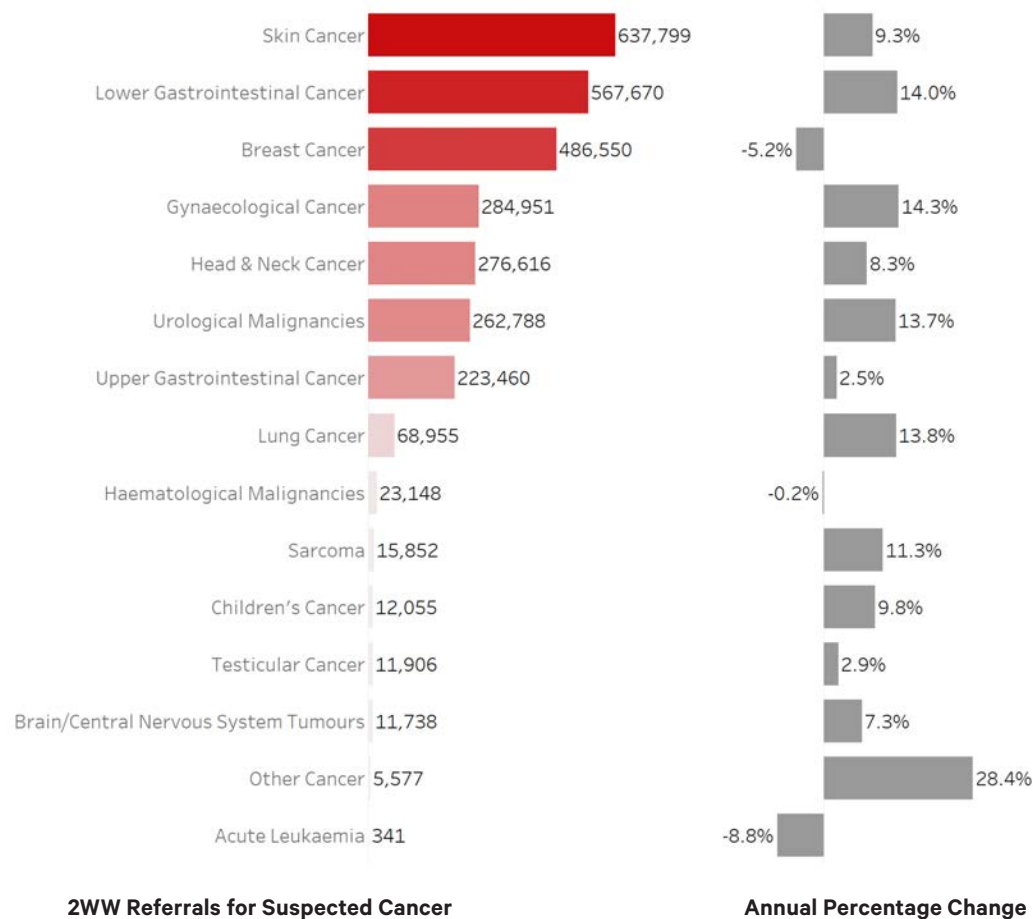
Two Month Waits from GP Referral to First Treatment (% within two months), Cancer Waiting Times, April 2017 to May 2023



Two month waits from referral to treatment move further away from standard

In view of falling performance in terms of both 2WW for referrals for suspected cancer and one month waits for treatment, the aggregate impact can be clearly seen in terms of the number of patients receiving treatment for cancer within two months of initial referral, which has fallen well below standard in the last three years. As of May 2023, only 59% of cancer patients received treatment within two months of referral, well below the 85% standard. Performance across cancer services is on an alarming downward trajectory as the health service struggles to cope with the backlog of referrals in the aftermath of the COVID-19 pandemic. Recovery plans are required to help the system reverse this trend in falling performance and mitigate the impact on patient outcomes in the short-term to medium-term.

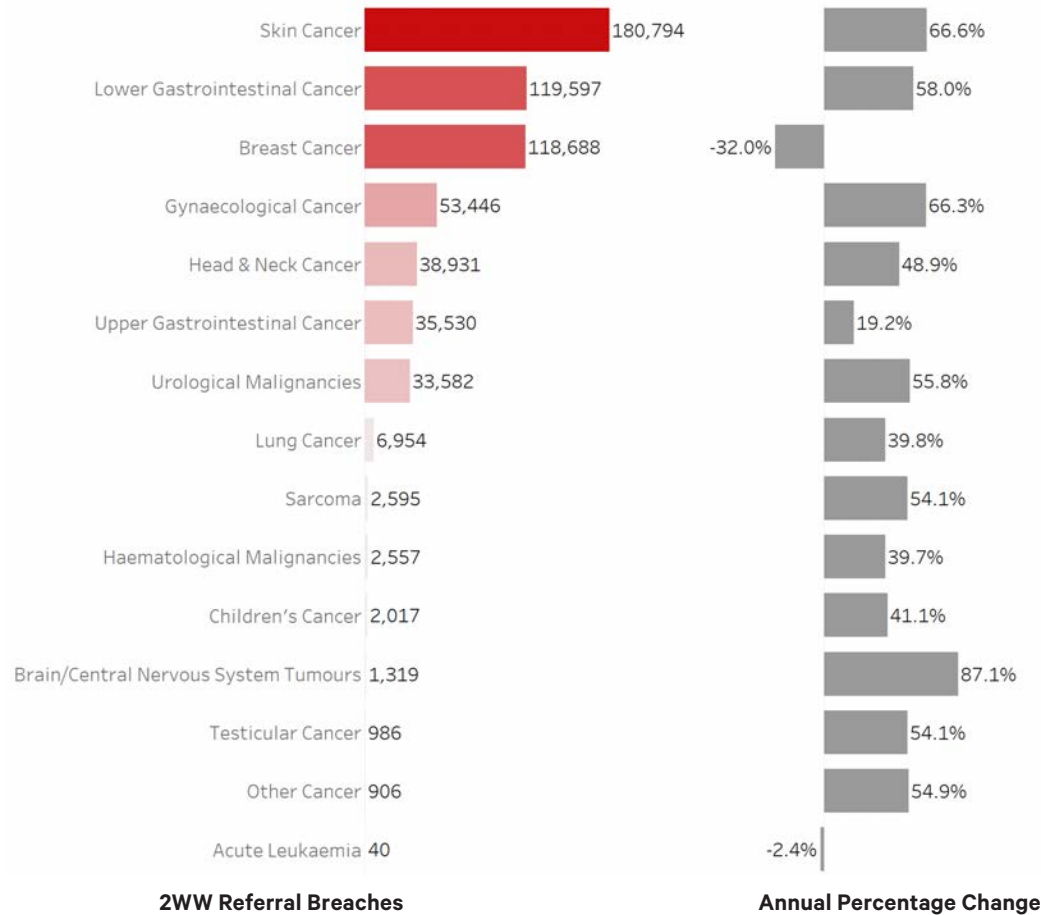
Two Week Wait (2WW) Referrals, by Cancer Type, Cancer Waiting Times, 2022/23



Total referrals for suspected cancer on 2WW pathway increase in most cancer types

The drop in performance across cancer services is clear from the increased number of referrals with which the system is struggling to cope. Indeed, there continues to be double digit growth in the number of referrals for various cancer types in the latest financial year compared to the year prior, as services continue to recover post-pandemic. Referrals for skin cancer and lower GI cancer, which were the two largest areas of suspected cancer referrals in 2022/23, grew by 9.3% and 14.0% year-on-year, respectively. Conversely, referrals for suspected breast cancer on the 2WW pathway fell by 5.2% year-on-year, although still made up nearly half a million in total referrals. There were also large increases in referrals for suspected gynaecological cancer (+14.3%), head and neck cancer (+8.3%), urological cancer (+13.7%) and lung cancer (+13.8%).

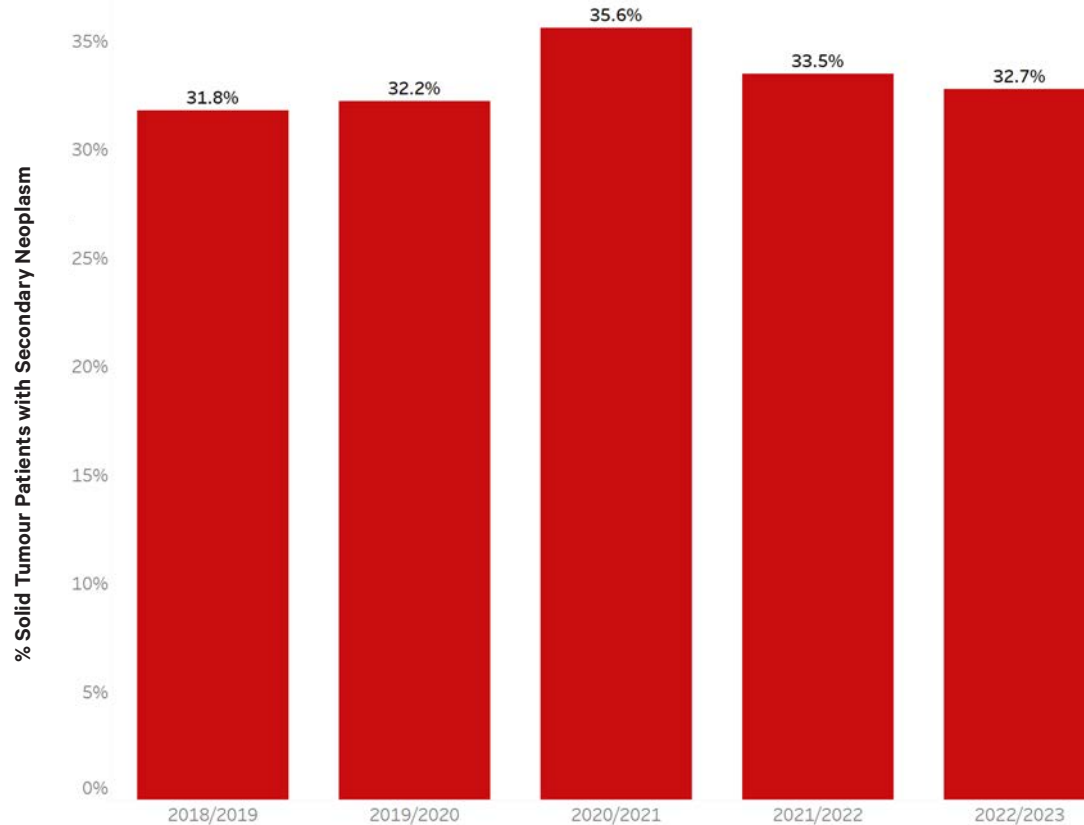
Two Week Wait (2WW) Breaches by Cancer Type, Cancer Waiting Times, 2022/23



Alarming increase in breaches on 2WW pathway across most cancer types

Given the drop in cancer wait times performance highlighted previously, it is of little surprise that the number of breaches has risen across almost all cancer types in the latest financial year. Indeed, except for breast cancer, which saw the total number of breaches decrease by a significant 32.0% in the latest financial year, two week wait breaches have seen high double digit increases in most cancer types, including skin, lower GI, gynaecological, head and neck, upper GI, urological, lung and sarcoma, among others. The largest increase in breaches has come in brain/CNS tumours, which increased 87.1% in 2022/23. This is a worrying trend that the health service should look to reverse going forward if targets to improve cancer outcomes are to be achieved in the long term.

Percentage of Solid Tumour Patients with Secondary Neoplasm (ICD-10: C77/C78/C79), 2018/19 to 2022/23

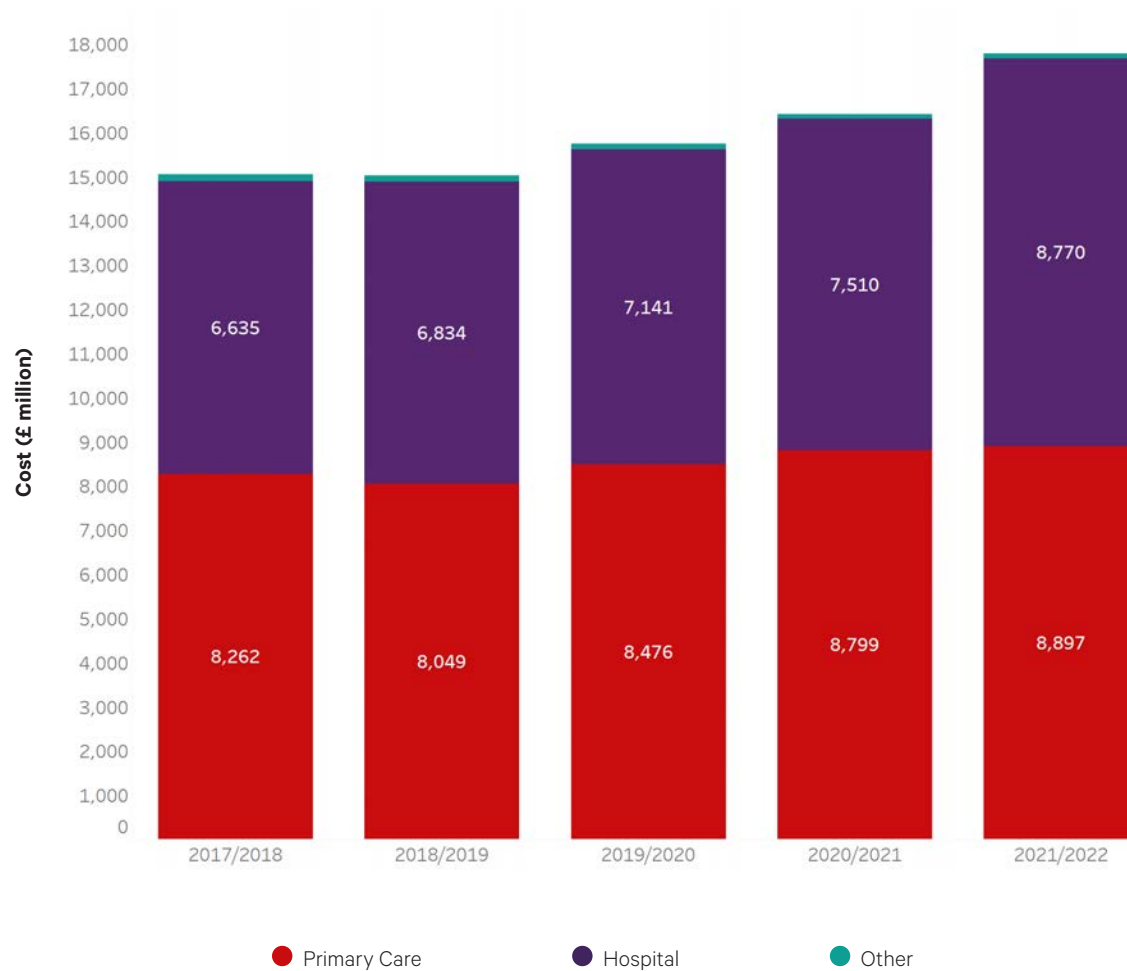


Prevalence of metastatic disease remains slightly higher than pre-pandemic levels

Reduced referrals for suspected cancer in the pandemic year 2020/21, as well as higher barriers to secondary care in general, resulted in a noteworthy increase in the rate of solid tumour patients with secondary/metastatic cancer, likely the result of referrals for more advanced cancers being prioritised. The percentage of patients with a secondary neoplasm has since remained slightly higher than levels seen prior to 2020/21, although it has fallen by 0.8% in the latest financial year. Although the volume of urgent referrals for suspected cancer continues to grow, indicative of better access to treatment at earlier stages of disease, the previously highlighted struggles in performance could mean that rates of advanced cancers remain higher than they were prior to the pandemic, with possible knock-on effects in terms of aggregate patient outcomes.

5. Prescribing Insights

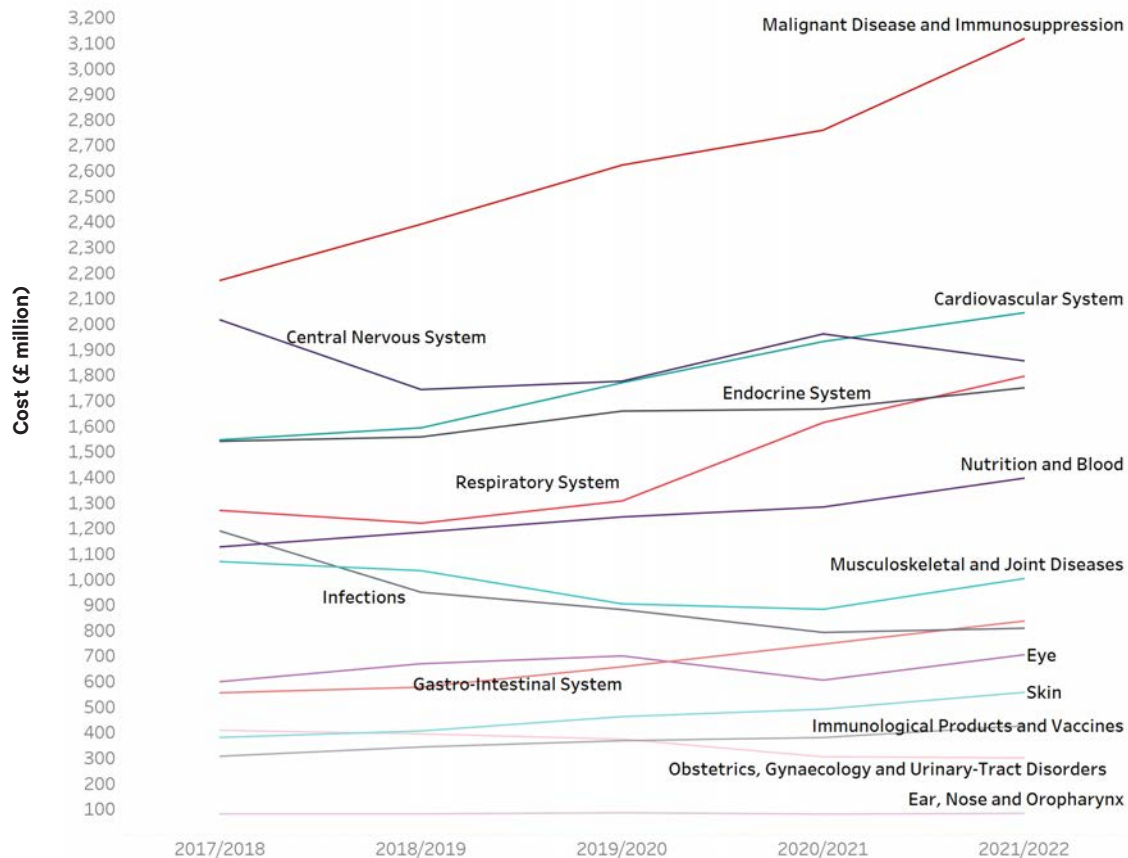
Prescribing Costs by Setting, 2017/18 to 2021/22



Cost of secondary care (hospital) prescribing accelerated in 2021/22

Total prescribing costs in England have increased by £2.7 billion between 2017/18 and 2021/22, representing compound annual growth of 4.3% over these five years. Much of this increase has come from growing spend within secondary care/hospital prescribing, which increased by £2.1 billion between 2017/18 and 2021/22, with hospital prescribing costs increasing by £1.3 billion between 2020/21 and 2021/22 alone. As a result, hospital prescribing now accounts for 49.3% of all prescribing spend, having accounted for 44.1% of prescribing spend in 2017/18. Primary care prescribing costs were relatively flat by comparison, growing by £635 million between 2017/18 and 2021/22, as the continued use of generic medicine has helped to contain spend on primary care medicines. Conversely, spend within hospital prescribing has continued to grow apace as the availability of innovative, specialty treatments for diseases with high unmet medical need continues to improve.

All Prescribing by BNF Chapter, 2017/18 to 2021/22



Oncology and immunology prescribing costs continue sharp rise

The changing prescribing landscape can also be viewed in terms of prescribing costs by BNF chapter. Malignant disease and immunosuppression prescribing continues apace with a sharp rise in spend to more than £3 billion in 2021/22, over £1 billion more in annual spend than the next largest area, namely the cardiovascular (CV) system. The chapters with the largest percentage growth between 2017/18 and 2021/22 are gastro-intestinal (+50.8%), skin (+46.6%), malignant disease and immunosuppression (+43.6%), respiratory system (+41.4%), immunological products and vaccines (+39.1%) and cardiovascular system (+32.3%). In contrast, spend has declined within infections (-32.0%), obstetrics, gynaecology and urinary-tract disorders (-26.6%), central nervous system (-7.9%) and musculoskeletal and joint diseases (-6.3%).

Prescribing Cost Growth Rates by BNF Chapter, 2017/18 to 2021/22

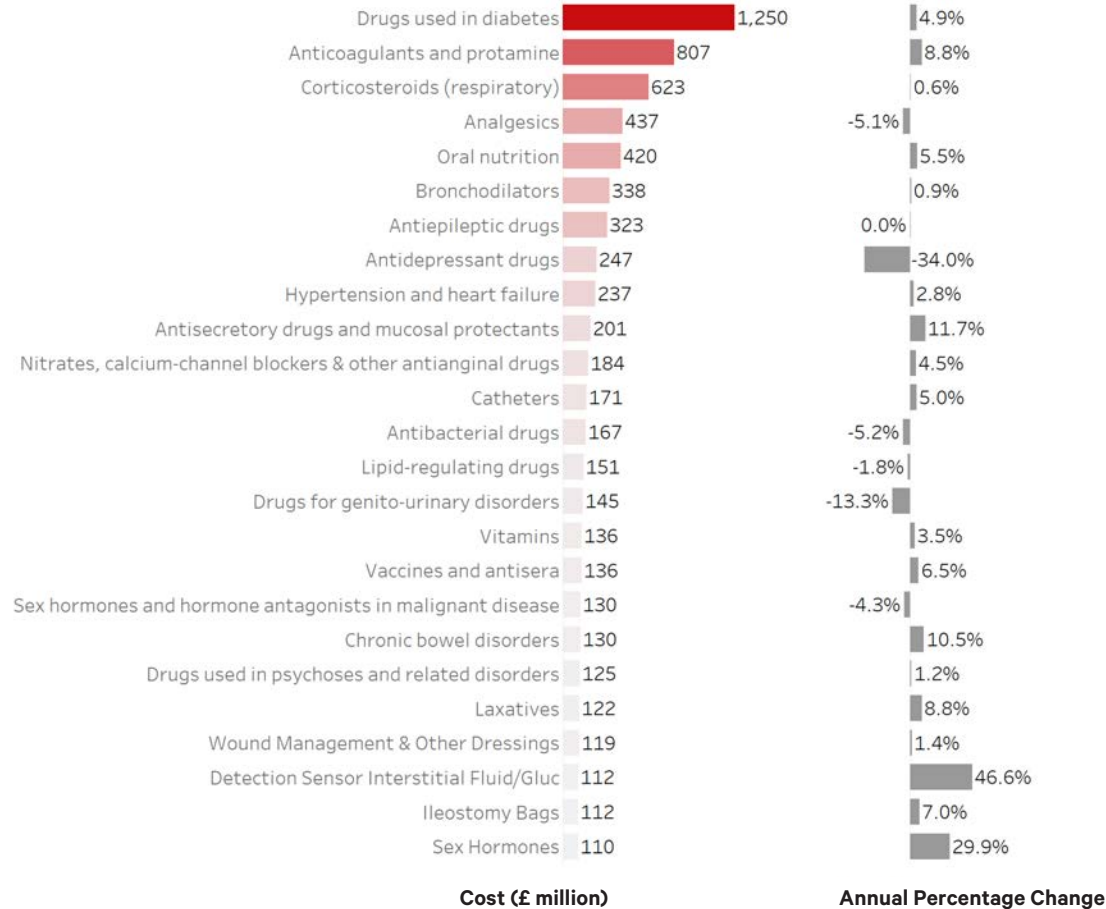


*bubble size denotes cost (£ million) in 2021/22

Prescribing costs around 50% higher than five years ago in some major categories

We can view the changing prescribing landscape in terms of growth rates more clearly. Areas in the top right are growing rapidly, both in annual percentage terms and in terms of historic growth over the five-year period covered in the analysis. Despite being the largest area in absolute cost terms, malignant disease and immunosuppression grew rapidly both in the last 12 months and across the five-year period as a whole. Skin, gastro-intestinal, respiratory, eye and immunological products and vaccines also saw significant growth both in the last 12 months and five-year historical window. Cardiovascular, endocrine and nutrition and blood have also grown considerably over the last five years and represent considerable areas of spend within prescribing, while prescribing within central nervous system (CNS), infections and obstetrics, gynaecology and urinary-tract disorders has been overall negative historically.

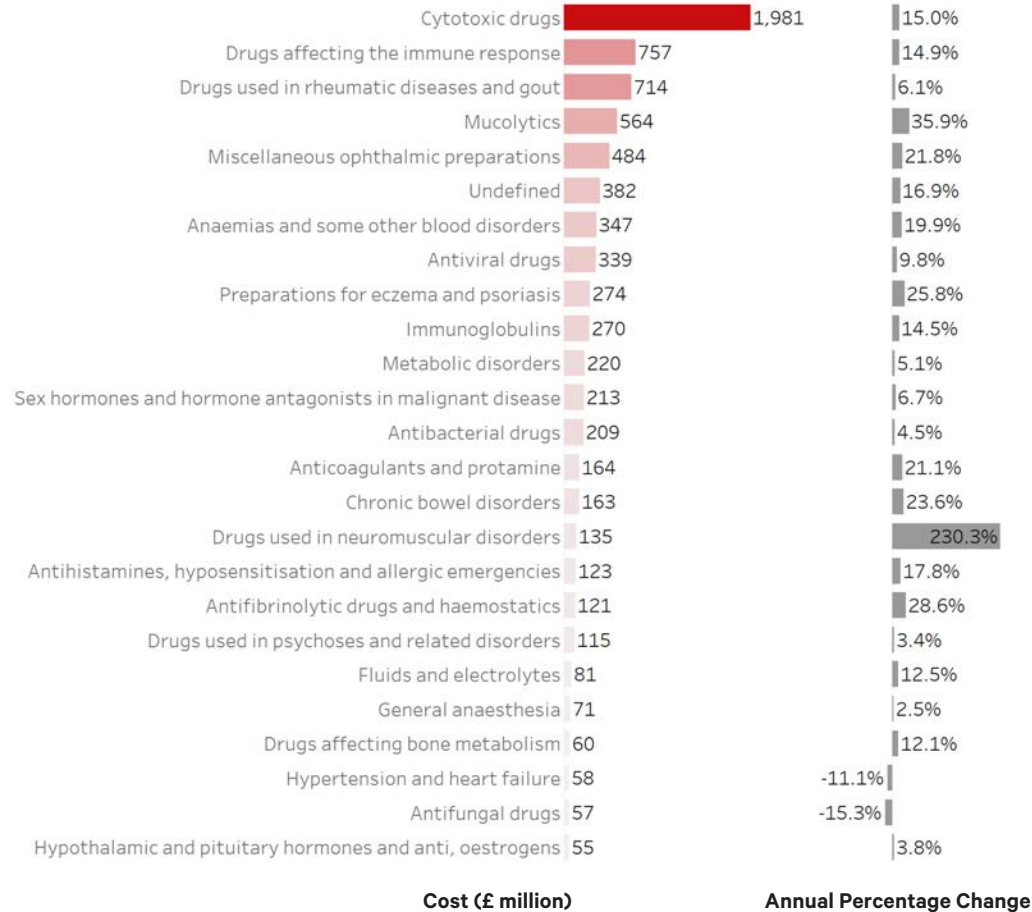
Top 25 BNF Sections in Primary Care, 2021/22



Diabetes medicine, anticoagulants and respiratory drugs drive prescribing costs in primary care

The largest area of expenditure within primary care prescribing in 2021/22 was diabetes with spend of over £1.2 billion and annual growth of 4.9%. Anticoagulant prescribing was over £800 million and had growth of 8.8%, while steroids used in respiratory accounted for costs of more than £600 million. Following a noteworthy increase in uptake during the pandemic, spending on antidepressant prescribing shrunk back to pre-pandemic levels, decreasing 34.0% year-on-year to £247 million in 2021/22. Pain medicine (analgesics), oral nutrition, antiepileptics, bronchodilators, and hypertension/heart failure medicine made up the other largest areas of spend within primary care.

Top 25 BNF Sections in Secondary Care, 2021/22



Cytotoxic drugs incur the biggest costs within secondary care

Analysis of secondary care prescribing by section reveals cytotoxic drugs to be the largest area of expenditure, with spend on this group of cancer therapeutics reaching nearly £2 billion in 2021/22, a considerable margin ahead of the next highest sections, immunology treatments, which accounted for costs of £757 million in 2021/22, and rheumatic disease medicines which accounted for costs of £714 million in the latest financial year. Both cytotoxic drugs and drugs affecting the immune system saw double-digit growth year-on-year, while mucolytics, which incurred the fourth highest costs at £564 million, grew sharply at 35.9% year-on-year as innovative treatments for cystic fibrosis drive spending.

Top 20 Primary Care Drugs, Cost (£ million)

Generic Name	Manufacturer	Therapy Area	2021/22	2022/23	Annual Percentage Change
apixaban	Bristol-Myers Squibb	Anticoagulant	373.9	404.2	8.1%
beclometasone dipropionate	Various	Respiratory	280.2	294.8	5.2%
rivaroxaban	Bayer	Anticoagulant	226.1	224.2	-0.9%
influenza	Various	Influenza	119.4	136.2	14.1%
edoxaban	Daiichi Sankyo	Anticoagulant	89.8	136.0	51.5%
dapagliflozin	AstraZeneca	Diabetes	73.1	131.6	80.1%
budesonide	Various	Respiratory	118.4	119.2	0.7%
omeprazole	Various	GERD	86.4	116.0	34.2%
empagliflozin	Boehringer Ingelheim	Diabetes	87.1	109.9	26.2%
colecalfiferol	Various	Vitamin D deficiency	91.9	100.3	9.1%
fluticasone propionate (inhalation)	GSK	Respiratory	111.7	99.6	-10.8%
semaglutide	Novo Nordisk	Diabetes/Obesity	62.1	99.6	60.3%
beclometasone/formoterol/glycopyrronium	Chiesi	Respiratory	74.2	96.3	29.8%
insulin aspart	Novo Nordisk	Diabetes	87.5	93.0	6.4%
dulaglutide	Eli Lilly	Diabetes	70.1	90.4	28.9%
fluticasone furoate (inhalation)	GSK	Respiratory	80.8	90.0	11.3%
mesalazine (systemic)	Various	IBD	81.6	81.7	0.1%
metformin hydrochloride	Various	Diabetes	85.5	75.7	-11.4%
tiotropium bromide	Various	Respiratory	84.5	75.3	-10.9%
linagliptin	Boehringer Ingelheim	Diabetes	71.7	74.7	4.2%

Anticoagulants, anti-diabetics and respiratory medicines top the list in primary care prescribing

The highest costing drug in primary care in was the anticoagulant apixaban with costs of over £400 million and an annual percentage increase of 8.1%. Other anticoagulants rivaroxaban (£224.2 million) and edoxaban (£136.0 million) also made the list. Aside from oral anticoagulants, other high costing medicines in primary care predominately cover treatments in the respiratory and diabetes/obesity therapeutic areas. Indeed, with lifestyle concerns on the rise, demand for new obesity treatments is expected to grow significantly as illustrated by the 60.3% annual growth in costs of the new dual diabetes/obesity treatment semaglutide in 2022/23.

Top 20 Secondary Care Drugs, Cost (£ million)

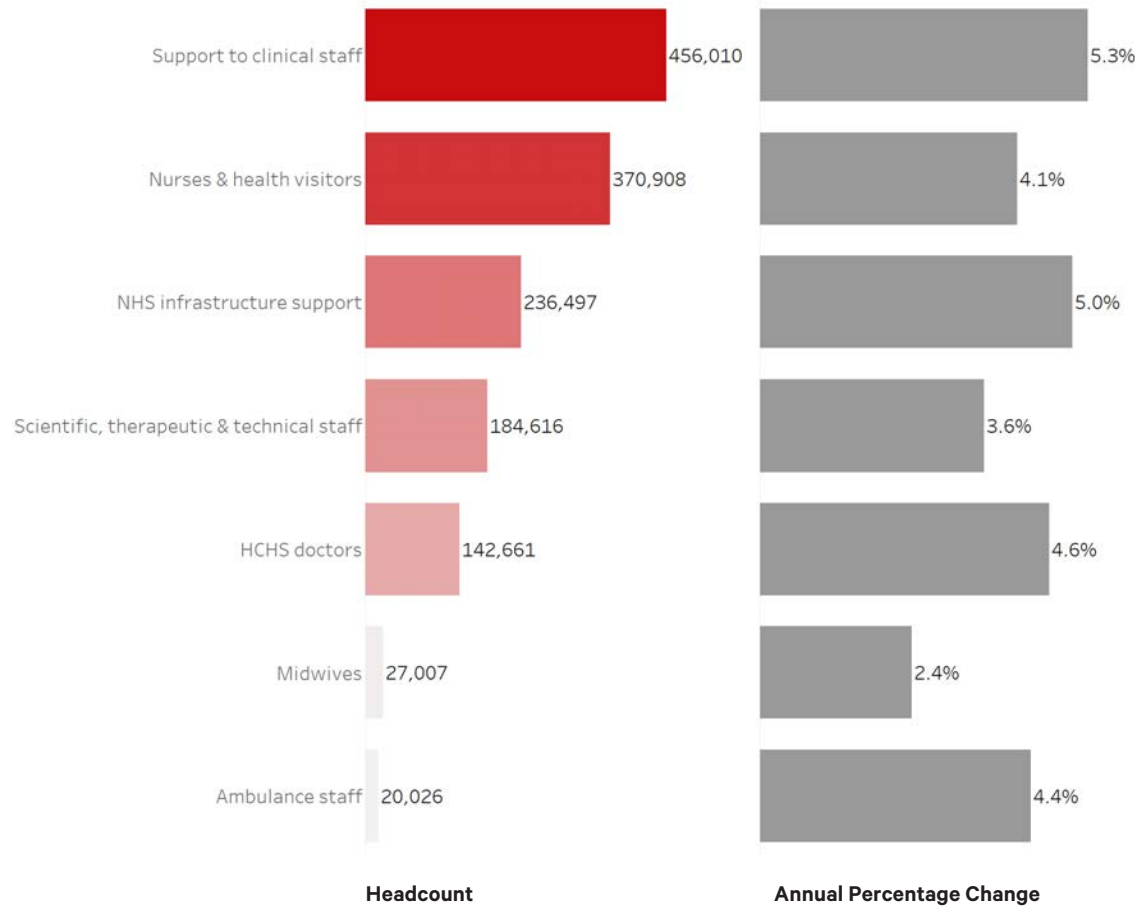
Generic Name	Manufacturer	Therapy Area	2021/22	2022/23	Annual Percentage Change
adalimumab	Various	Autoimmune disorders	660.5	720.2	9.0%
aflibercept	Bayer	wAMD/CrC	610.9	616.5	0.9%
ivacaftor	Vertex Pharmaceuticals	Cystic Fibrosis	491.2	523.4	6.6%
pembrolizumab	Merck Sharp & Dohme	Solid tumours	477.8	541.6	13.3%
ivacaftor/tezacaftor/elexacaftor	Vertex Pharmaceuticals	Cystic Fibrosis	463.3	584.8	26.2%
infliximab	Various	Autoimmune disorders	334.8	343.3	2.5%
enzalutamide	Astellas Pharma	Prostate cancer	277.3	317.9	14.6%
lenalidomide	Various	Haematological malignancies	267.9	298.5	11.4%
emicizumab	Roche	Haemophilia A	258.7	298.9	15.5%
etanercept	Various	Autoimmune disorders	252.1	251.1	-0.4%
emtricitabine/tenofovir	Gilead Sciences	HIV infection	243.7	264.0	8.3%
ustekinumab	Janssen-Cilag	Autoimmune disorders	209.5	254.4	21.4%
palbociclib	Pfizer	Breast cancer	189.9	196.2	3.3%
vedolizumab	Takeda	IBD	181.5	211.6	16.6%
ibrutinib	Janssen-Cilag	Haematological malignancies	180.8	162.9	-9.9%
nivolumab	Bristol-Myers Squibb	Solid tumours	179.3	198.3	10.6%
sofosbuvir/velpatasvir	Gilead Sciences	Viral hepatitis	177.4	180.8	1.9%
pertuzumab/trastuzumab	Roche	Breast cancer	168.4	235.4	39.8%
daratumumab	Janssen-Cilag	Haematological malignancies	160.8	246.9	53.5%
atezolizumab	Roche	Solid tumours	102.2	163.4	59.9%

Biologic treatments in oncology and immunology continue to drive secondary care prescribing

Analysis of the leading secondary care medicines based on cost reveals a much higher proportion of high-cost drugs with annual costs exceeding £100 million than is seen within primary care prescribing. As we have seen, the growing use of specialty medicines within secondary care is driving up overall spend on hospital prescribing. Although based on indicative cost and therefore not taking into account any discounting that takes place, the leading secondary care medicine remained the immunology therapy adalimumab in 2022/23, with costs increasing 9.0% to £720 million. Biologic treatments such as monoclonal antibody therapies made up a large portion of the leading secondary care medicines on cost, as they continue to be a mainstay of treatment within oncology, immunology and other areas of high unmet need. Spend on innovative cystic fibrosis treatments has also grown significantly.

6. Workforce Insights

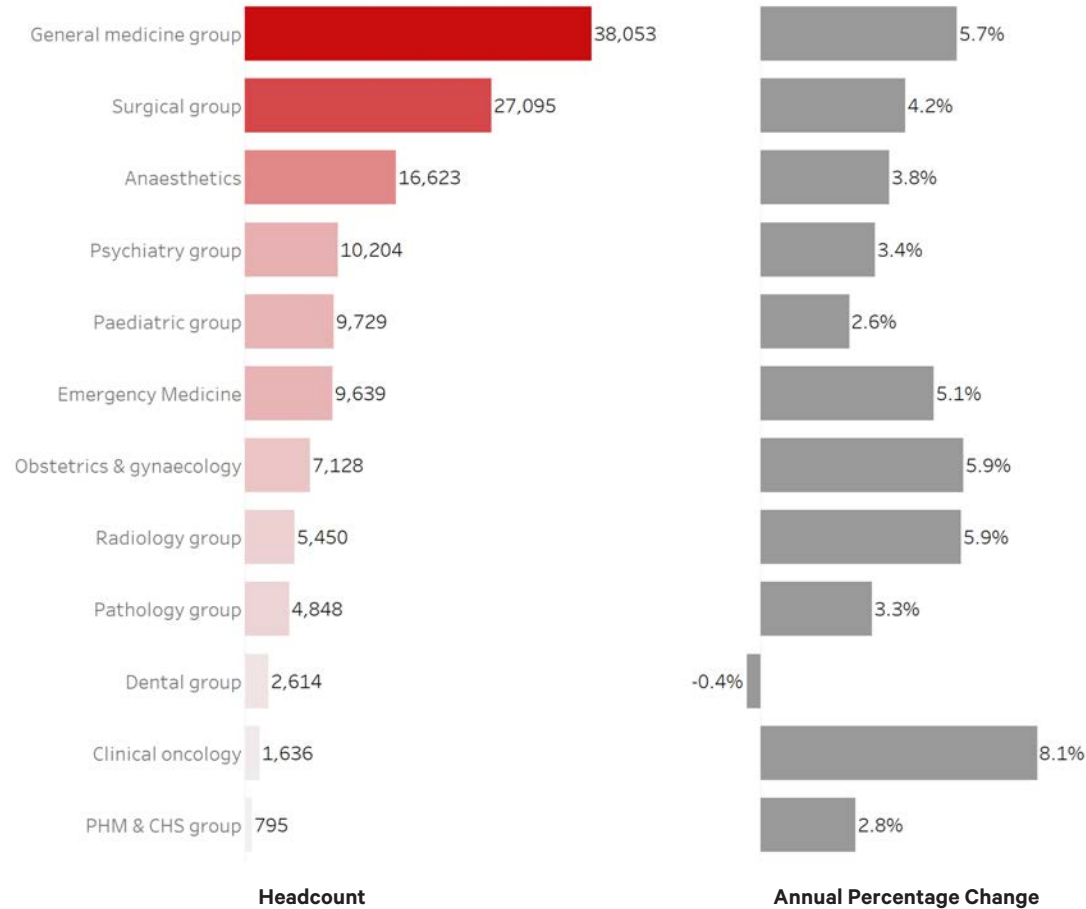
NHS England Hospital and Community Health Service (HCHS) by Staffing Group, Headcount, April 2023



Single digit increases in HCHS staffing despite apparent workforce issues

As of April 2023, there were more than 1.4 million people employed by NHS England Hospital and Community Health Service (HCHS). The largest staffing groups comprised support to clinical staff and nurses and health visitors with a combined headcount of over 800,000 in April 2022, over half of all HCHS employees. Despite concerns around workforce that have dogged the health service, single-digit growth was seen in all staffing groups in April 2023 compared to the same 12 months prior. Doctor headcount has increased by 4.6% over this period, a positive indication that the health service is preparing to deal with the growing concerns around the backlog.

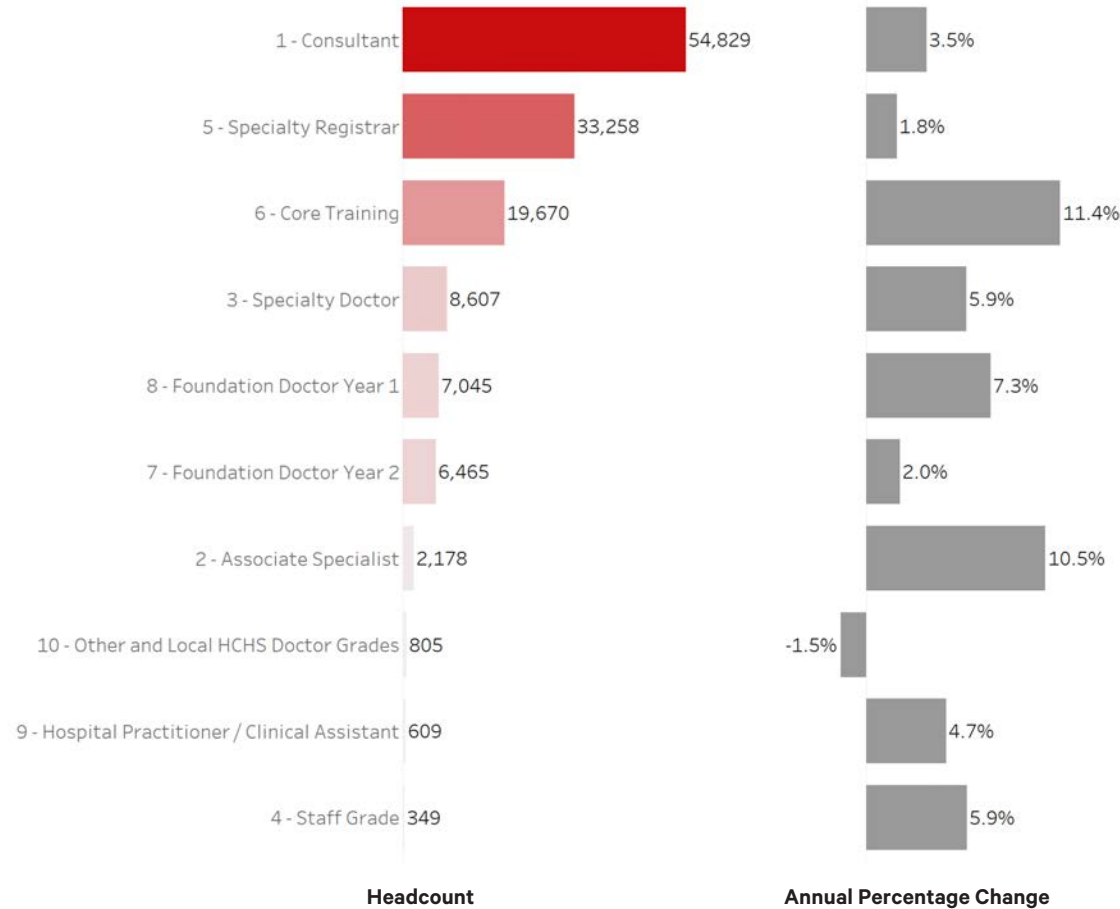
HCHS Doctors by Specialty, Headcount, April 2023



HCHS doctor headcount up across most specialties

Within HCHS, general medicine accounted for the largest category in terms of doctor headcount with over 38,000 staff, followed closely by the surgical group with over 27,000 staff. Anaesthetics makes up the third largest category with a headcount of over 16,000. Single-digit growth has been reported across all specialties except for dental which shrank by a modest 0.4%. The largest increases in doctor headcount year-on-year came within the clinical oncology group, which was up 8.1% in April 2023 compared to the previous year. Although pressures continue to grow across the health service, the increase in doctor headcount is a positive indication that the workforce is preparing to cope with demand.

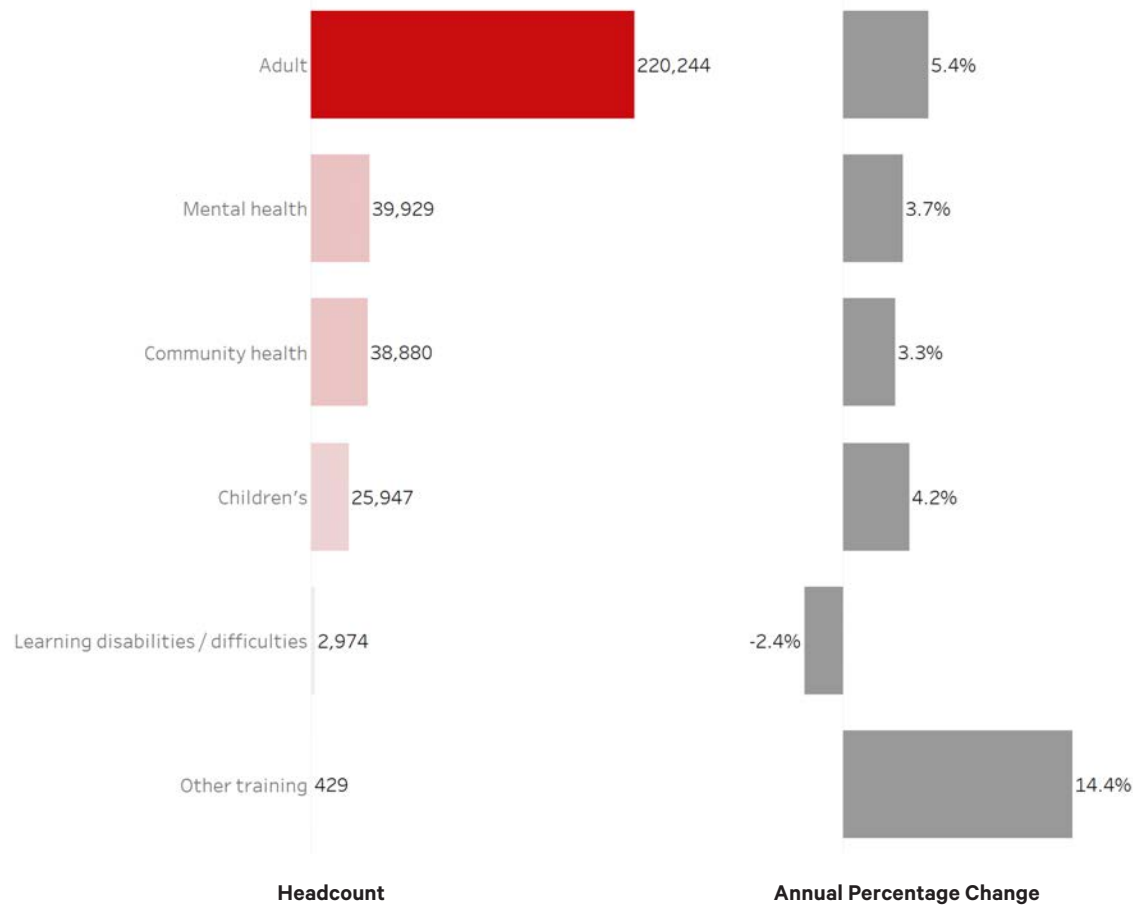
HCHS Doctors by Grade, Headcount, April 2023



Over fifty thousand NHS consultants, or around 1 per 1,200 population, in England as of April 2023

The largest headcount of doctors can be found in the consultant grade (grade 1) which had a headcount of over 50,000 as of April 2023, following single-digit growth of 3.5% year-on-year. Specialty registrars (level 5) and core training (level 6) make up the other largest groups with a combined headcount of over 50,000. There were over 13,000 doctors in foundation year training, with a 7.3% increase in year 1 headcount serving as a healthy sign that a constant stream of new doctors will continue to enter the system. The group with the largest increase was core training (level 6), whose headcount increased by 11.4% year-on-year, as more doctors completed foundation year 2 training than became specialty registrars (level 5), which increased by a modest 1.8% year-on-year.

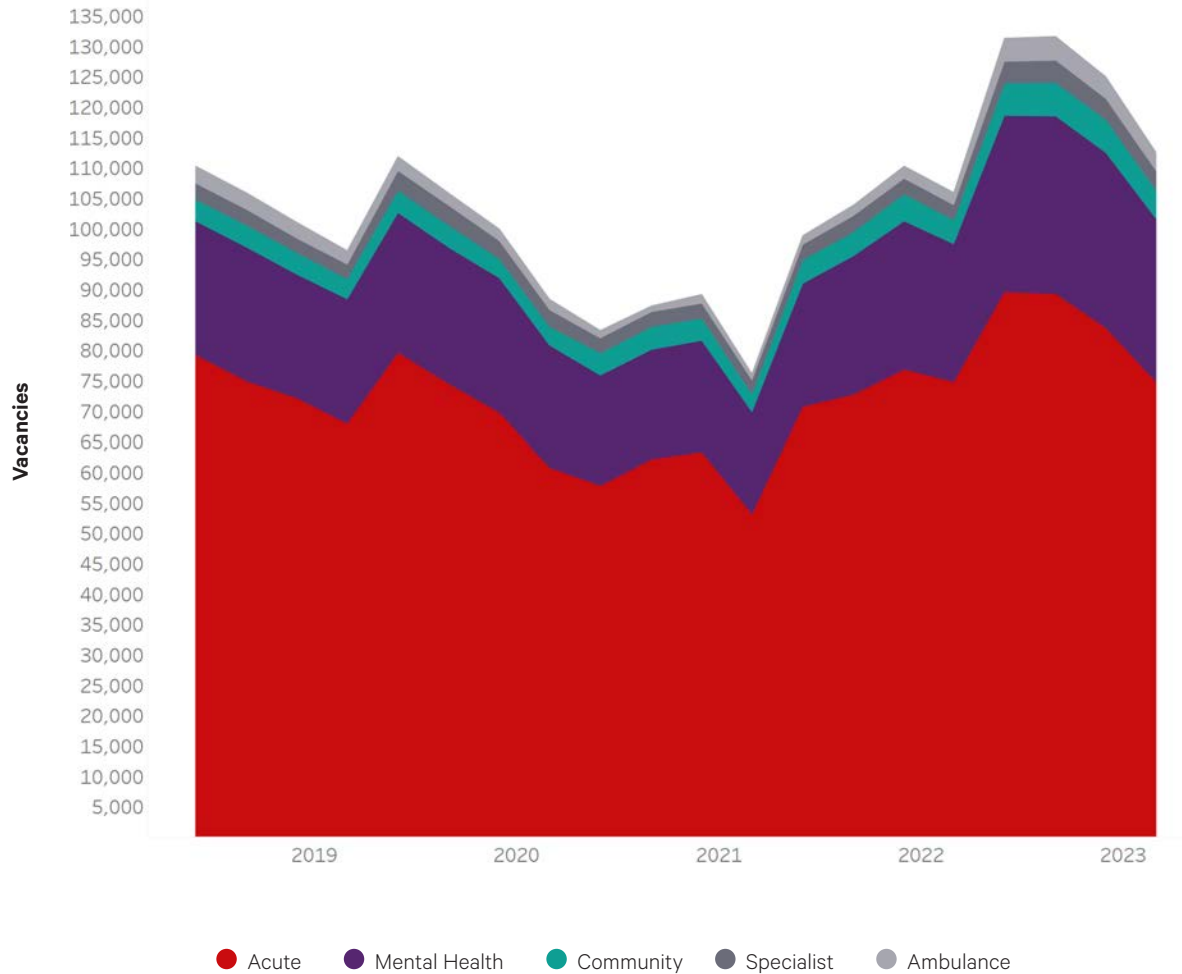
HCHS Nurses by Care Setting, Headcount, April 2023



Adult care nurses increased more than 5% year-on-year despite staffing crisis

The majority of HCHS nurses are employed in the adult care setting, with a headcount of over 220,000 as of April 2023. Despite staffing pressures across the NHS, headcount of adult care nurses increased by 5.4% between April 2022 and April 2023. Nurse headcount in the three other major care settings, namely mental health, community health and children's setting also saw single digit growth over this timeframe. Conversely, total headcount of nurses within learning disabilities/difficulties fell over this period, dropping by 2.4%.

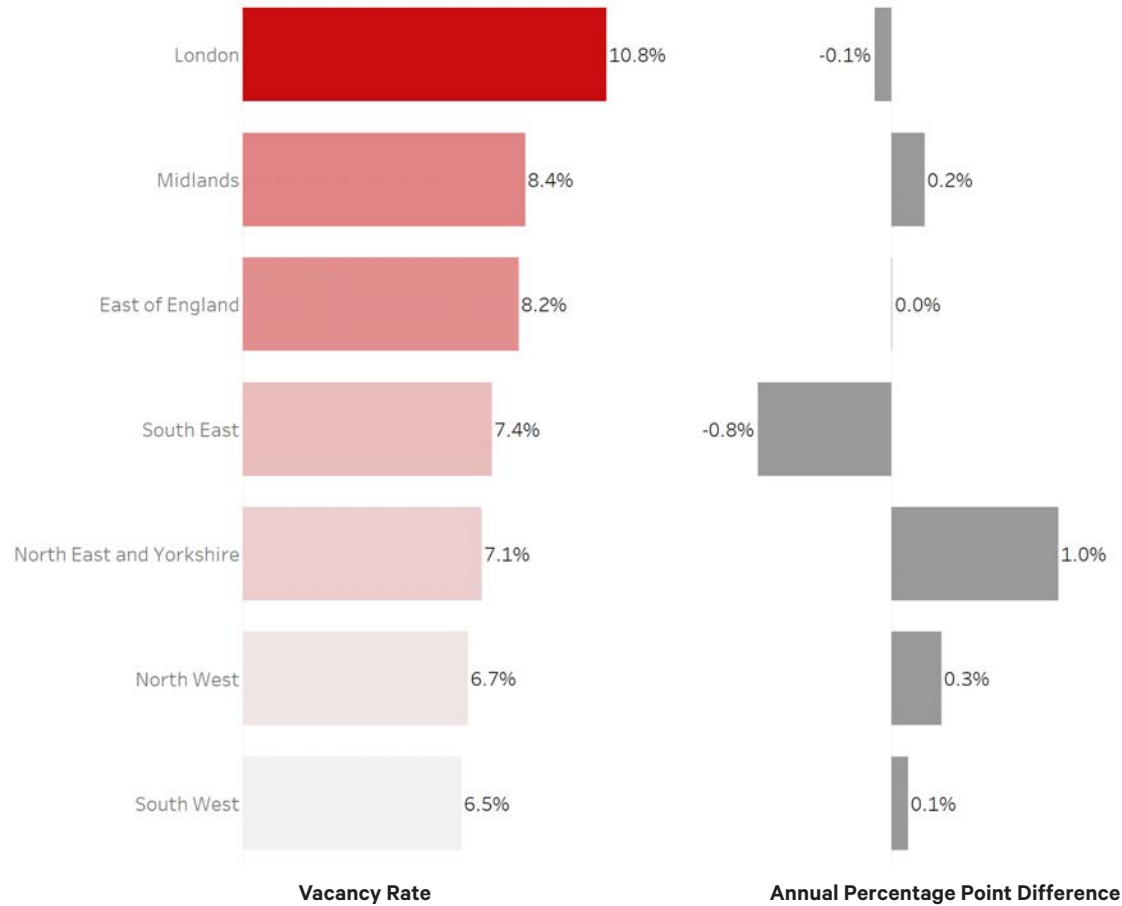
NHS England Total Quarterly Vacancies by Care Setting, June 2018 to March 2023



Total vacancies in NHS England back down to 112,000 in March 2023

The number of vacancies across NHS England has been on an alarming upward trajectory since a low of around 76,000 in March 2021, reaching a peak of over 130,000 by September 2022 as demand for headcount increased in line with the post-pandemic recovery across the health service. Despite the trend up to September 2022, the last two quarters have shown signs of a positive recovery with vacancies falling once more, down to 112,000 as of March 2023. The largest number of vacancies remain in the acute setting with around 75,000 vacancies in total, followed by mental health services where there were around 27,000 vacancies. Although it makes up the smallest care setting in terms of vacancies, ambulance vacancies skyrocketed from a low of 990 in September 2020 to just under 4,000 in September 2022. Fortunately this appears to be coming back down with around 3,000 vacancies in the ambulance care setting as of March 2023. The national vacancy rate in England stood at 8.0% by March 2023, down from a peak of 9.6% in September 2022.

Vacancy Rate (%) by NHS England Region, March 2023 (Q4 2022/23)

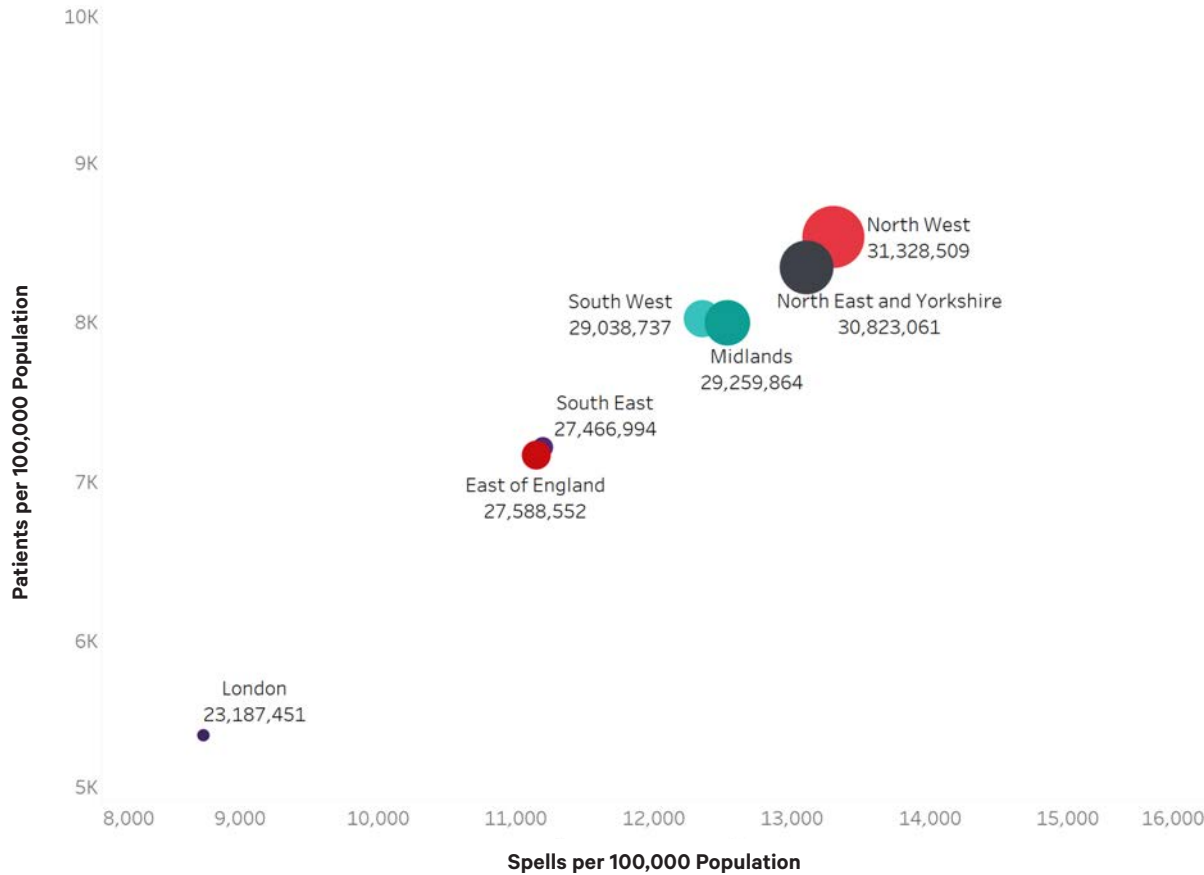


London is the NHS England region with the highest vacancy rate

There is significant variation in vacancy rates by NHS England region, with vacancies highest in London (10.8%) and the Midlands (8.4%) and lowest in the South West (6.5%) and North West (6.7%). In terms of annual percentage change, the most significant increase in vacancies has been seen in North East and Yorkshire (+1.0 percentage points) when comparing March 2023 figures with the same 12 months prior. The South East saw the largest fall in vacancy rate with a 0.8 percentage point drop in the 12 months to March 2023.

7. Regional Insights

NHS England Region System Benchmark, Inpatient, 2022/23

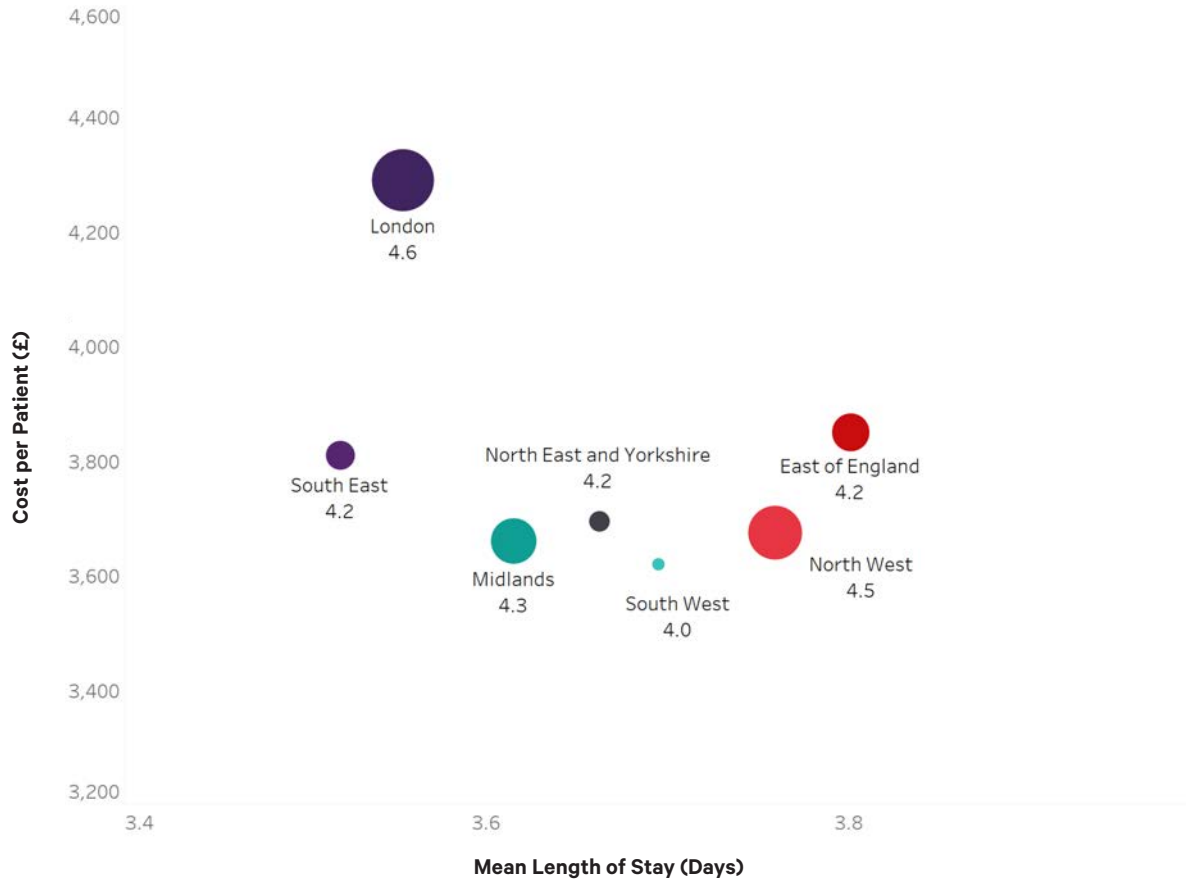


*bubble size denotes cost per 100,000 population

Considerable variation in the per population burden on acute trusts across England

There is considerable regional variation in secondary care demand per population across acute trusts in England. Segmenting all secondary care activity by NHS England region reveals a north-south divide whereby the North West, North East and Yorkshire and the Midlands are associated with a higher volume of admissions per 100,000 population, and consequently higher overall costs per 100,000 population. Conversely, London has the lowest secondary care burden relative to its population, with around half the number of patients and spells per population than the North West region. Furthermore, London had the lowest inpatient costs per 100,000 population at around £23 million in 2022/23, significantly lower than the £31 million spent on inpatient care per 100,000 population in the North West region, despite market forces factors.

NHS England Region Outcomes Benchmark, Inpatient, 2022/23

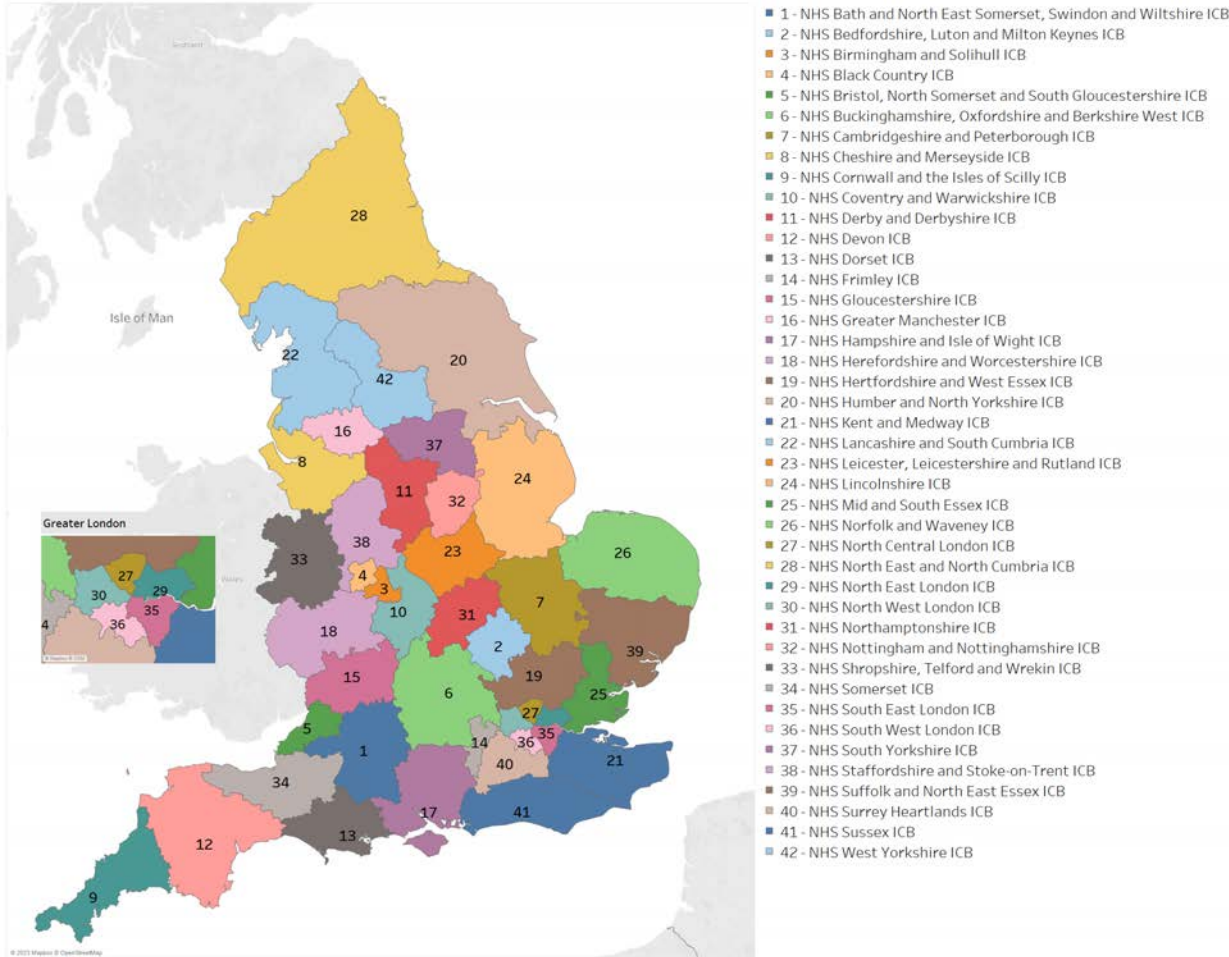


*bubble size denotes average complication and comorbidity (CC) score

There is visible regional variation in aggregate outcomes across secondary care in England

There is also regional variation in terms of health outcomes across England. Despite lower overall system burden and consequently overall spend per GP practice-registered population in London, the capital has the highest per patient costs of all NHS England regions as market forces factors drive higher service costs on a per patient basis. This is despite patients in London having some of the shortest average hospital stays (MLOS). London does however have higher average complication and comorbidity (CC) scores than other parts of the country implying more complex clinical cases overall, perhaps as there are more specialist centres in London than other parts of the country. The East of England, North West and South West were associated with the longest average hospital stays.

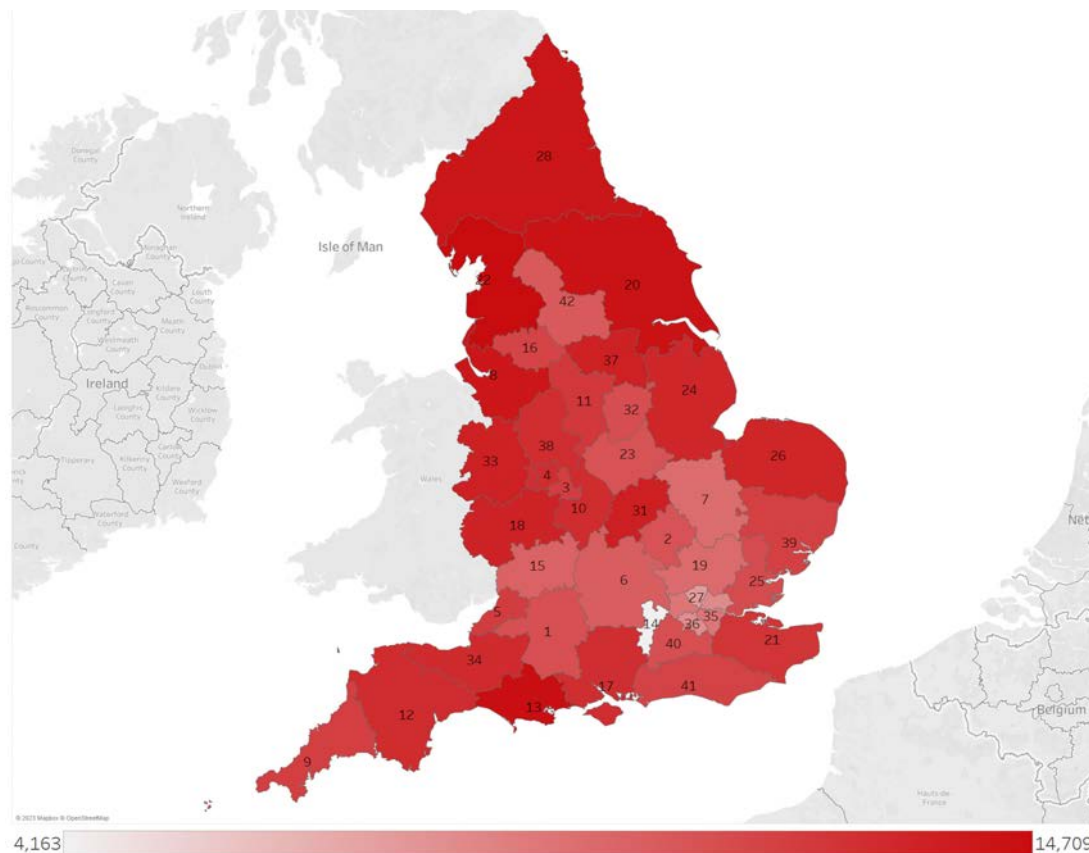
ICB Map: Index



Measuring performance across integrated care boards/systems

The following section looks at regional variation by integrated care board (ICB) across a range of metrics. Refer to this index as a guide for the specific location of individual ICB. Please note that the HES analysis included in this section is based on acute trust activity mapped to the commissioning ICB.

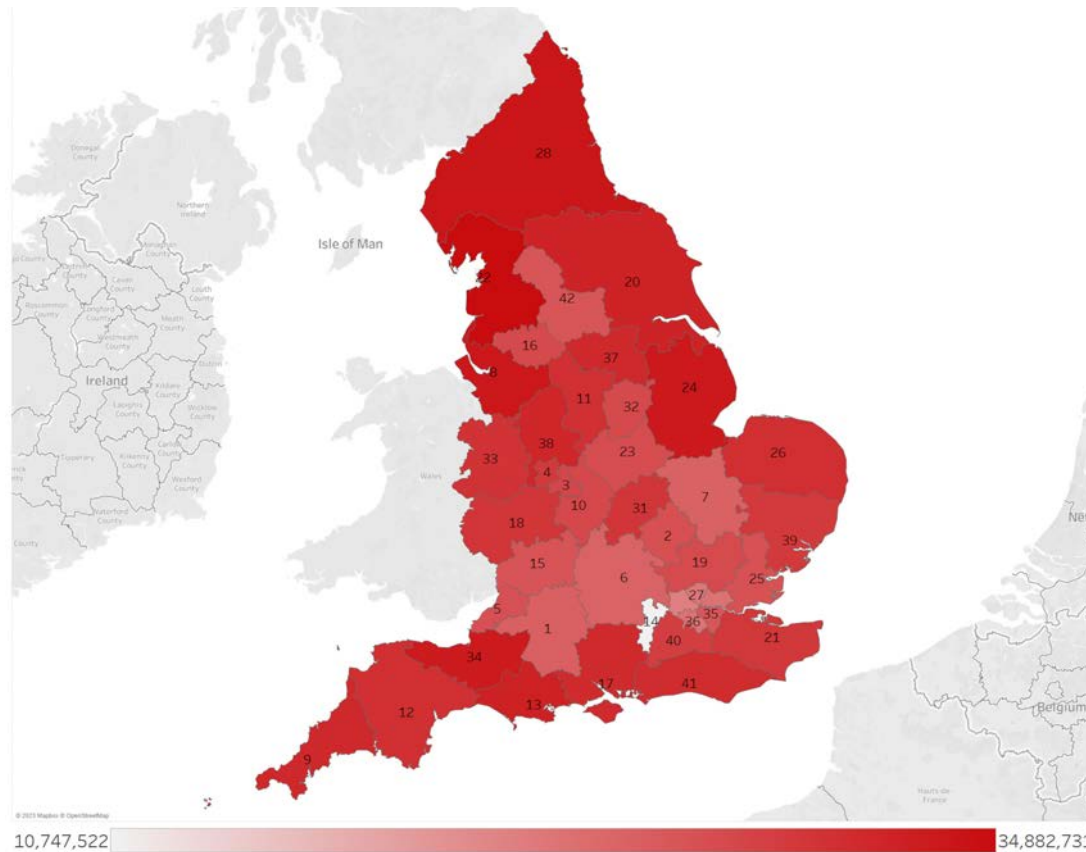
ICB Map: Spells per 100,000 population, Inpatient, 2022/23



Variation remains, but increased volumes of admissions per population were recorded across most of country as acute trust activity recovers from pandemic

Inpatient spells normalised per 100,000 population were high across many ICBs in England through 2022/23 as service recovery continued apace following the incidental impact of COVID-19. National variation does however remain, with normalised admissions highest in Lancashire and South Cumbria ICB, Dorset ICB, Humber and North Yorkshire ICB, North East and North Cumbria ICB and Cheshire and Merseyside ICB. Broadly speaking, normalised admissions were highest in the North, West and South West with Central Southern England associated with fewer admissions into acute trusts. Indeed, the lowest levels of admissions per population were recorded in Frimley ICB as well as the five London-based ICBs.

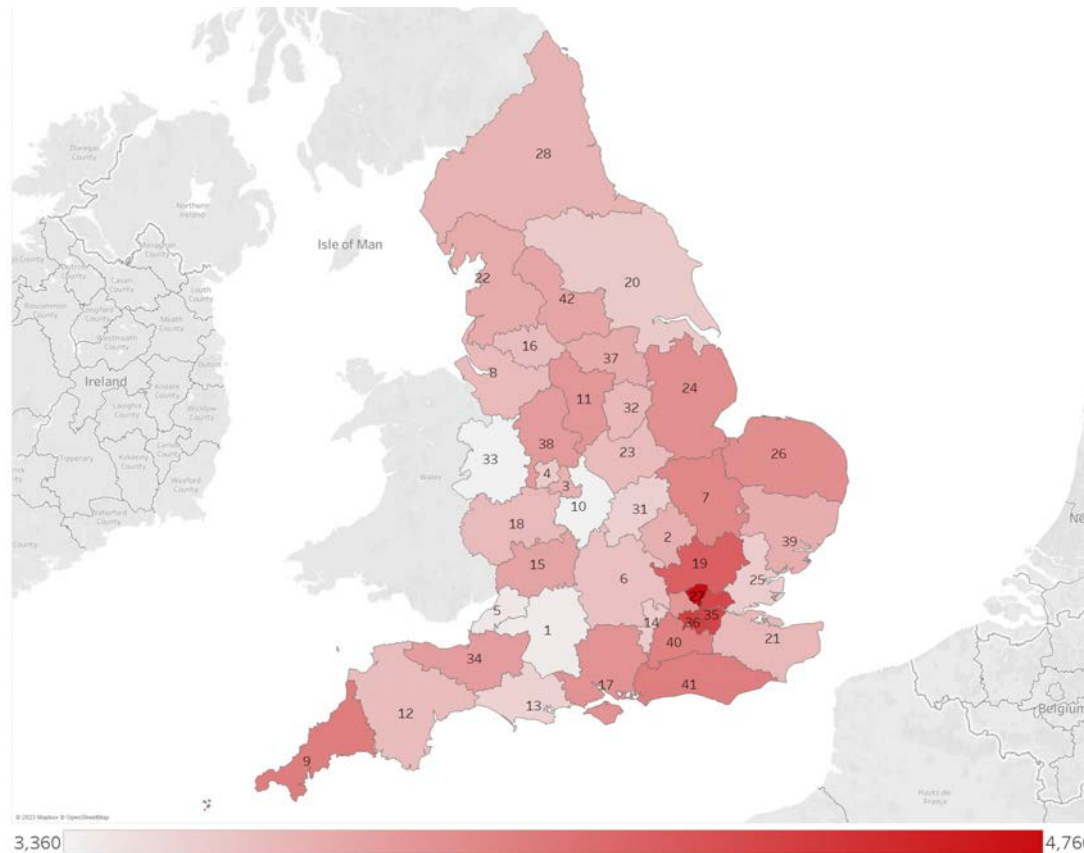
ICB Map: Cost per 100,000 population (£), Inpatient, 2022/23



Acute trust inpatient costs per population are highest in ICBs across North/North West and South/South West

Acute trust inpatient costs normalised per population displayed a similar trend to admissions, with the highest spend on secondary care as a proportion of population being seen in ICBs in the North and North West (i.e. Lancashire and South Cumbria ICB, North East and North Cumbria ICB, Cheshire and Merseyside ICB and Lincolnshire ICB) and in the South and South West (i.e. Somerset ICB and Dorset ICB). The lowest inpatient costs per population were recorded in the South East with Frimley ICB and the five London-based ICBs incurring far lower costs than those at the other end of the spectrum. On average, ICBs spent around £28 million per 100,000 population on acute care in 2022/23.

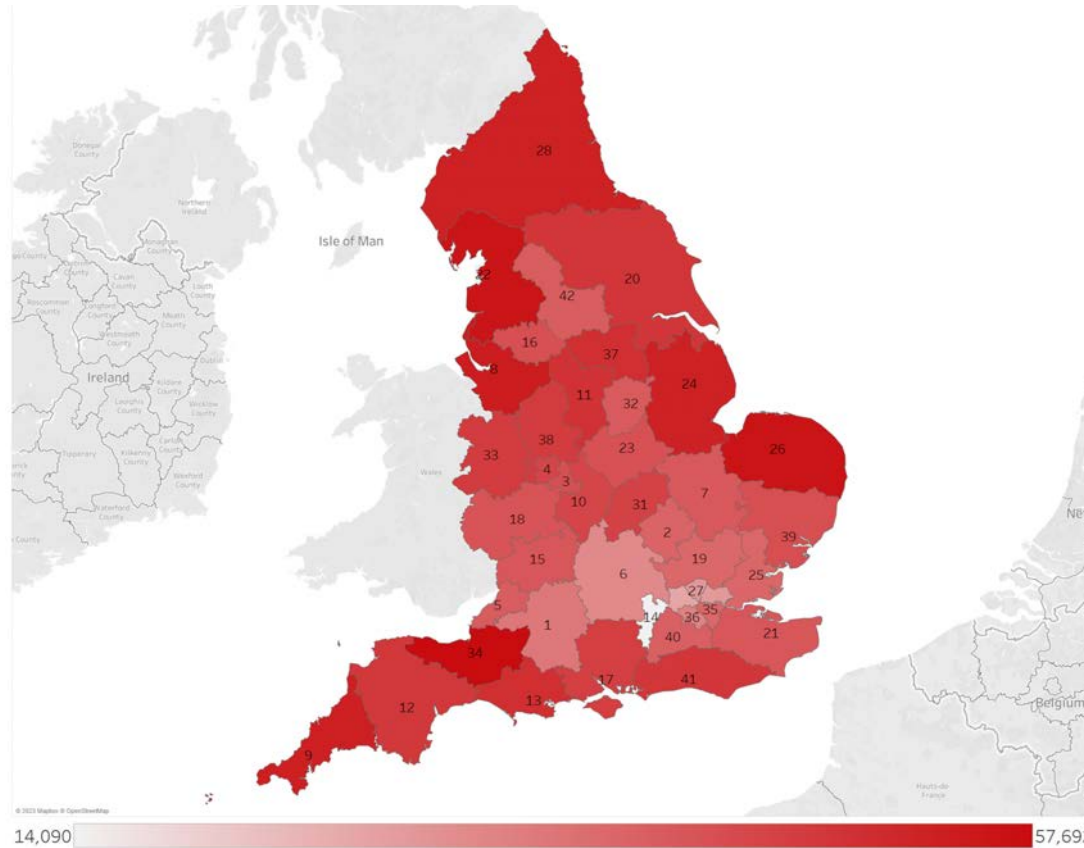
ICB Map: Cost per Patient (£), Inpatient, 2022/23



Per patient costs are highest in London and the South East despite overall lower per population demand on acute trust services

Despite lower overall burden on secondary care in terms of admissions and costs per population, costs on a per patient basis were in fact broadly highest in London and the South East. Variation in market forces factors is the primary reason for higher average costs of care in the South East. The average cost per patient varied from a high of £4,760 in North Central London ICB to a low of £3,360 in Coventry and Warwickshire ICB in 2022/23.

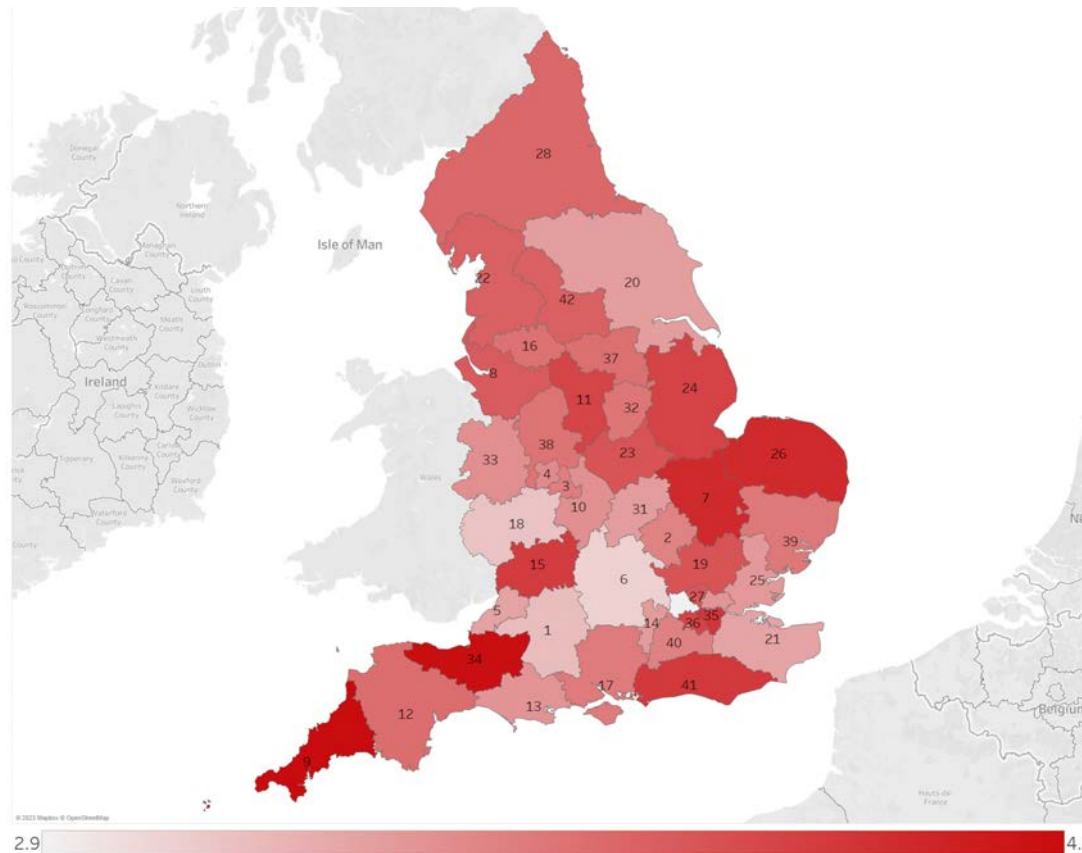
ICB Map: Bed days per 100,000 Population, Inpatient, 2022/23



Utilisation of hospital bed capacity is highest in systems with an elderly population demographic

There is also considerable variation in the utilisation of hospital beds per 100,000 population across ICBs in England. A total of eight ICBs had bed day utilisation per 100,000 population of more than 50,000 bed days in 2022/23, with Somerset ICB, Norfolk and Waveney ICB and Lancashire and South Cumbria ICB having the highest bed day utilisation. Conversely, four ICBs, namely Frimley ICB, North West London ICB, North East London ICB and North Central London ICB, had bed day per 100,000 population utilisation below 30,000, illustrating a wide variation in overall hospital bed utilisation nationally.

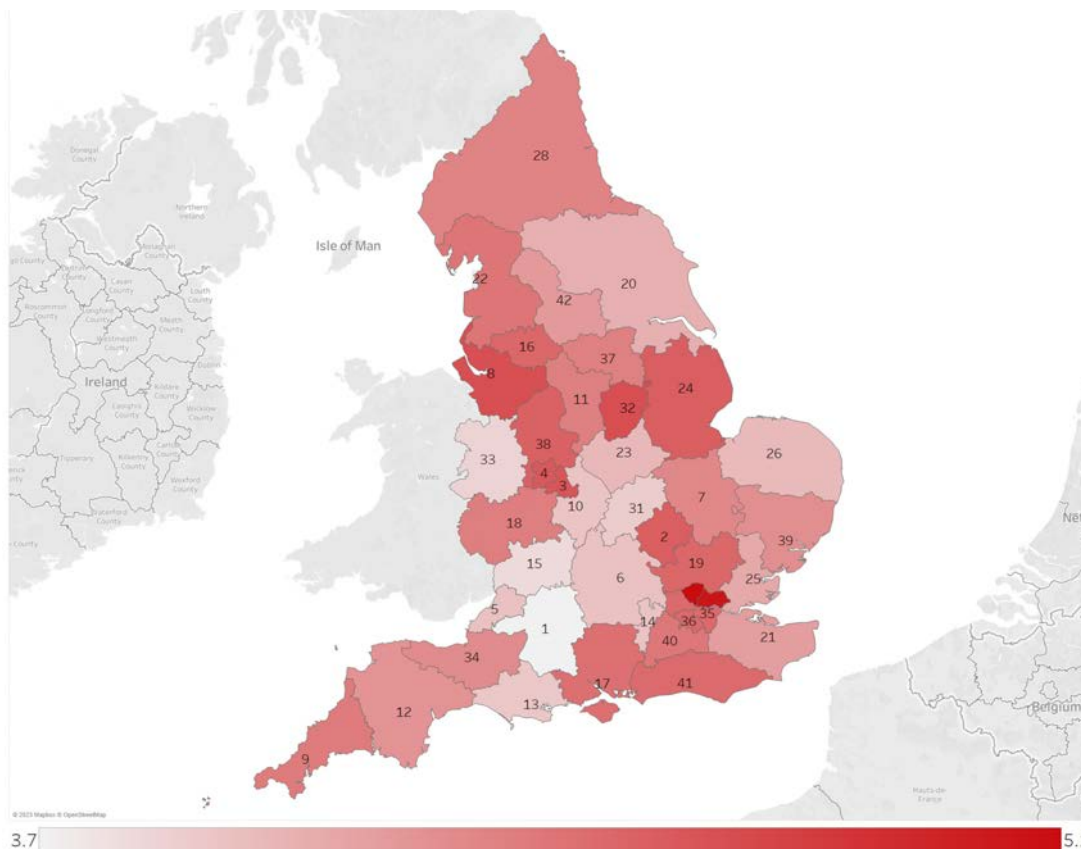
ICB Map: Mean Length of Stay (Days), Inpatient, 2022/23



Mean length of hospital stays range from 2.9 days to 4.4 days at a system level

The mean length of hospital stays (MLOS) ranges widely across ICBs in England, from a high of 4.4 days to a low of 2.9 days. It is broadly highest (over 4 days on average) in the South West (Somerset ICB and Cornwall and Scilly Isles ICBs) and East of the country (Norfolk ICB and Cambridgeshire ICB), perhaps due to a more elderly population demographic in these localities. Mean length of stay is lowest in North West London ICB and Buckinghamshire ICB. With average hospital stay an important indicator of capacity within secondary care, those systems with long stays will want to try to tackle this to free up capacity for elective care and subsequently the growing backlog, given that most long stays are attributable to non-elective admissions.

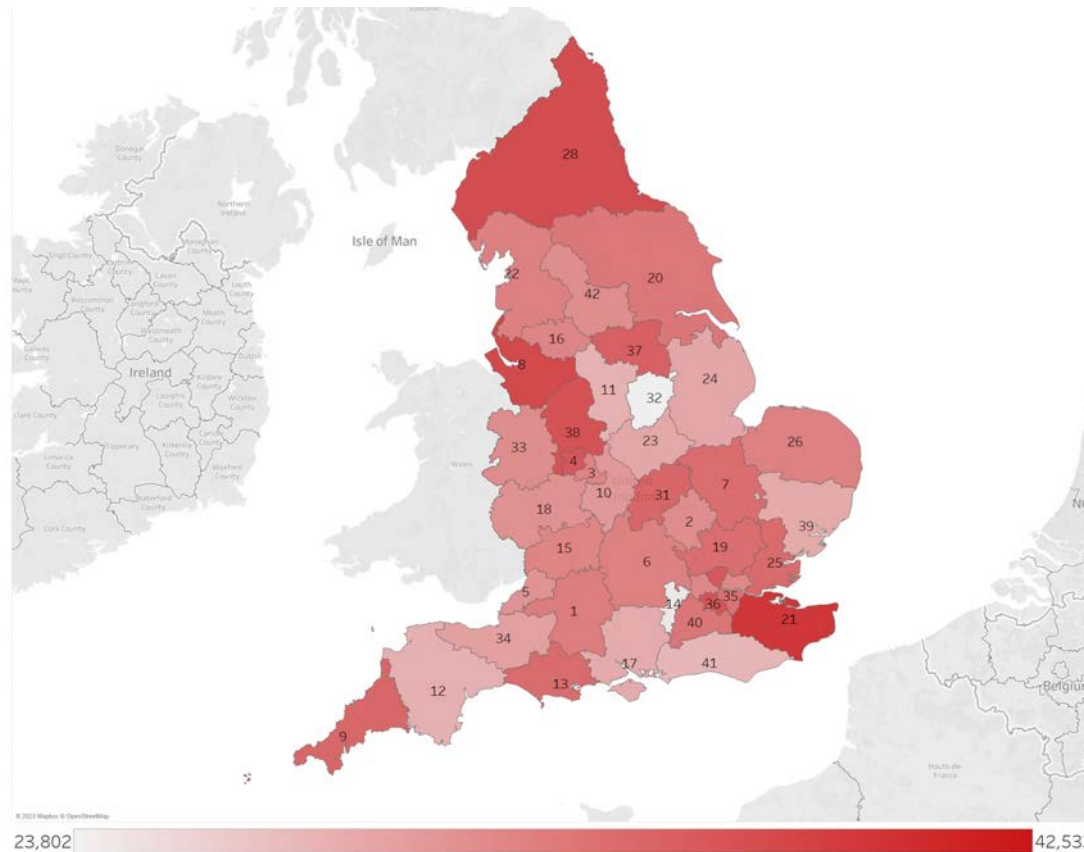
ICB Map: Average Normalised Complication and Comorbidity (CC) Score, Inpatient, 2022/23



Comorbidity and complication scores vary widely across ICBs in England

There is significant variation in average complication and comorbidity (CC) scores associated at an ICB level. CC scores, which denote where an admission is positioned on the tariff and subsequently the level of reimbursement for inpatient activity, are highest in the two North London ICBs, as well as Nottingham ICB, Cheshire and Merseyside ICB and Birmingham ICB. Nine ICBs have an average normalised CC score below 4, with Bath and North East Somerset, Swindon and Wiltshire ICB, Gloucestershire ICB and Shropshire, Telford and Wrekin ICB having the lowest average CC scores in 2022/23.

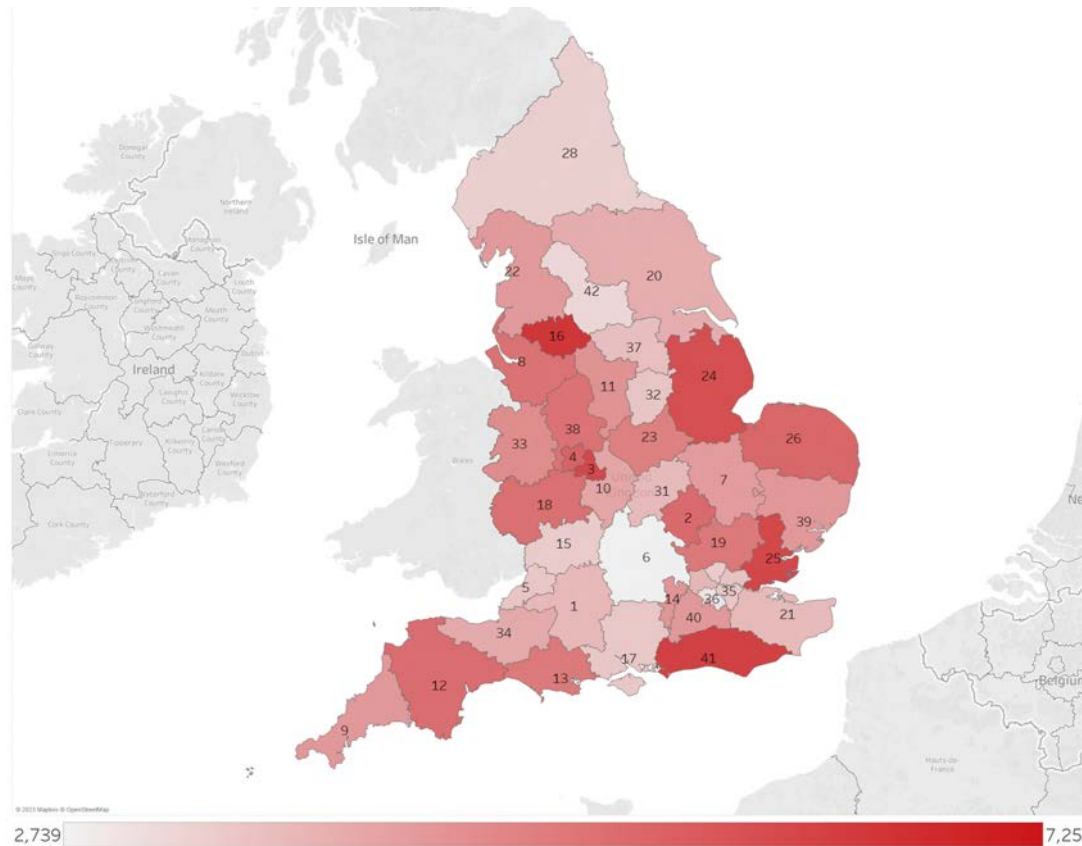
ICB Map: Referrals for First Consultant-Led Outpatient Appointments per 100,000 Population, 2022/23



Demand on outpatient services is highest in the North and South East

The volume of referrals into secondary care in England continue to recover to pre-pandemic levels following an incidental decline in 2020 as COVID-19 restrictions were imposed across both primary and secondary care. With referrals into secondary care back to normal levels, considerable variation remains at a system level. Indeed, referrals to outpatient were highest in Kent and Medway ICB, Cheshire and Merseyside ICB, North East and North Cumbria ICB, Staffordshire and Stoke-on-Trent ICB and South West London ICB in 2022/23, all of which had over 39,000 referrals per 100,000 population. Referrals into secondary care were under 30,000 per 100,000 population in 6 ICBs, namely Nottingham and Nottinghamshire ICB, Frimley ICB, Sussex ICB, Derby and Derbyshire ICB, Devon ICB and Hampshire and Isle of Wight ICB, highlighting lower demand on outpatient specialist services on a per population basis across these systems.

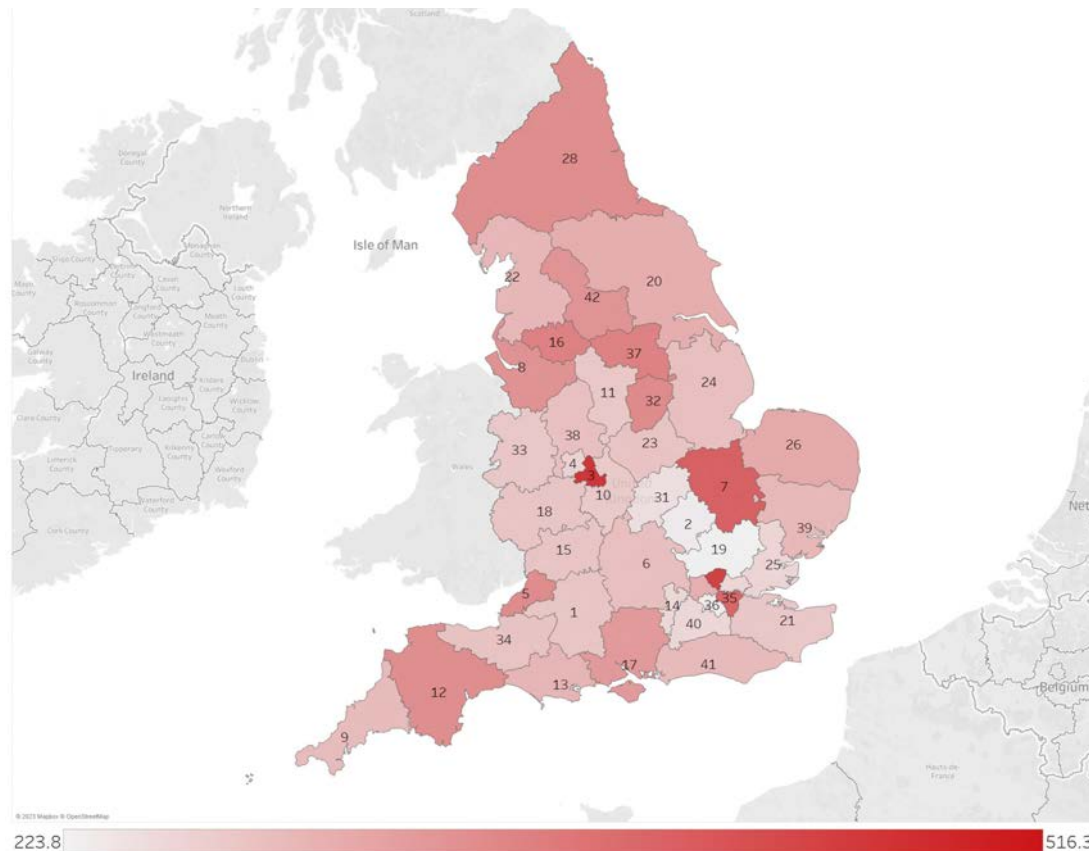
ICB Map: Incomplete Pathways >18 Weeks per 100,000 Population, April 2023



Five ICBs had over 6,000 incomplete pathways > 18 weeks per 100,000 population

Analysis of incomplete pathways where patients have waited more than 18 weeks normalised per population reveals significant variation in the relative size of backlogs at a system level, highlighting those ICBs where pressure on elective services is particularly high. Six ICBs had more than 6,000 incomplete pathways over 18 weeks per 100,000 population as of April 2023, namely Greater Manchester ICB, Sussex ICB, Mid and South Essex ICB, Birmingham and Solihull ICB and Lincolnshire ICB. Conversely, there were only four ICBs with fewer than 3,500 incomplete pathways over 18 weeks per 100,000 population, namely Buckinghamshire, Oxfordshire and Berkshire West ICB, South West London ICB, West Yorkshire ICB and North East and North Cumbria ICB. At a system level, the average number of incomplete pathways over 18 weeks stood at around 4,700 per 100,000 population across ICBs in England.

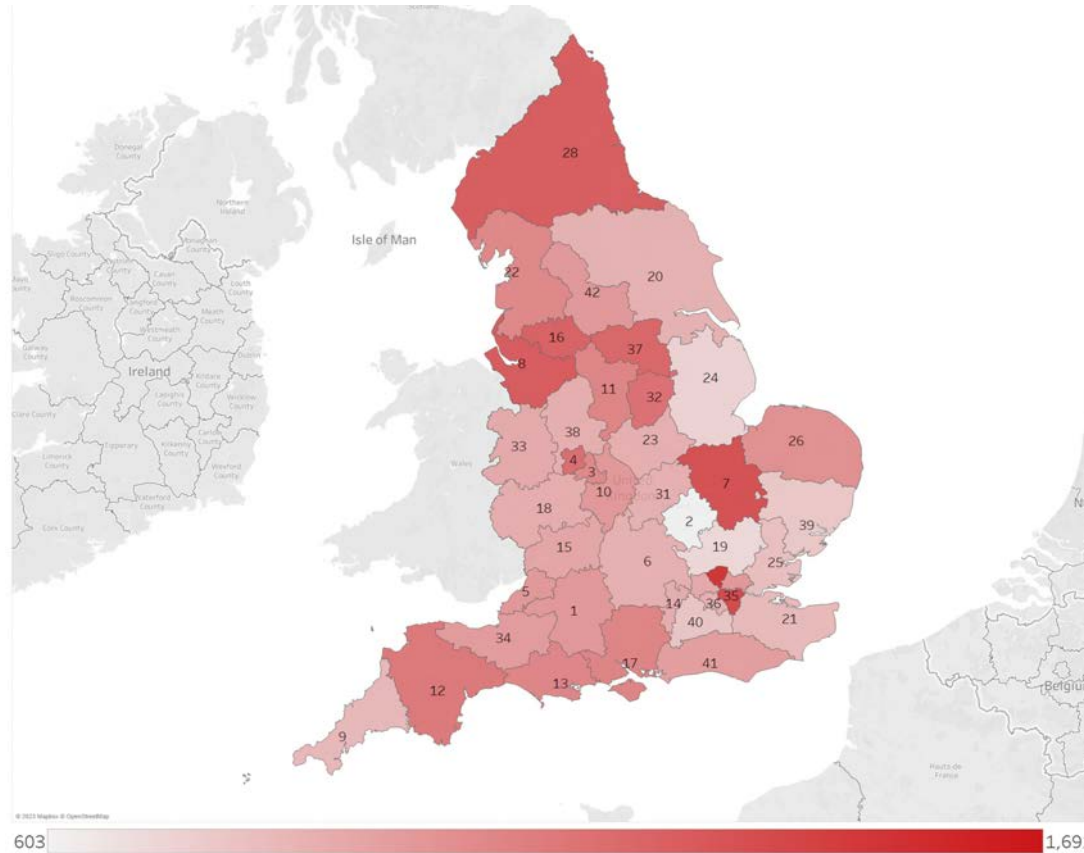
ICB Map: Prescribing Cost per Capita (£), 2021/22



Disparity remains in prescribing cost per capita across integrated care systems

There is considerable sub-national variation in prescribing spend per capita, with some ICBs exhibiting much higher prescribing spend per population. Birmingham and Solihull ICB, North Central London ICB, Cambridgeshire and Peterborough ICB and South East London ICB were the outliers in this regard, all spending more than £400 per capita on prescribing in 2021/22. While some integrated care systems, such as Hertfordshire and West Essex ICB, South West London ICB, Bedfordshire, Luton and Milton Keynes ICB and Northamptonshire ICB recorded per capita prescribing spend less than £250. The average prescribing costs per capita were £316 across all ICBs in 2021/22, so there is clear disparity with respect to some sub-national systems spending well above the average, and some systems spending well below the average on prescribing.

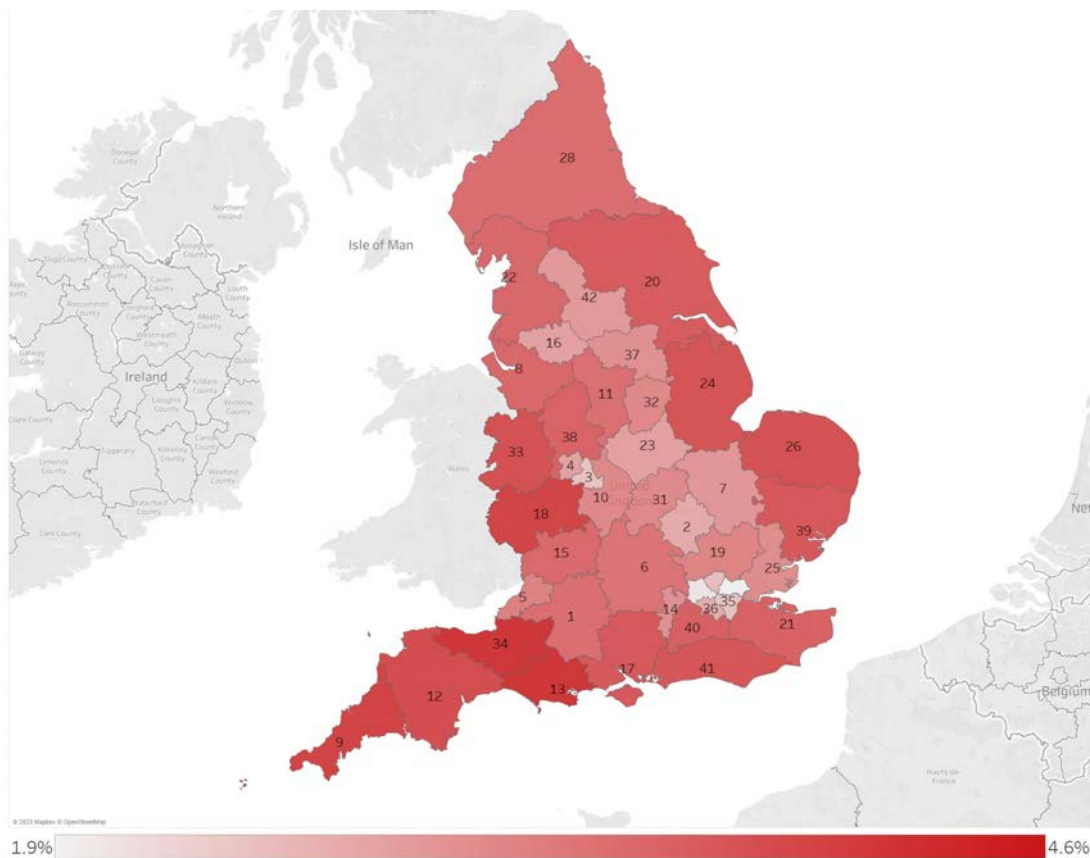
ICB Map: Qualified Clinical Staff per 100,000 Population, April 2022



Disproportionately high levels of per capita clinical staffing in the North West, Midlands and London

The number of qualified clinical staff per 100,000 population varies considerably across the ICB network, ranging from highs of over 1,500 qualified clinical staff per 100,000 population in North Central London ICB, South East London ICB and Cambridgeshire and Peterborough ICB, to lows of less than 800 qualified clinical staff per 100,000 population in Bedfordshire, Luton and Milton Keynes ICB, Hertfordshire and West Essex ICB and Lincolnshire ICB. The ICB average is 1,081 qualified clinical staff per 100,000 population, and so those areas with over 1,500 qualified clinical staff per 100,000 population are significantly better staffed across acute trusts within those systems.

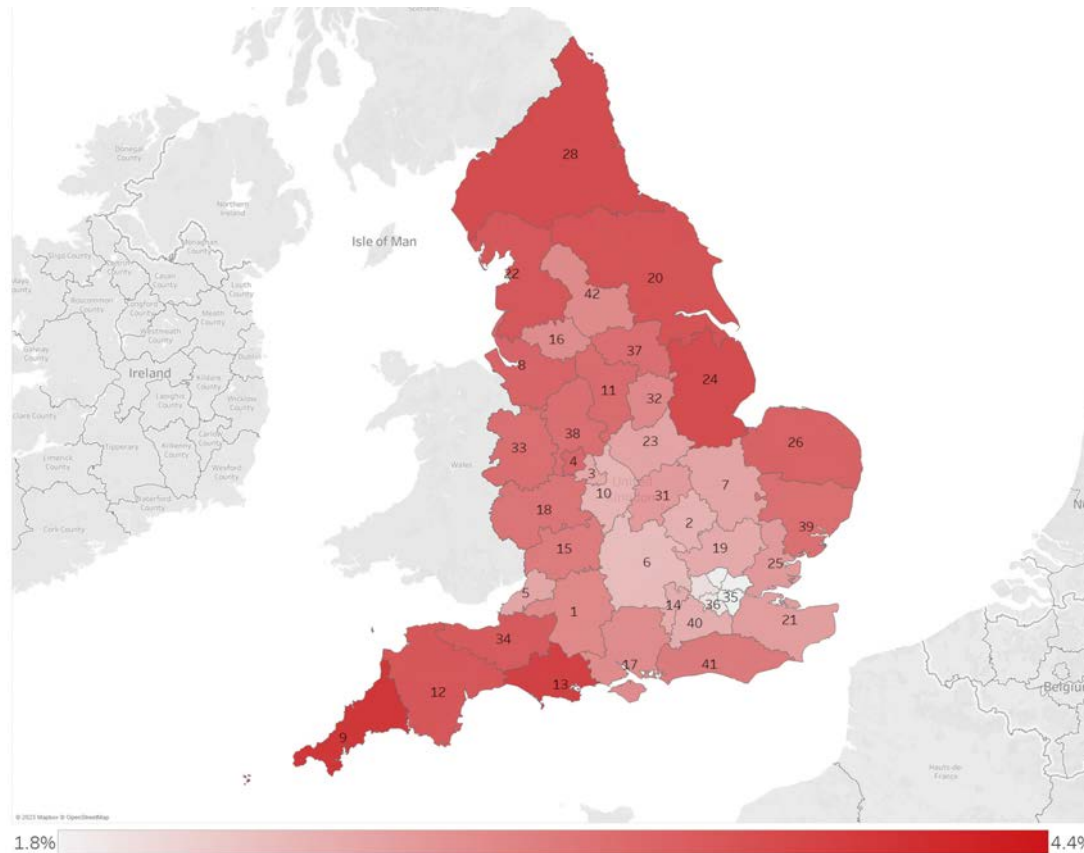
ICB Map: Cancer Prevalence (%), 2021/22



Higher cancer prevalence associated with ICBs that have elderly population demographic

Cancer prevalence varies at system level, with higher prevalence broadly associated with those ICBs with elderly populations. Indeed, prevalence was highest in Somerset, Dorset, Herefordshire, Cornwall and Devon integrated care systems. Conversely, it was lowest in the five ICBs in London as well as Birmingham, where demographics skew towards younger populations. Indeed, those areas associated with elderly populations exhibit cancer prevalence over twice that of areas with younger population demographics. Eleven ICBs recorded prevalence of 3.0% or below, while 12 ICBs have prevalence 4.0% or above, highlighting the considerable variation in cancer burden at system level.

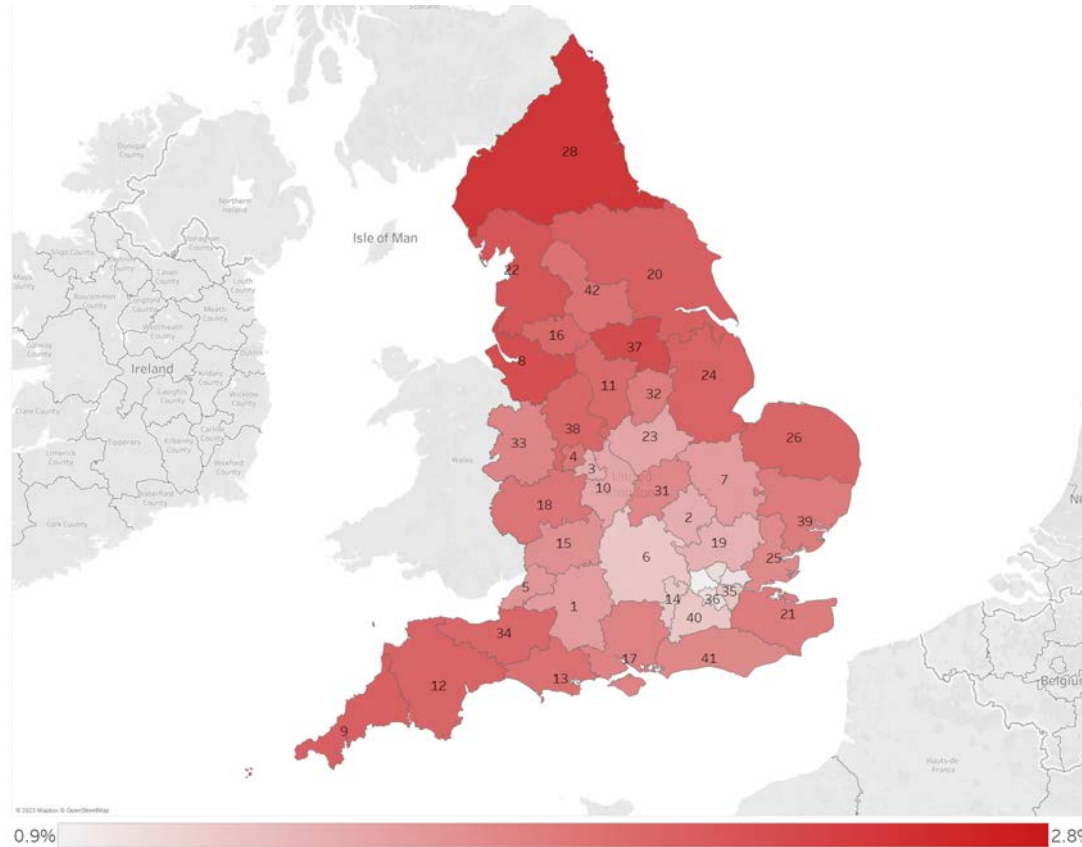
ICB Map: Coronary Heart Disease (CHD) Prevalence (%), 2021/22



CHD prevalence in London is around half that in areas associated with elderly populations

Like cancer prevalence, coronary heart disease (CHD) is also broadly associated with those systems with more elderly population demographics. CHD prevalence is indeed highest (4% and above) in Cornwall, Dorset, North East and North Cumbria and Lincolnshire integrated care systems. Conversely, it is lowest (2% and below) in the five London-based ICBs, and broadly lower across integrated care systems in central southern England.

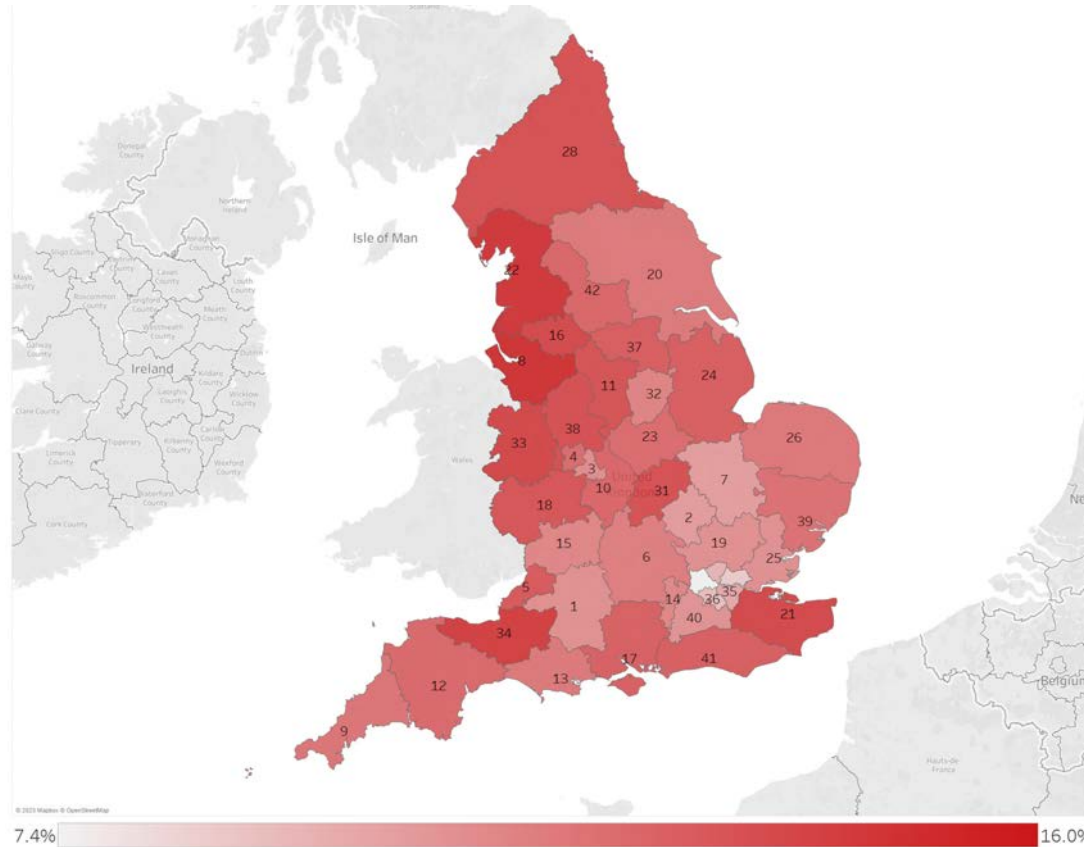
ICB Map: Chronic Obstructive Pulmonary Disorder (COPD) Prevalence (%), 2021/22



COPD prevalence is highest in the North and North-West

COPD prevalence is highest in the North and North West and is broadly associated with areas that have higher proportions of smokers, whereas COPD is generally lower where there are fewer smokers, such as parts of London and the home counties. COPD prevalence also correlates broadly with ageing populations, with higher-than-average prevalence also seen in the South West where there is a large elderly population.

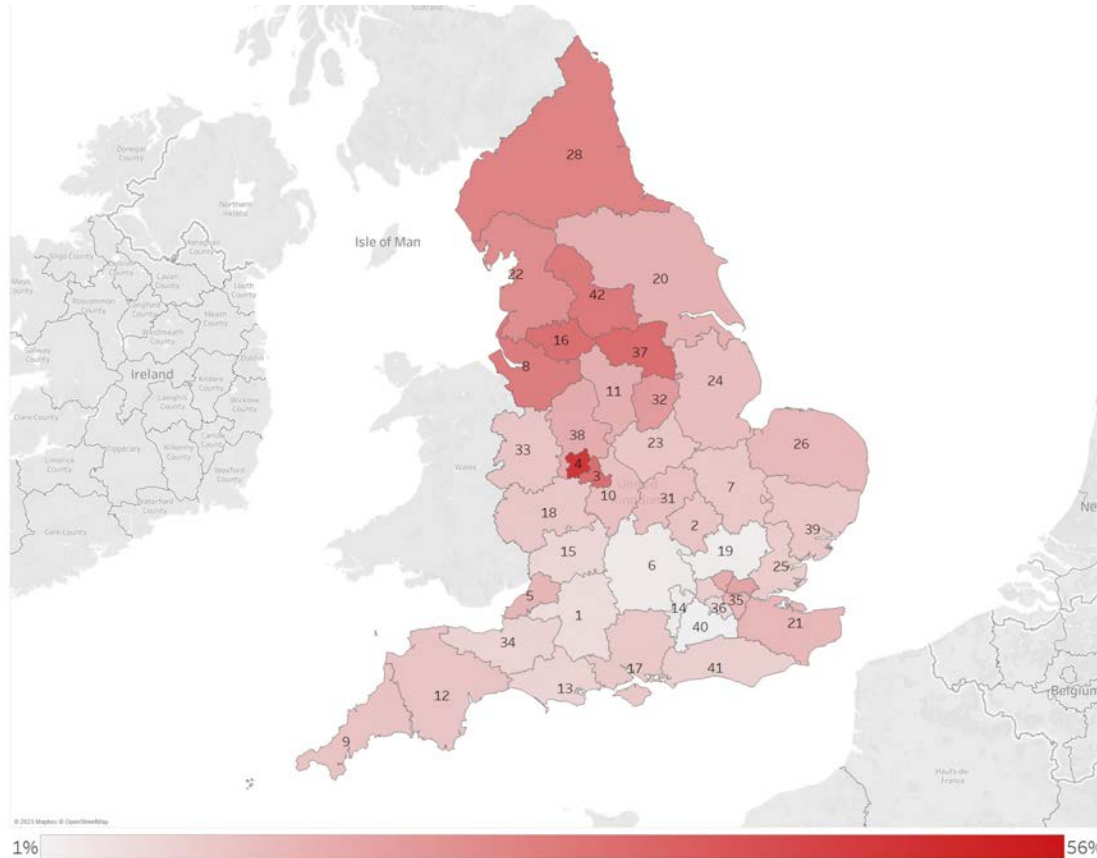
ICB Map: Depression Prevalence (%), 2021/22



Depression is prevalent across the country with few exceptions

Depression prevalence is highest in Cheshire and Merseyside ICB, Lancashire and South Cumbria ICB, Somerset ICB, Shropshire, Telford and Wrekin ICB, Kent and Medway ICB and Greater Manchester ICB. It is lowest in the five London-based ICBs as well as the home counties and other parts of central southern England. There is a correlation between socioeconomic status and depression, with those ICBs associated with above average deprivation exhibiting higher rates of depression.

ICB Map: Percentage of Total ICB Population in IMD Quintile 1 (20% most deprived)

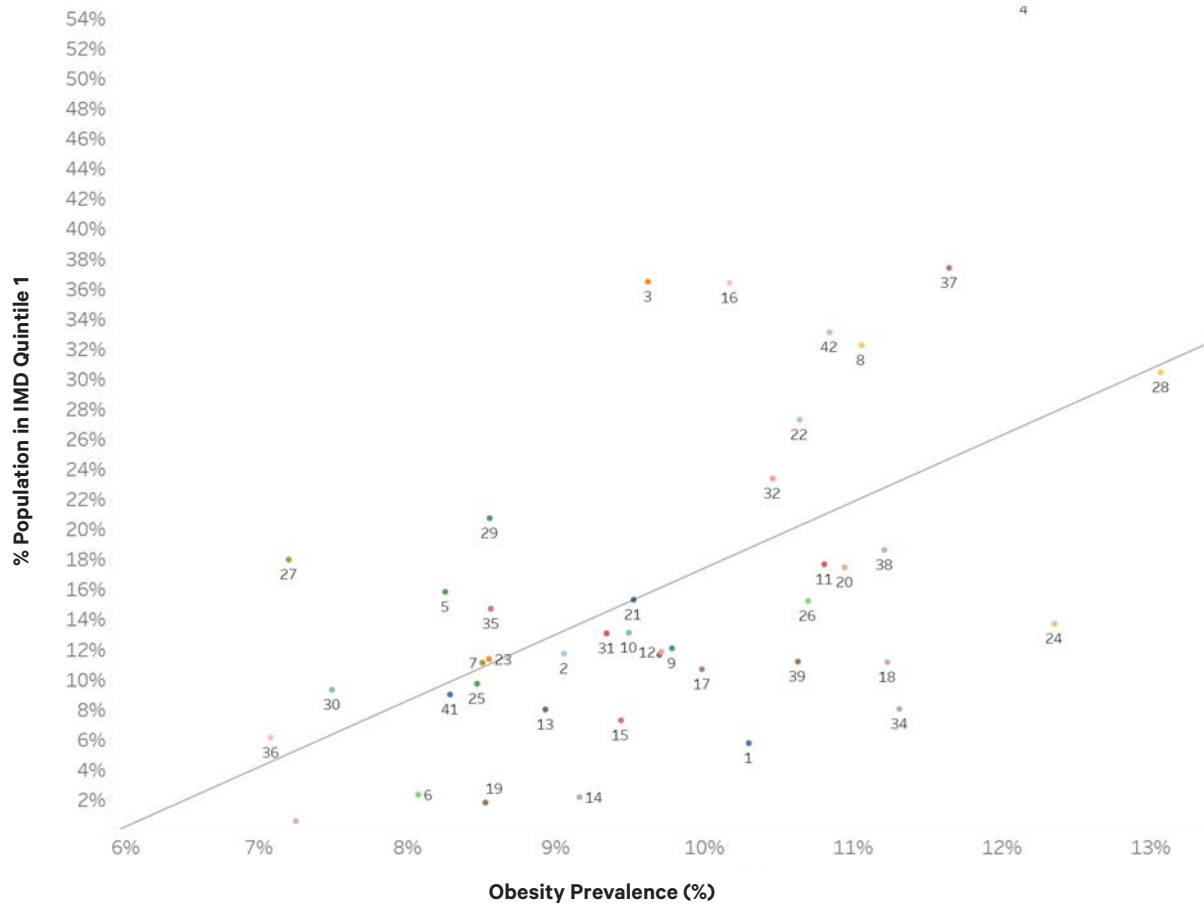


The Core20 will focus on tackling health inequality in areas with large populations in the 20% most deprived

As already discussed earlier in this report, a key strategic focus within the NHS is to tackle health inequalities, forming the Core20PLUS initiative. This initiative focuses on the 20% most deprived of the population based on the national index of multiple deprivation (IMD) which accounts for a wide range of social determinants of health. In the map we can segment ICBs according to what percentage of their populations fall within the 20% most deprived nationally, revealing those ICBs most impacted by socioeconomic deprivation. There are seven integrated care systems that have populations of 30% or higher in IMD quintile 1 (i.e. the 20% most deprived nationally). The biggest outlier to this end is Black Country ICB of which 56% of its population is in IMD quintile 1. Other ICBs with 30% or more in quintile 1 include South Yorkshire ICB, Greater Manchester ICB, Birmingham and Solihull ICB, West Yorkshire ICB, Cheshire and Merseyside ICB and North East and North Cumbria ICB. Broadly speaking, deprivation is lower in the South than the North.

Source: Index of Multiple Deprivation (IMD); Office for National Statistics (ONS)

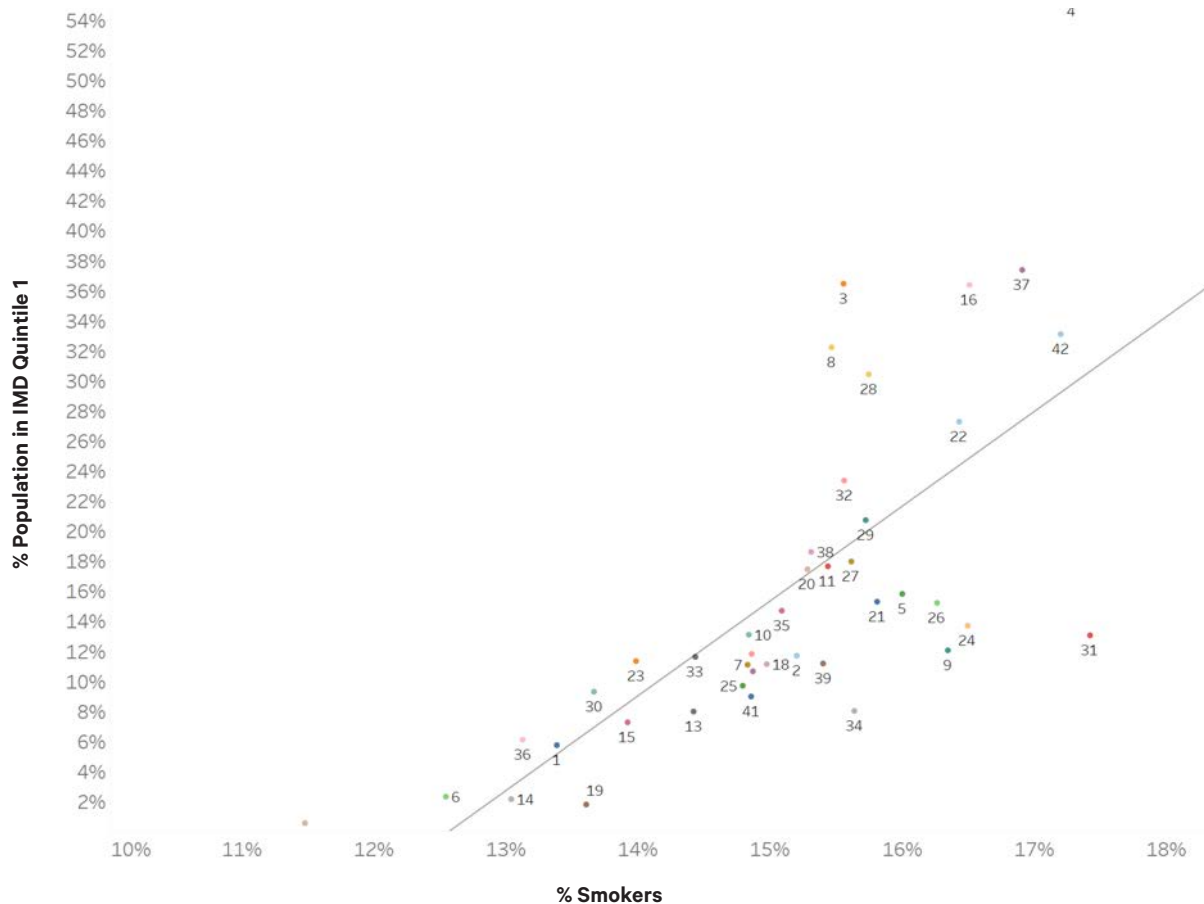
Obesity Prevalence (%) vs % Population in IMD Quintile 1 (20% most deprived), Integrated Care Boards (ICBs), 2021/22



Obesity rates at a system level are associated with socioeconomic deprivation

Analysing the level of deprivation across ICBs against health indicators such as obesity can highlight relationships between socioeconomic status and other lifestyle indicators associated with poorer health outcomes. Indeed, looking at obesity rates per ICB against the percentage of ICB population in quintile 1 reveals a strong correlation (p-value < 0.05) between deprivation and obesity prevalence. ICBs associated with high deprivation such as North East and North Cumbria ICB, South Yorkshire ICB, Black Country ICB and West Yorkshire ICB also have some of the highest obesity rates in the country, while systems associated with low levels of deprivation such as Buckinghamshire, Oxfordshire and Berkshire West ICB, Surrey Heartlands ICB, South West London ICB and North West London ICB typically have with low levels of obesity.

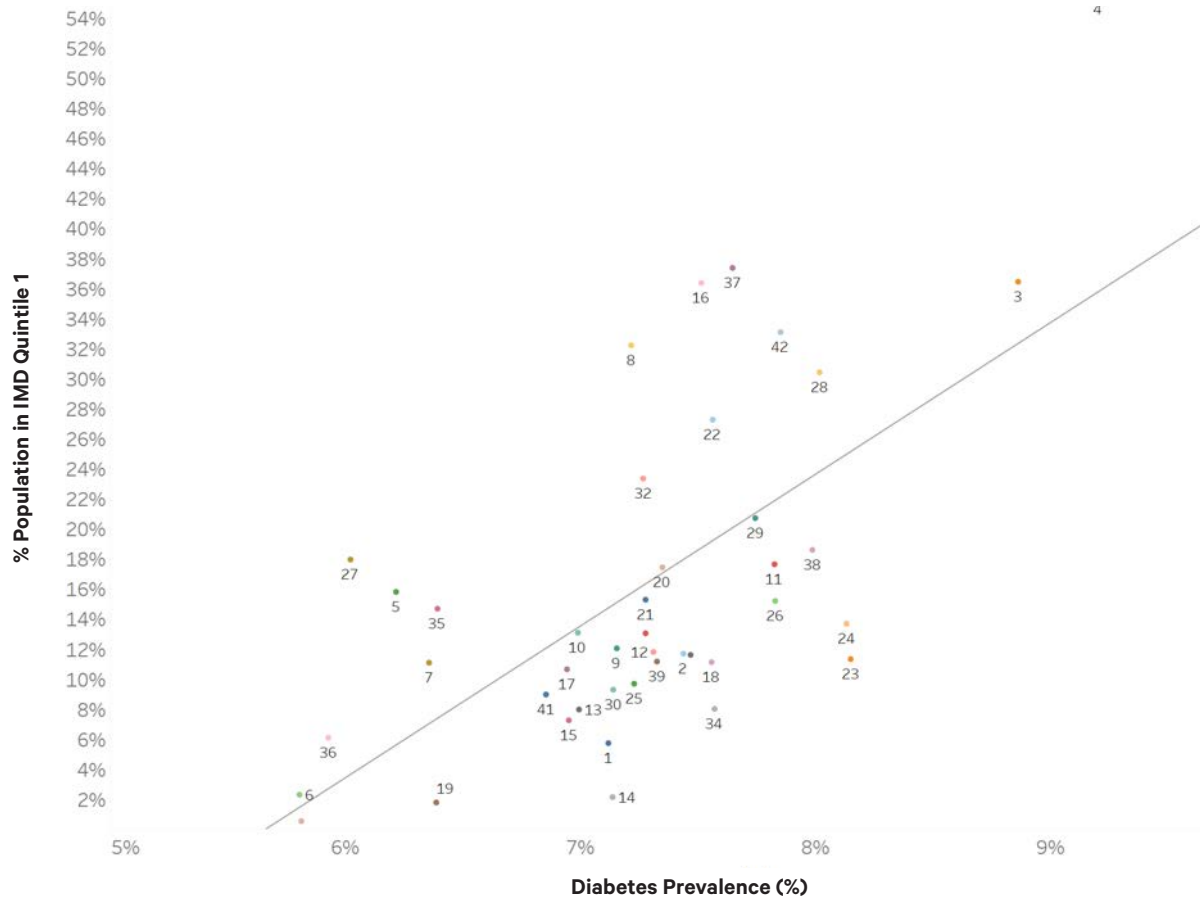
Smokers (% of Population) vs % Population in IMD Quintile 1 (20% most deprived), Integrated Care Boards (ICBs), 2021/22



Deprivation is strongly associated with smoking at a system level

Smoking also correlates strongly with deprivation (p-value < 0.05) at a system level. ICBs with high percentage of smokers also had disproportionately deprived populations compared to other sub-national localities. West Yorkshire ICB, South Yorkshire ICB, Greater Manchester ICB, Black Country ICB, North East and North Cumbria ICB and Birmingham and Solihull ICB were some of the health systems associated with both high levels of deprivation and high rates of smokers, whereas ICBs at the other end of the socioeconomic spectrum such as Surrey Heartlands ICB, Bath and North East Somerset ICB, Buckinghamshire, Oxfordshire and Berkshire West ICB, Frimley ICB and South West London ICB were associated with both low levels of deprivation and low rates of smoking. Efforts to tackle smoking in primary care also need to consider inequalities at a system level. Indeed, we have already seen how deprivation and associated lifestyle can have consequences with respect to indicators of health outcomes.

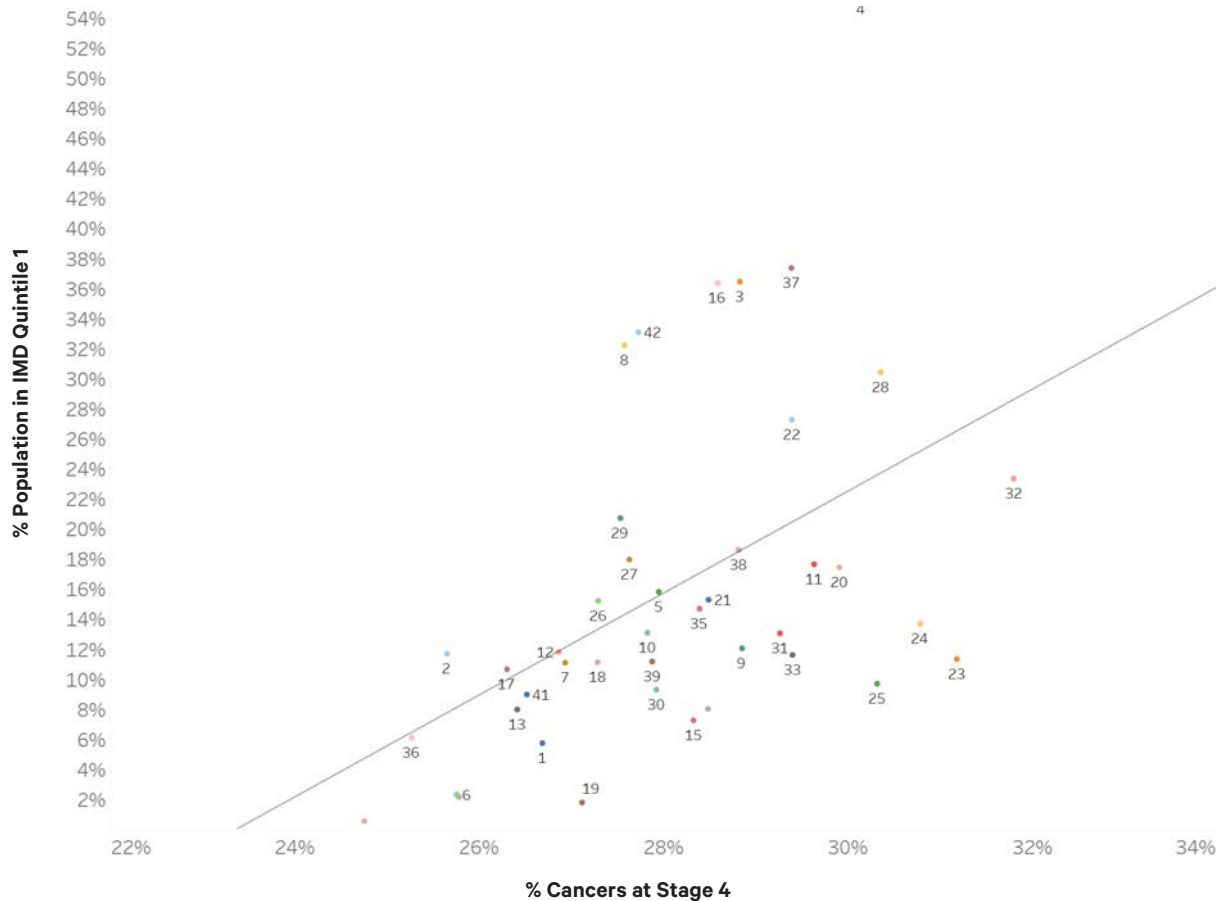
Diabetes Mellitus Prevalence (%) vs % Population in IMD Quintile 1 (20% most deprived), Integrated Care Boards (ICBs), 2021/22



Burden of patients with diabetes is highest in deprived sub-national health systems

We've already explored how diabetes prevalence correlates with diabetes at a national level according to National Diabetes Audit data, but here we can see the same is true at a system level, with those ICBs that have more deprived populations also having higher prevalence rates of diabetes according to QOF data. Indeed, there is a statistically strong (p-value < 0.05) correlation between diabetes prevalence and population in IMD quintile 1 sub-nationally, with higher levels of deprivation typically associated with higher rates of diabetes. Relatively deprived sub-national systems such as Black Country ICB, Birmingham and Solihull ICB, West Yorkshire ICB, South Yorkshire ICB, North East and North Cumbria ICB, Lancashire and South Cumbria ICB and Greater Manchester ICB are all associated with above average diabetes prevalence, while places associated with low deprivation typically have below average rates of diabetes.

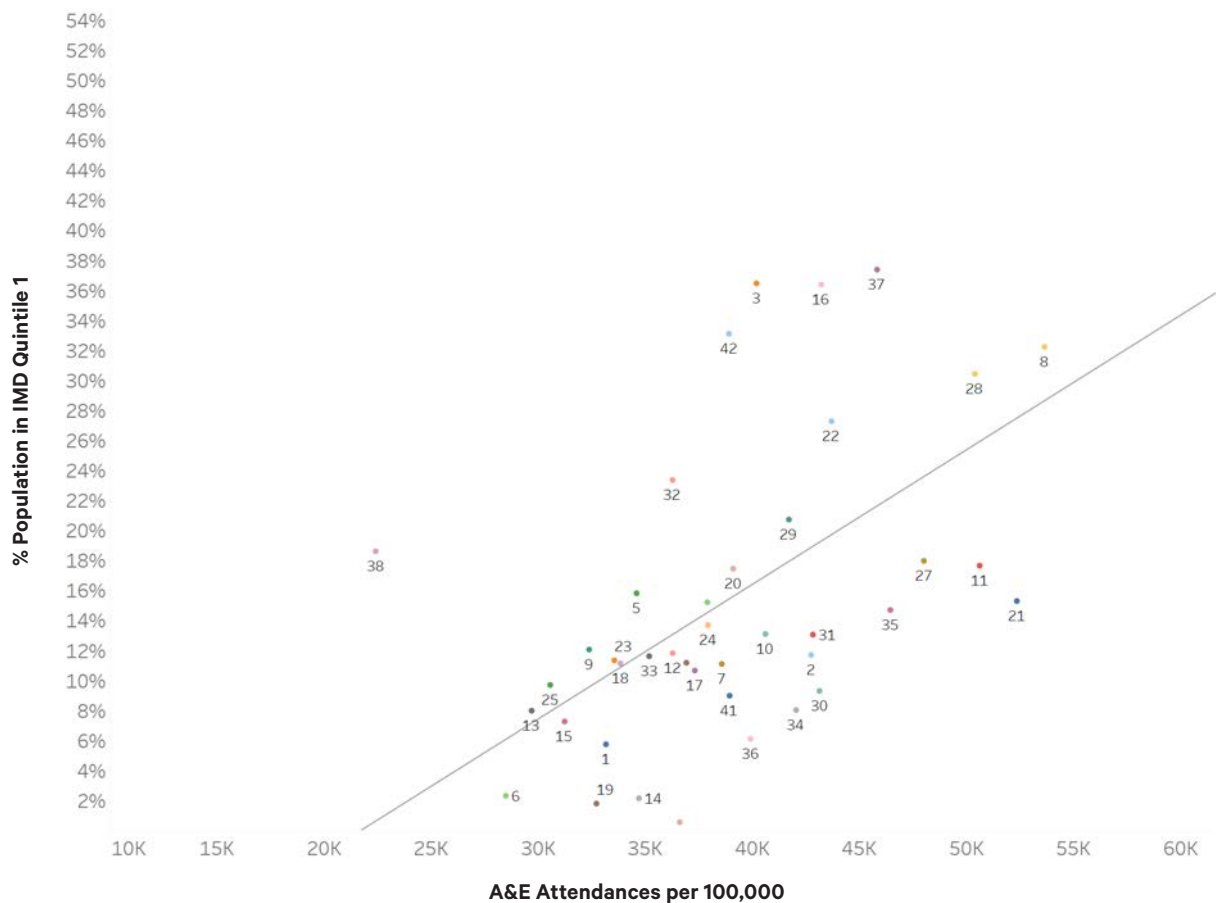
Percentage Staged Cancers at Stage 4 vs % Population in IMD Quintile 1 (20% most deprived), Integrated Care Boards (ICBs), 2020



Stage 4 cancer rates are higher in areas associated with deprivation

Analysis of the newly published data around cancer staging from NHS Digital also reveals a correlation between deprivation at a sub-national level and rates of advanced cancer according to staging classifications. ICBs with higher levels of deprivation were associated with higher rates of stage 4 cancer, with a statistically significant correlation (p-value < 0.05) between % staged cancers at stage 4 and % population in IMD quintile 1. Indeed, more deprived ICBs such as Nottingham and Nottinghamshire ICB, North East and North Cumbria ICB, Black Country ICB and South Yorkshire ICB, among others, were all associated with higher than average rates of stage 4 cancer. Conversely, sub-national localities associated with low levels of deprivation such as South West London, Buckinghamshire, Oxfordshire and Berkshire West ICB, Surrey ICB and Frimley ICB were associated with lower levels of stage 4 cancer. There is therefore a clear correlation between socioeconomic indicators of deprivation and aggregate outcomes in oncology care.

A&E Attendances per 100,000 Population vs % Population in IMD Quintile 1 (20% most deprived), Integrated Care Boards (ICBs), 2021/22



Deprived sub-national systems associated with higher volumes of A&E attendances

Having explored how deprivation correlates with certain conditions associated with lifestyle such as obesity and diabetes, we can also see how deprivation correlates with normalised burden on emergency healthcare services across the acute trust network in England. At a sub-national system level, the rate of A&E attendances per 100,000 population correlates strongly (p-value < 0.05) with deprivation, with those ICBs that have disproportionately deprived populations tending to result in a higher burden of unplanned healthcare. ICBs considered more deprived such as Black Country ICB, North East and North Cumbria ICB, Greater Manchester ICB, Cheshire and Merseyside ICB and South Yorkshire ICB were all associated with higher volumes of A&E attendances per population. Indeed, the ten ICBs with the highest normalised A&E burden had an average deprived (quintile 1) population of 26%, while the ten ICBs with the lowest normalised A&E burden had an average deprived population of 11%. Better management of population health in areas where health inequalities are more profound is therefore central to reducing the unplanned care burden on the healthcare service.

8. Sources

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