



Hertfordshire and  
West Essex Integrated  
Care System



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Integrated Care Board

## Asthma HWE Insights pack

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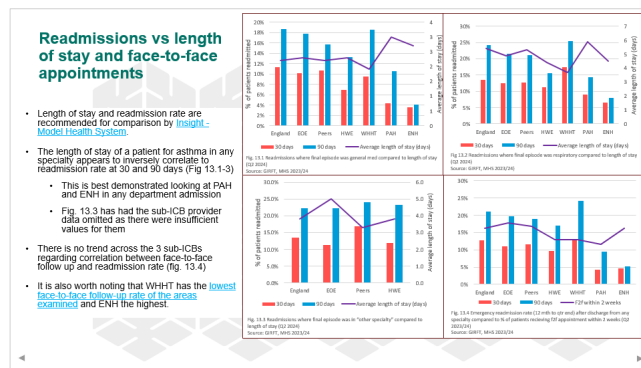
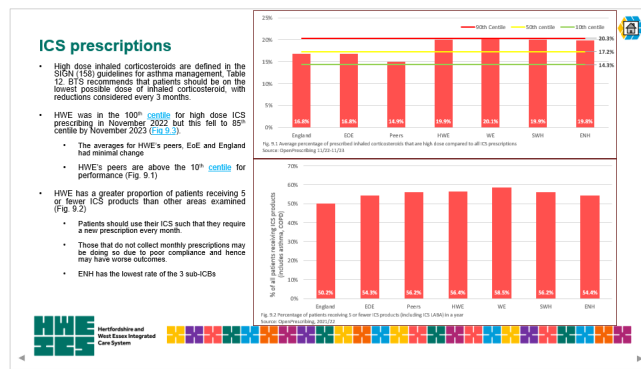
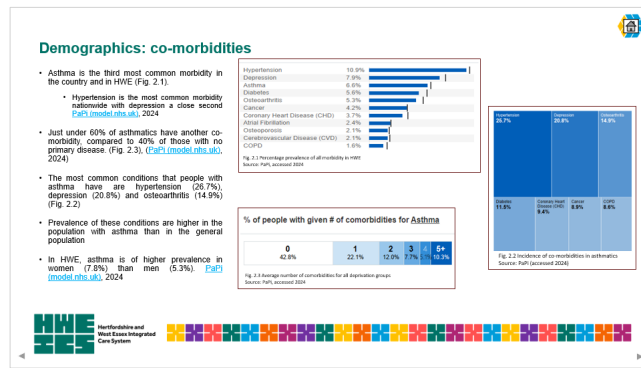
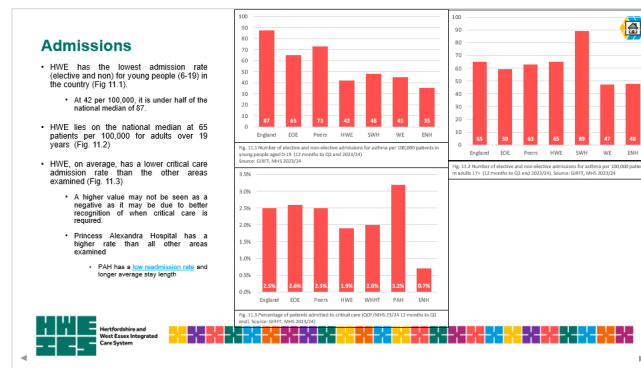
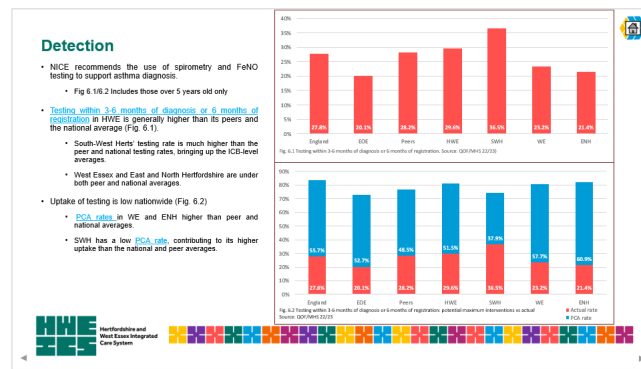
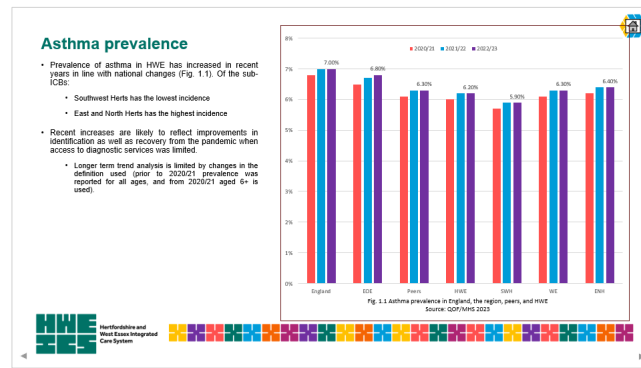
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# Key points

- HWE has a lower asthma incidence than its peers and the rest of the country
- Those with asthma that are most deprived are more likely to have depression than any other comorbidity
- Definitive testing (spirometry, FeNO, etc.) rates in SWH are higher than peer and national average. WE and ENH fall below these averages.
  - The PCA rate remains high across the country, with SWH having the lowest (and therefore best engagement with the service)
- [Four-point reviews](#) in SWH and ENH are higher than national and peer averages
- Overprescribing of SABA inhalers (seen as over 6 a year) is lower across HWE when compared to peer and national averages.
  - High dose ICS prescriptions across HWE are amongst the highest in the country
  - HWE has a higher proportion of patients that collect fewer than 5 ICS prescriptions a year
- Admission length in HWE is lower on average than national and peer averages.
  - WHHT (West Hertfordshire Hospitals Trust) has the shortest lengths of stay but has the highest readmission rates at 30 and 90 days when compared to PAH (Princess Alexandra Hospital Trust) and ENH (East and North Herts Trust)
- Mortality for SWH and WE are lower than peer and national averages whereas ENH is above both. The confidence intervals for these values are large and fall above and below national and peer averages so this may be due to chance.





# Opportunities identified by this analysis

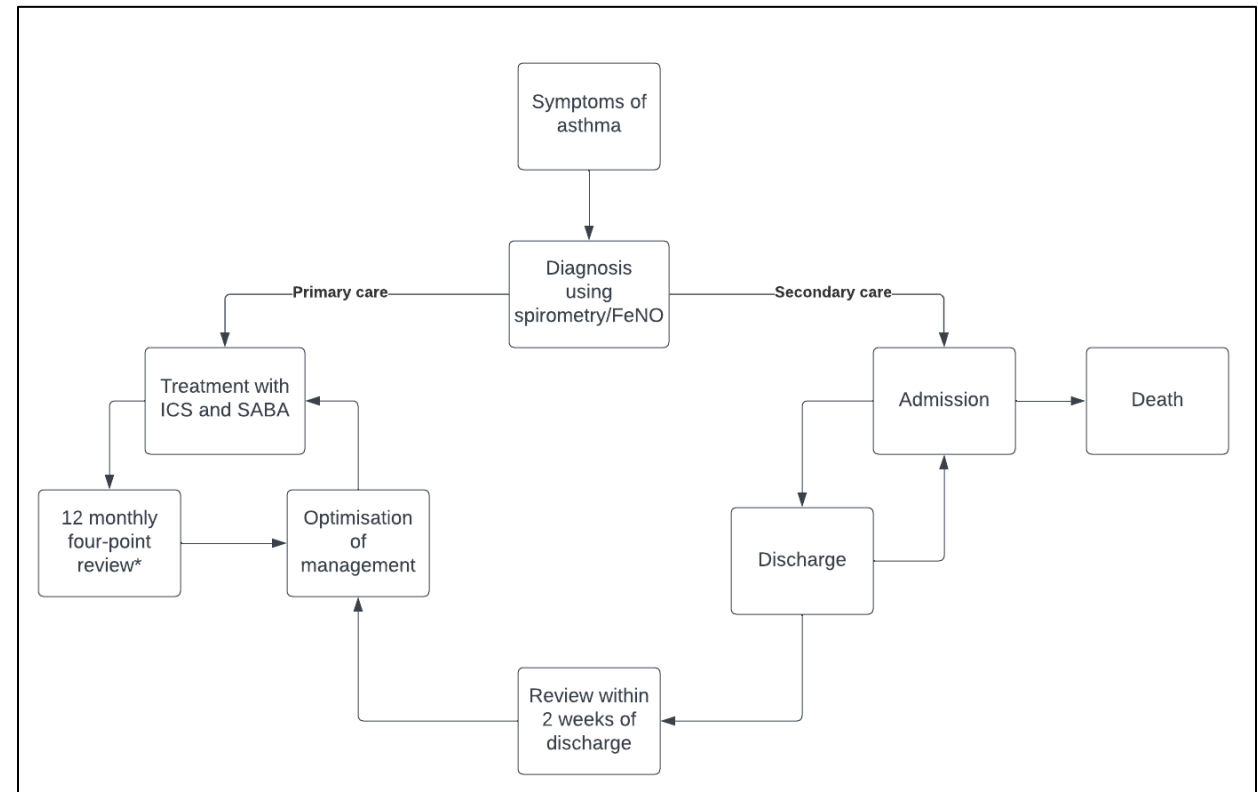
- HWE has the highest annual review rate of the groups examined. However:
  - 4-point reviews are an opportunity to review asthma management and educate the patient on the importance of their medications
  - Although no causal link can be established, there is a discrepancy between high review rate and inadequate ICS/SABA prescriptions.
  - There is a large deal of variation across the ICB with respect to 4-point reviews. This highlights an opportunity for inter-practise communication to discuss favourable and unfavourable practise to increase patient engagement.
- There are low rates of accurate asthma diagnosis (with FeNO or spirometry)
  - Improving rates of accurate diagnosis ensures that those with asthma are receiving adequate care
  - It also means that those confirmed to not have asthma do not receive treatment unnecessarily
- SABA prescriptions are currently much higher in HWE than other areas and can be reduced
  - There are also too few ICS prescriptions made for asthma treatment and of those too many are high-dose
- Improving annual review uptake could be key in improving SABA and ICS prescriptions
- Currently, HWE has the highest high-dose ICS prescription rate of the areas examined
  - Patients should be on as low a dose of ICS as is tolerable due to the long-term health effects
  - There is an opportunity for review to reduce doses and improve management plans
- Key findings per sub-ICB
  - SWH
    - WHHT has high readmission rates at 30 and 90 days
    - Has the lowest asthma prevalence of the 3 sub-ICBs
  - WE
    - Highest PCA rate for four-point reviews and for diagnostic testing (of the 3 sub-ICBs)
    - Has the highest percentage of patients receiving 5 or fewer ICS inhalers (indicating low patient uptake of the preventer inhalers)
  - ENH
    - Has the highest asthma prevalence
    - Has the highest four-point review rate of all areas examined herein





# Introduction to asthma

- Asthma is the third most common morbidity nationwide, with hypertension the most prevalent and depression the second most prevalent.
- Those with asthma have a higher chance of developing a second illness.
  - 40% of the general population have at least one illness; 60% of asthmatics have a second co-morbidity.
  - Hypertension is the most common co-morbidity, in line with its national prevalence
  - The second most common co-morbidity is depression (Population and Person Insights 2023).
- The National Review of Asthma Deaths (NRAD) was a confidential enquiry report published in May 2014. It investigated circumstances surrounding asthma related deaths from 01/02/12 to 30/01/13.
  - 195 cases were investigated
  - Preventable causes were identified in two thirds of cases. [Why asthma still kills | RCP London](https://www.rcplondon.ac.uk/projects/outputs/why-asthma-still-kills) – 2012/13.
- Control of asthma is important, with at least 12 monthly [four-point review](#) and formulation of comprehensive asthma plans correlated with fewer hospital admissions, admissions to critical care and fewer readmissions.
- [Prescriptions of medications](#) must be tightly managed.
  - NRAD identified that patients who were regularly prescribed short-acting inhalers and with fewer than 12 prescriptions of ICS each year were at higher risk of acute exacerbation and subsequent hospitalisation.



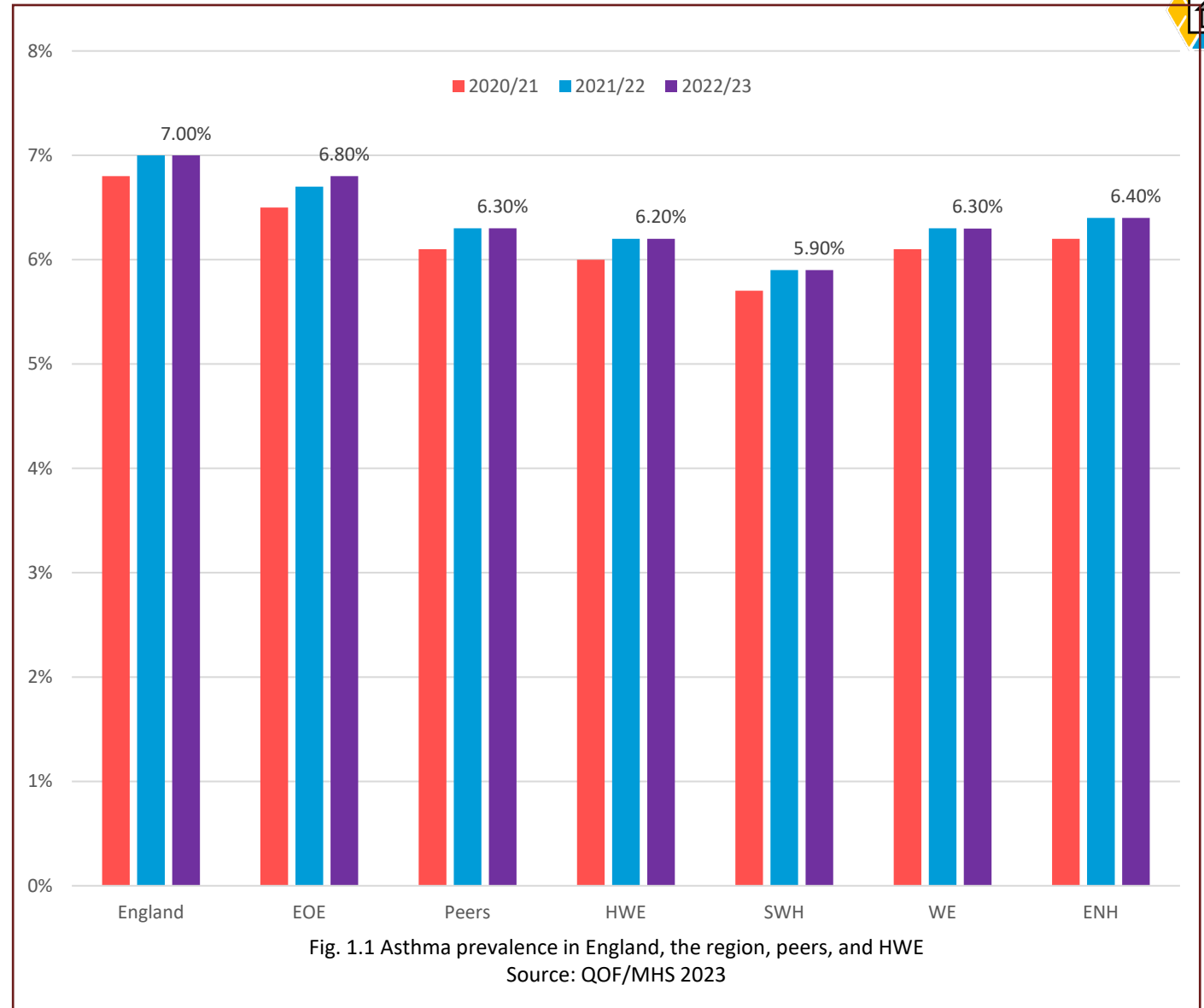
Diagrammatic representation of patient flow based on data collected in this pack + <https://www.rcplondon.ac.uk/projects/outputs/why-asthma-still-kills>  
Source: created using LucidChart (lucid.app)





# Asthma prevalence

- Prevalence of asthma in HWE has increased in recent years in line with national changes (Fig. 1.1). Of the sub-ICBs:
  - Southwest Herts has the lowest incidence
  - East and North Herts has the highest incidence
- Recent increases are likely to reflect improvements in identification as well as recovery from the pandemic when access to diagnostic services was limited.
  - Longer term trend analysis is limited by changes in the definition used (prior to 2020/21 prevalence was reported for all ages, and from 2020/21 aged 6+ is used).



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# Risk factors for asthma

- HWE has a lower asthma incidence than the other areas examined
  - It has a [higher detection rate](#) than other areas however (fig. 6.1)
- Particulate matter concentration is higher across the HWE districts than compared to the national average (Fig. 1.2)
  - Data is not available for HWE or its sub-ICBs as a whole
- [Smoking prevalence](#) is lower in HWE than other areas examined (Fig. 5.1)
  - HWE has the highest recording (positive and negative) of second hand or active smoker status in 6-19 year olds (Fig. 5.2). The actual results from those records, i.e. how many are actively smoking or second-hand smokers, is not recorded.

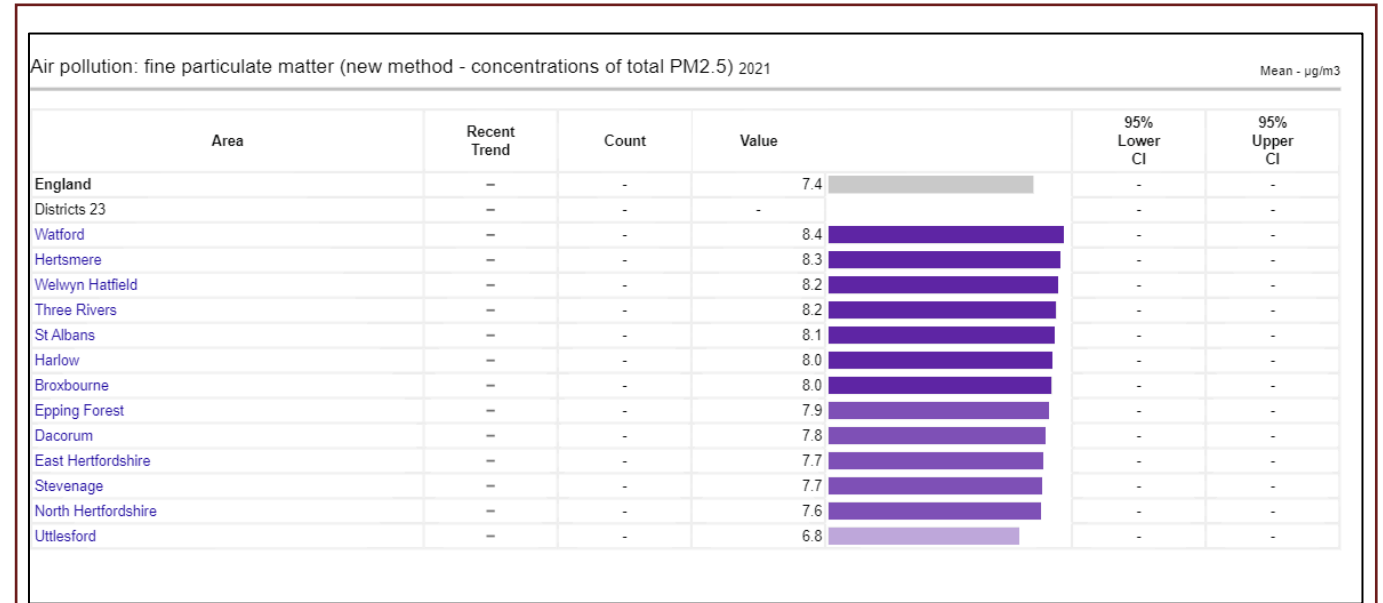


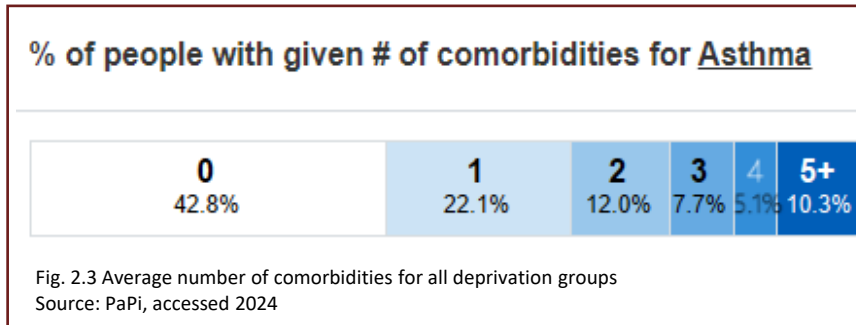
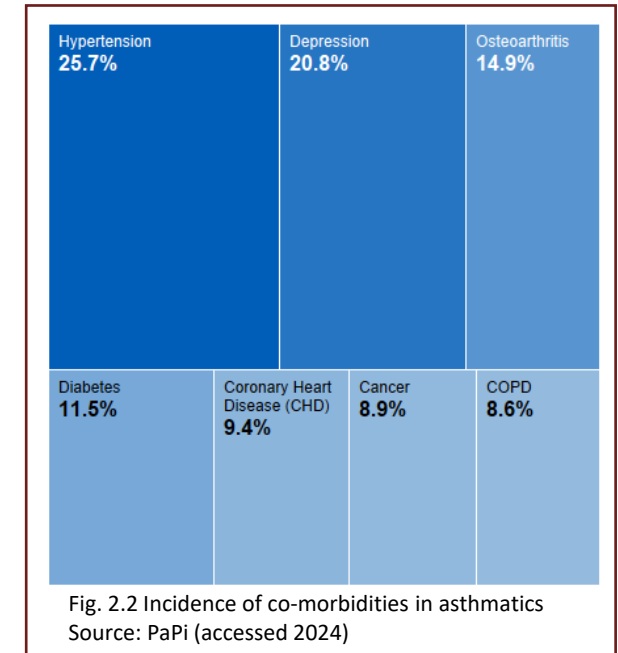
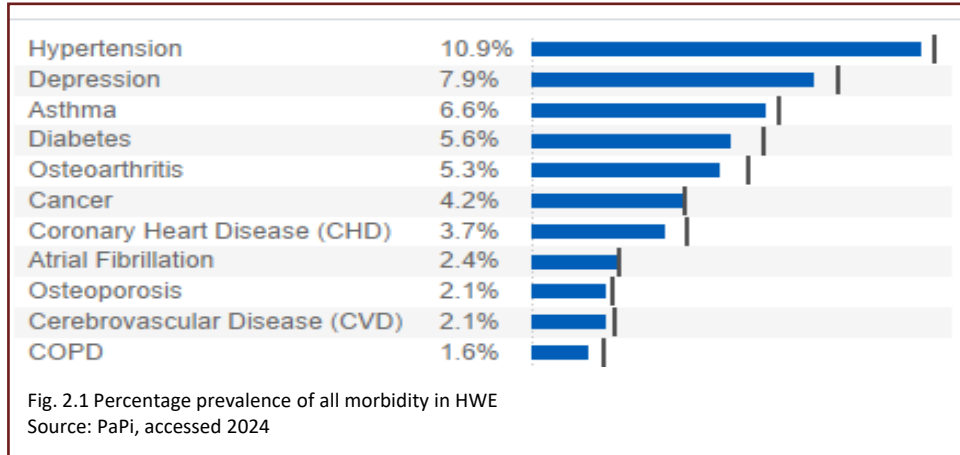
Fig 1.2, Air pollution concentrations 2021, by district  
Source: fingertips.phe.org.uk





# Demographics: co-morbidities

- Asthma is the third most common morbidity in the country and in HWE (Fig. 2.1).
  - Hypertension is the most common morbidity nationwide with depression a close second [PaPi \(model.nhs.uk\)](https://model.nhs.uk), 2024
- Just under 60% of asthmatics have another co-morbidity, compared to 40% of those with no primary disease. (Fig. 2.3), ([PaPi \(model.nhs.uk\)](https://model.nhs.uk), 2024)
- The most common conditions that people with asthma have are hypertension (26.7%), depression (20.8%) and osteoarthritis (14.9%) (Fig. 2.2)
- Prevalence of these conditions are higher in the population with asthma than in the general population
- In HWE, asthma is of higher prevalence in women (7.8%) than men (5.3%). [PaPi \(model.nhs.uk\)](https://model.nhs.uk), 2024

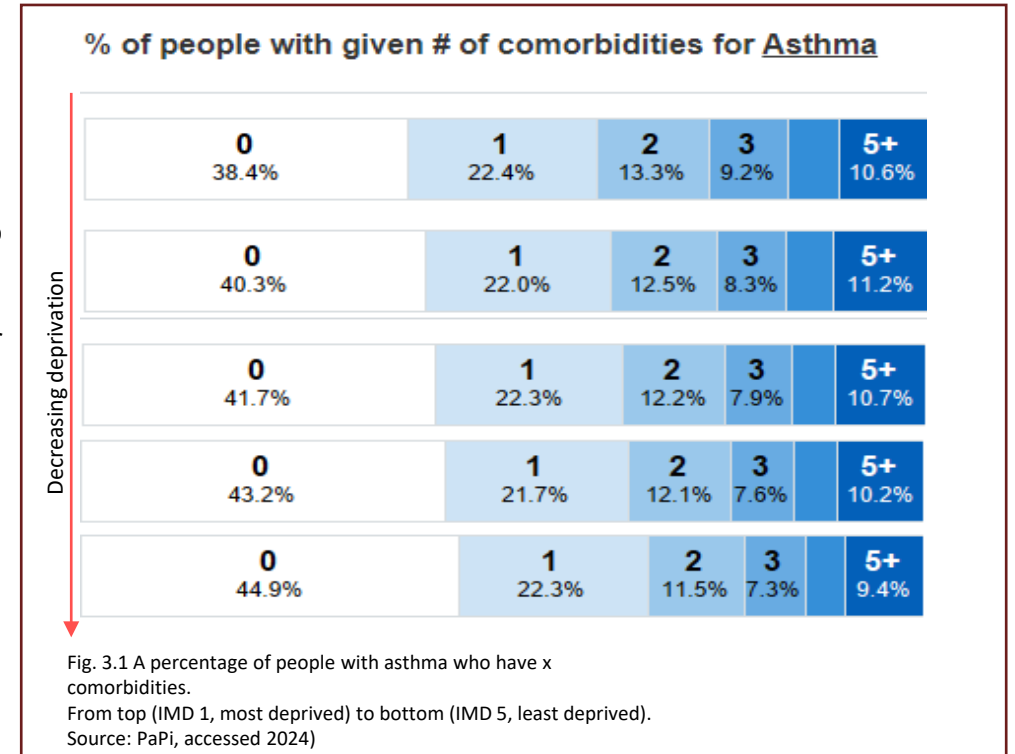






# Demographics: deprivation

- Asthma prevalence increases with deprivation
  - Reported as 7.6% for those in the most deprived 20% of the population, compared to 6.0% in the least deprived 20% [PaPi \(model.nhs.uk\)](#), 2024
- Asthmatics in deprived populations are also more likely to have at least one other comorbidity (Fig 3.1).
- In more deprived asthmatic populations, depression is more common than hypertension, ([PaPi \(model.nhs.uk\)](#), 2024)
  - 29.6% (depression) and 25% (hypertension) in IMD 1
  - 16.6% (depression) and 25% (hypertension) in IMD 5.



# Demographics: age and ethnicity

- Asthma is the most common morbidity in those under 17 ([PaPi \(model.nhs.uk\)](https://model.nhs.uk), 2024)
- Asthma prevalence HWE increases with age. (Fig. 4.1)
  - This could be due to several factors. These may include worse air quality when the older population were young, a greater period of time for asthma to be detected and changes in the criteria with which asthma is diagnosed, amongst others.
- Asthma is most common in White populations and least common in Mixed ethnicity populations. (Fig 4.2)
  - Ethnicity data is not age standardised
  - There is a higher proportion of asthma in the older age brackets than the other age groups
  - There is a higher proportion of individuals in the older age brackets in the White population compared to other ethnic groups

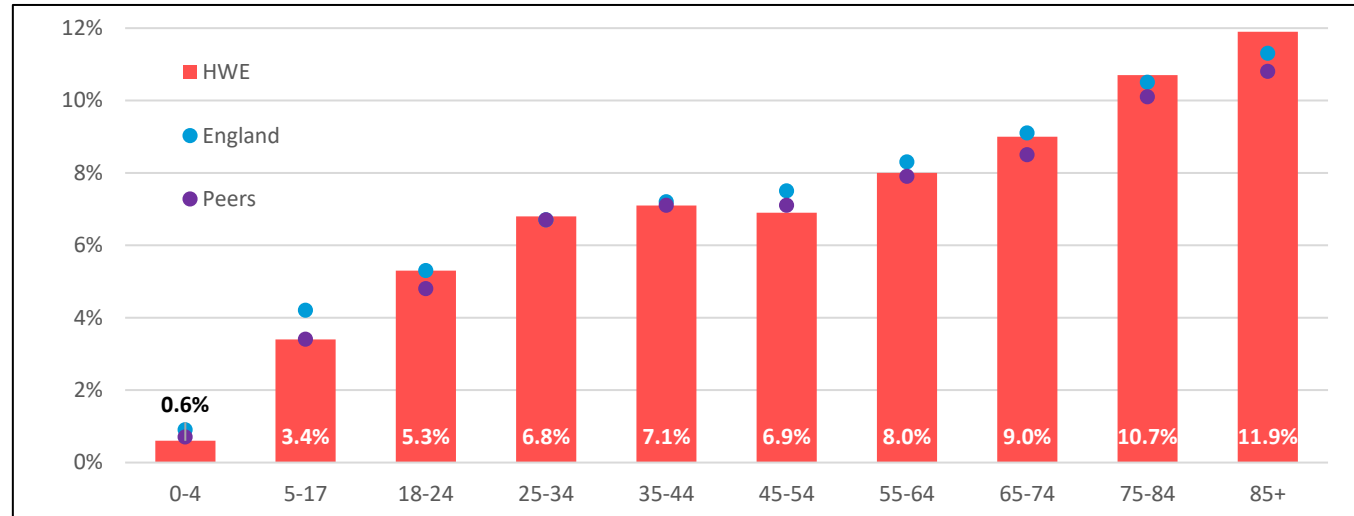
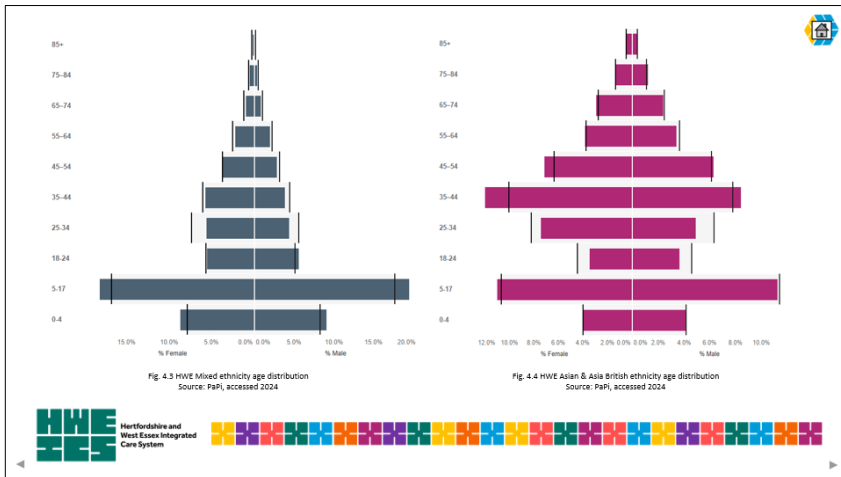


Fig. 4.1 Percentage prevalence of asthma by age,  
Source: PaPi, accessed 2024

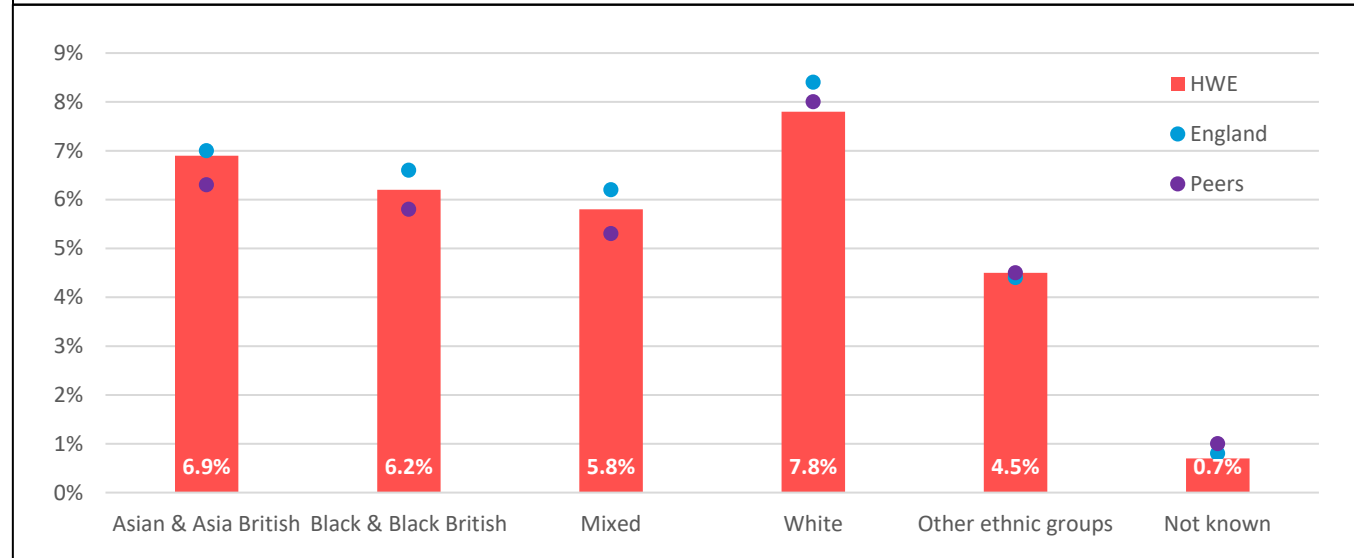


Fig. 4.2 Percentage prevalence of asthma by ethnicity  
Source: PaPi, accessed 2024



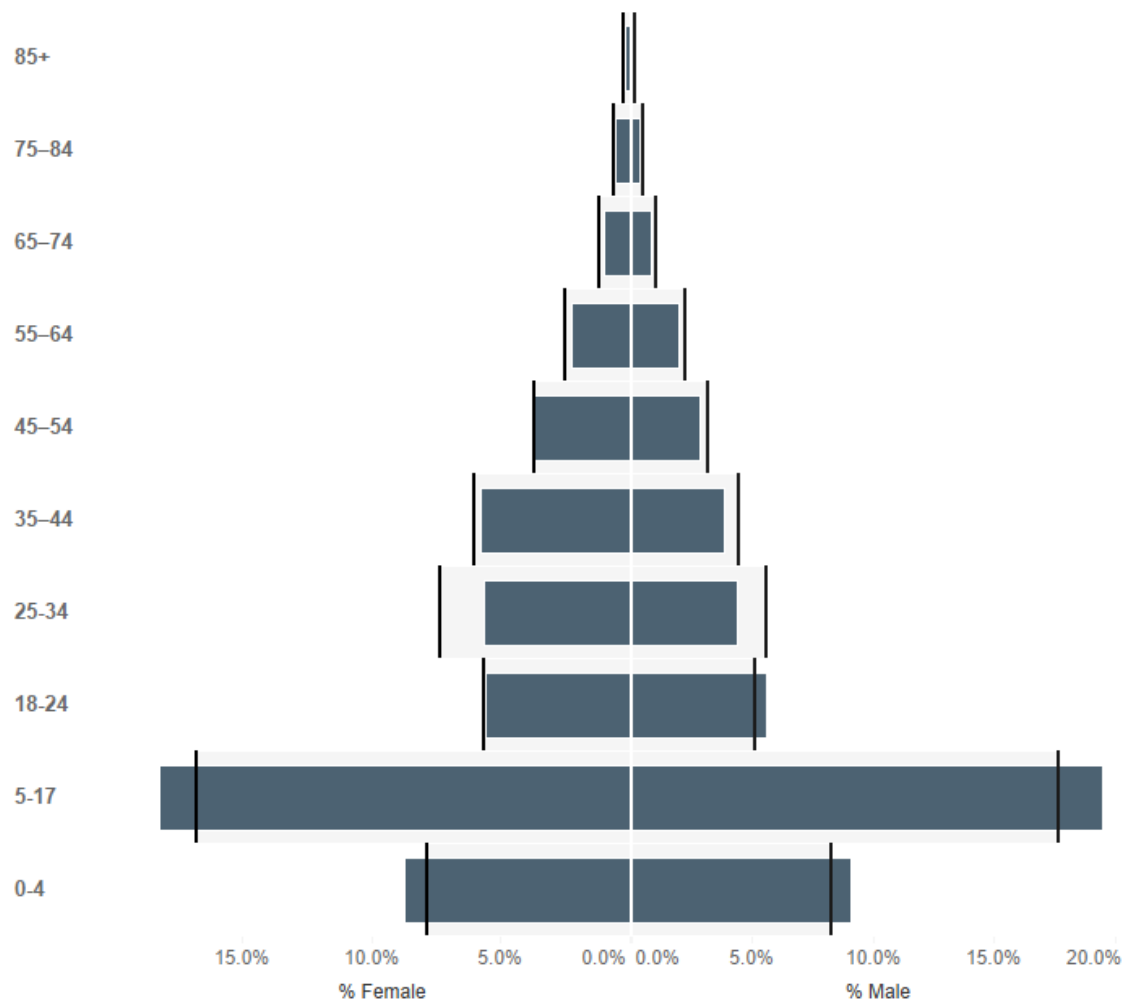


Fig. 4.3 HWE Mixed ethnicity age distribution  
Source: PaPi, accessed 2024

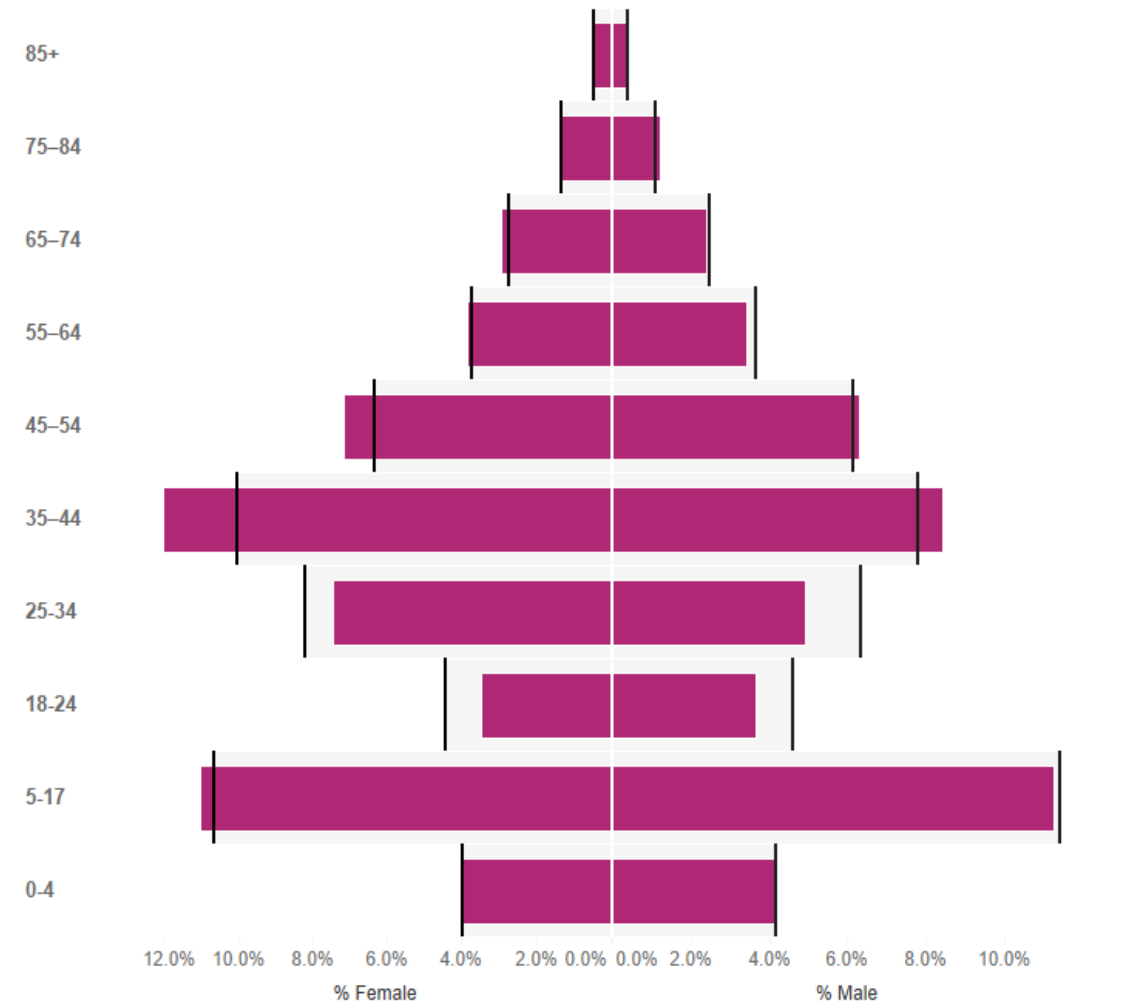


Fig. 4.4 HWE Asian & Asia British ethnicity age distribution  
Source: PaPi, accessed 2024



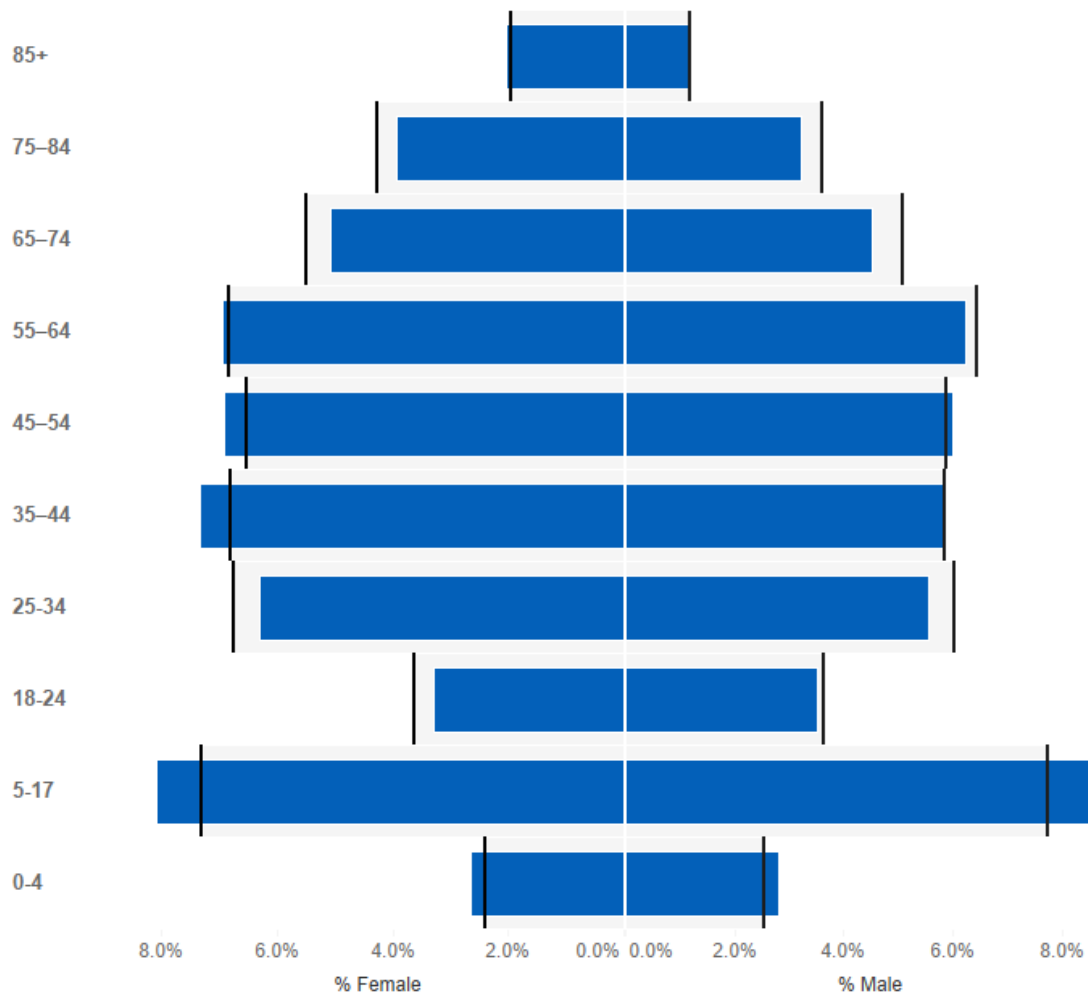


Fig. 4.5 HWE White ethnicity age distribution  
Source: PaPi, accessed 2024

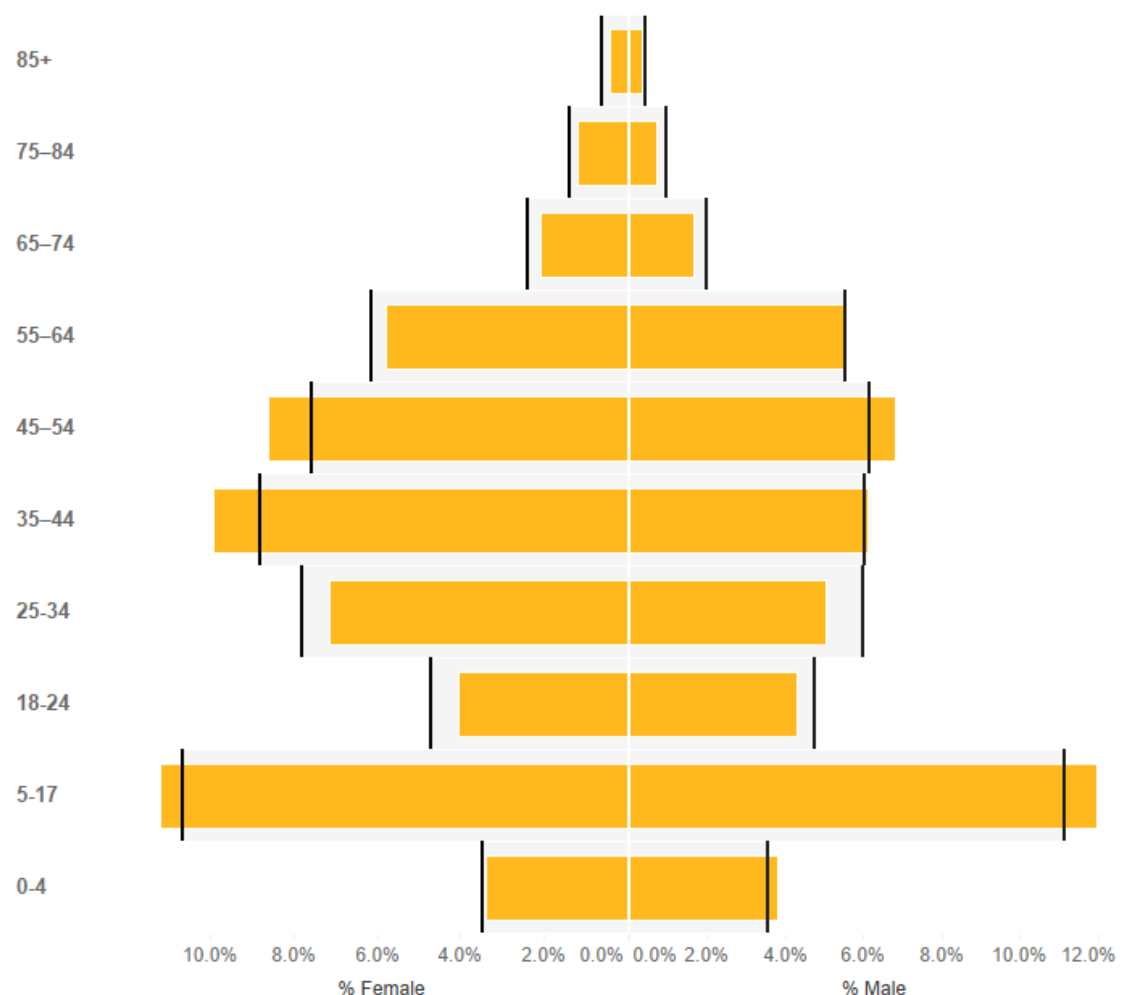


Fig 4.6 HWE Black & Black British ethnicity age distribution  
Source: PaPi, accessed 2024



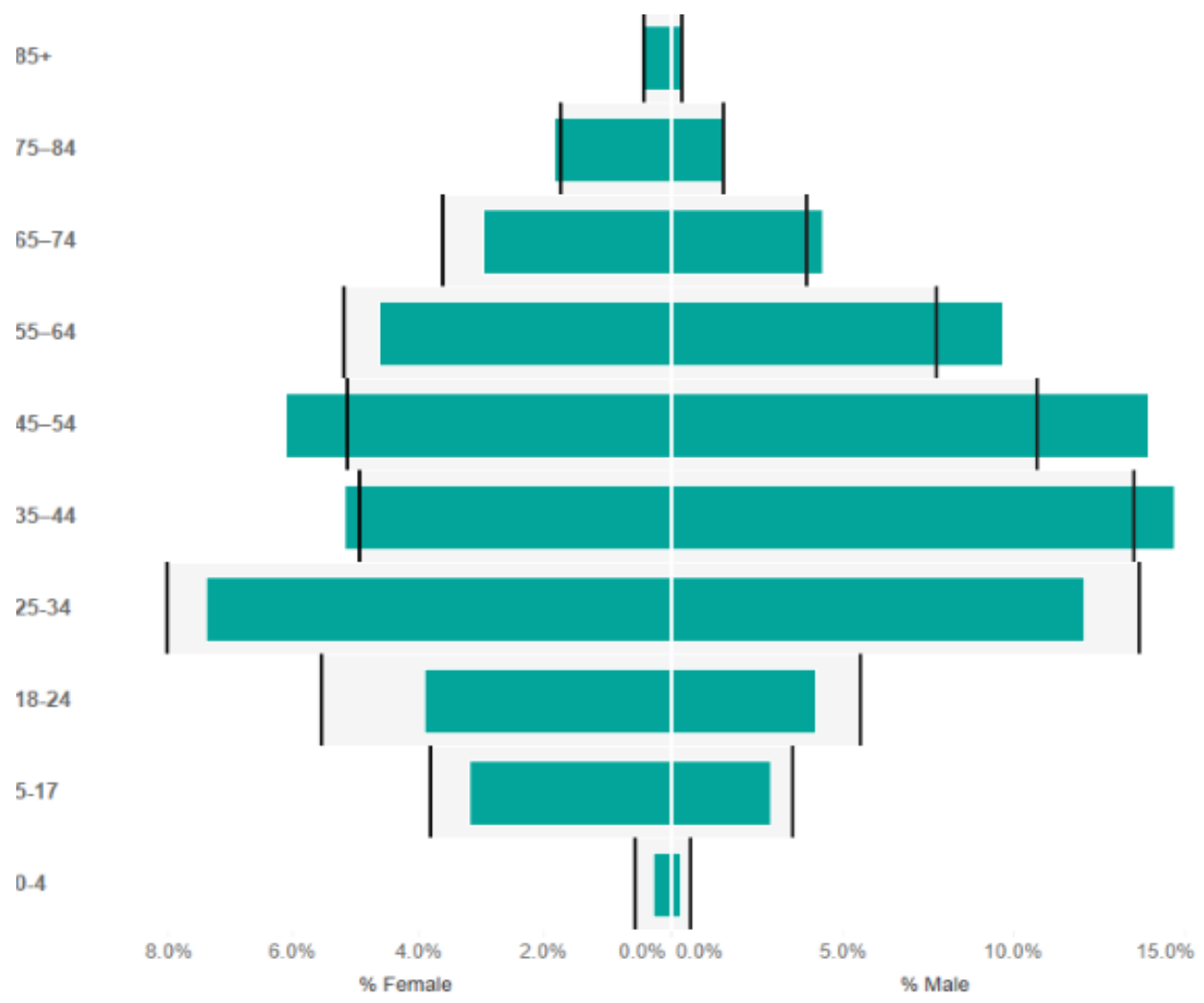


Fig. 4.7 HWE Unknown ethnicity age distribution  
Source: PaPi, accessed 2024

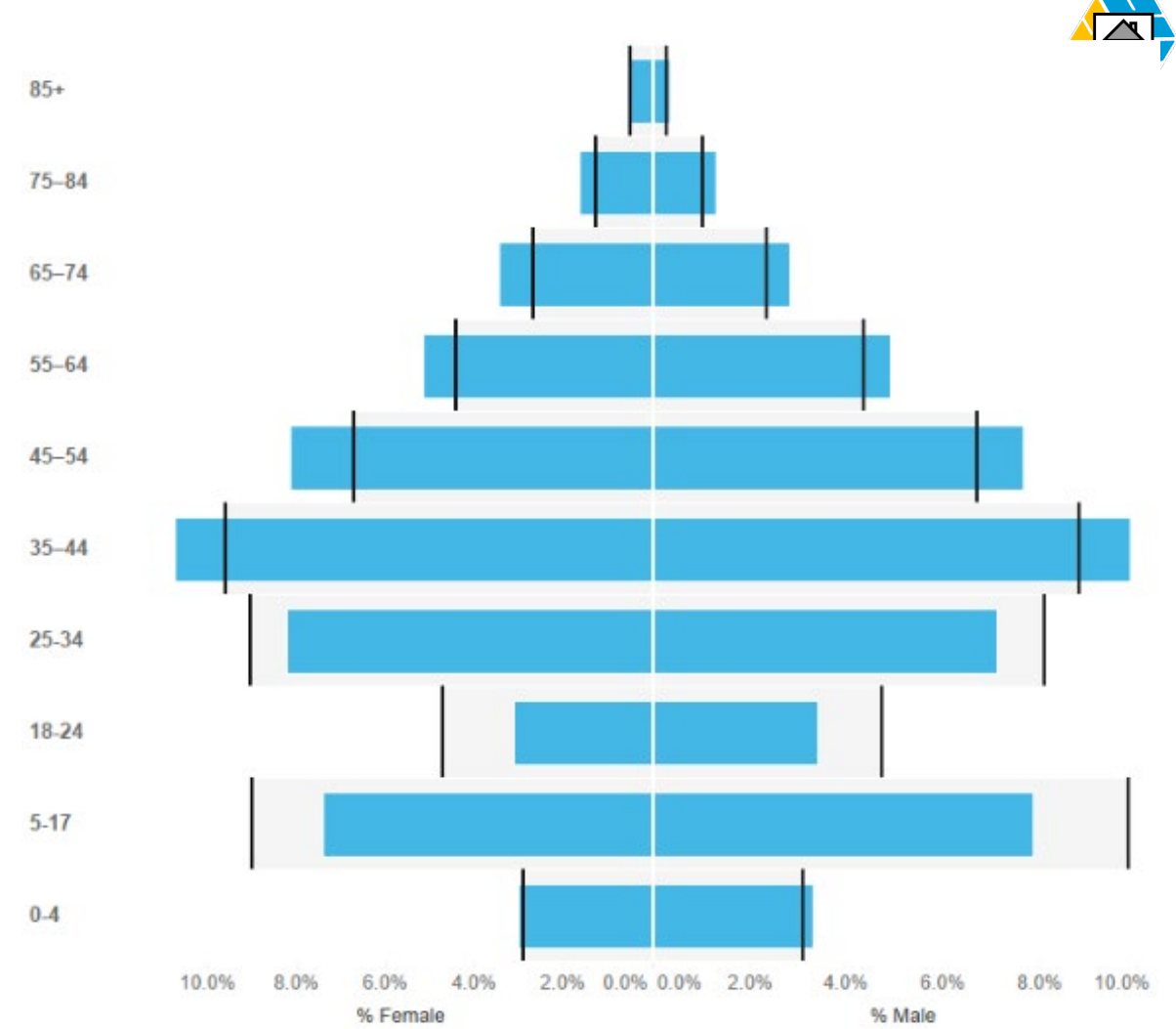


Fig. 4.8 HWE Other ethnicity age distribution  
Source: PaPi, accessed 2024



# Smoking status

- Smoking has a well documented effect on asthma control and symptoms.
  - There isn't a large difference between the ICB and the rest of the country in those 6-19 with recorded personal smoker or second hand smoker status in last 12 months (QOF/MHS 2023).
  - ENH has a higher recording of smoker status than the rest of the ICB, MHS-recommended peers and EOE. This may be due to better engagement, as shown through the lower [PCA rate](#).
- [All patients that are at risk](#) and recorded as smokers, including asthma, were included as it shows the general activity of the ICB versus the rest of the country with respect to smoking cessation.
  - ENH has the lowest recording of smokers with offers of help of the areas investigated

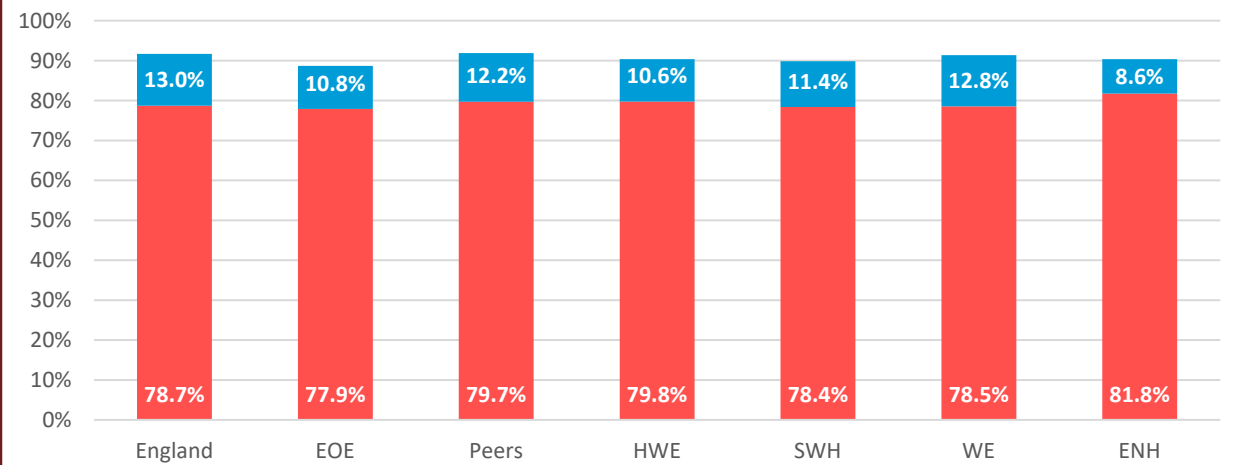


Fig. 5.2 Percentage of registered asthmatics aged in 6-19 year with a recording of personal or second hand smoker status in last 12 months + PCA rate  
Source: QOF/MHS 2022/23

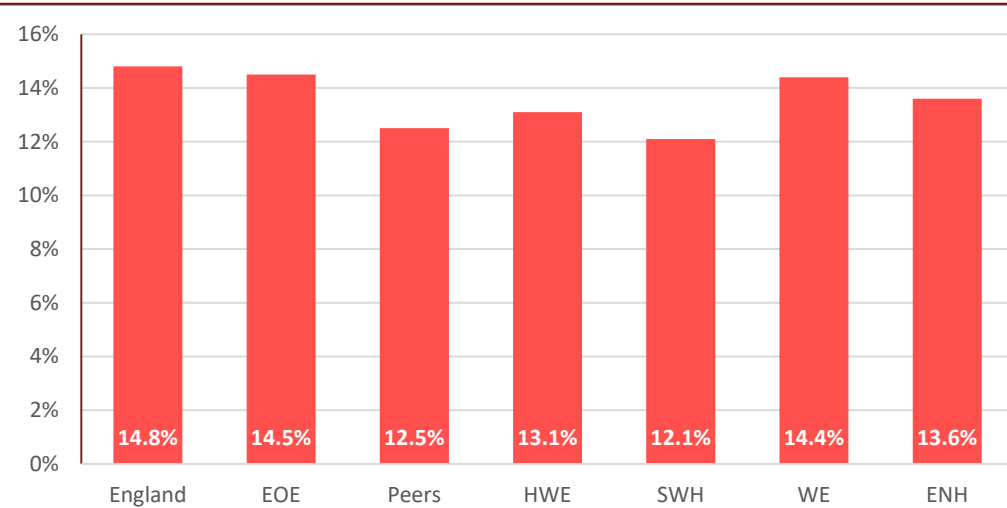


Fig 5.1 Percentage of patients that are recorded as smokers  
Source: QOF/MHS 2023

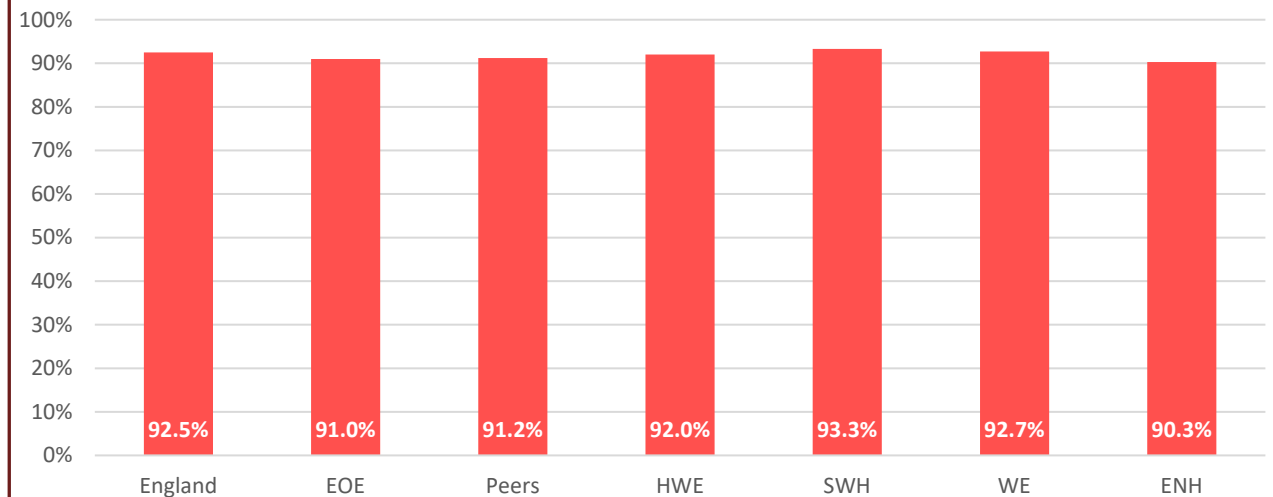


Fig. 5.3 Percentage of at-risk patients that are recorded as smokers and have had help offered within the last 24 months  
Source: QOF/MHS 2022/23



# Detection

- NICE recommends the use of spirometry and FeNO testing to support asthma diagnosis.
  - Fig 6.1/6.2 Includes those over 5 years old only
- [Testing within 3-6 months of diagnosis or 6 months of registration](#) in HWE is generally higher than its peers and the national average (Fig. 6.1).
  - South-West Herts' testing rate is much higher than the peer and national testing rates, bringing up the ICB-level averages.
  - West Essex and East and North Hertfordshire are under both peer and national averages.
- Uptake of testing is low nationwide (Fig. 6.2)
  - [PCA rates](#) in WE and ENH higher than peer and national averages.
  - SWH has a low [PCA rate](#), contributing to its higher uptake than the national and peer averages.

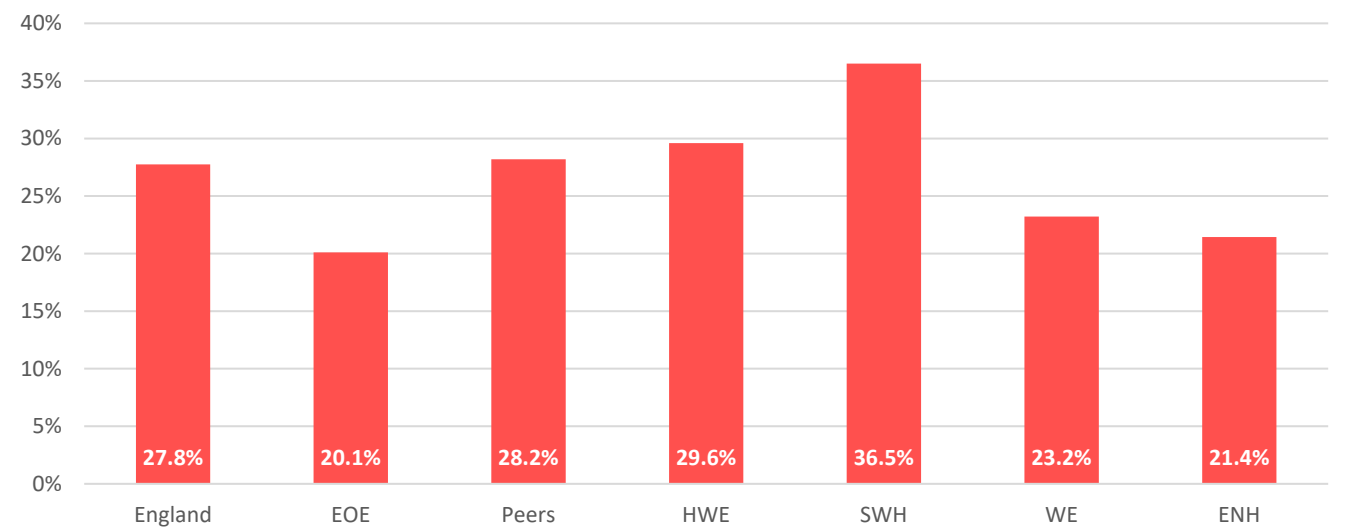


Fig. 6.1 Testing within 3-6 months of diagnosis or 6 months of registration. Source: QOF/MHS 22/23

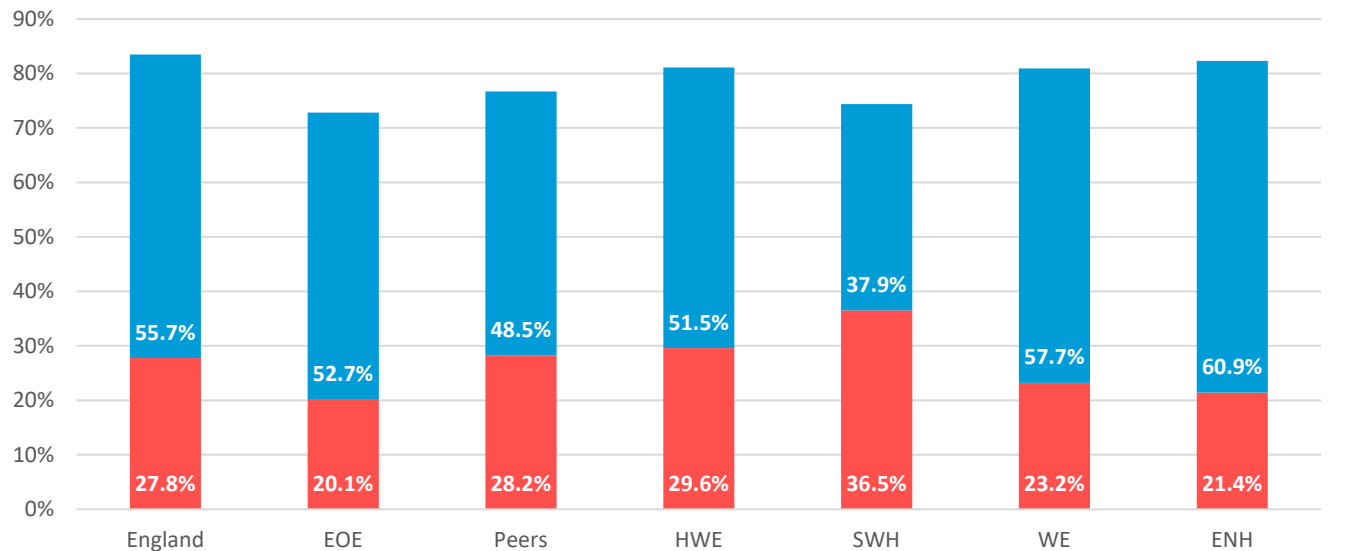


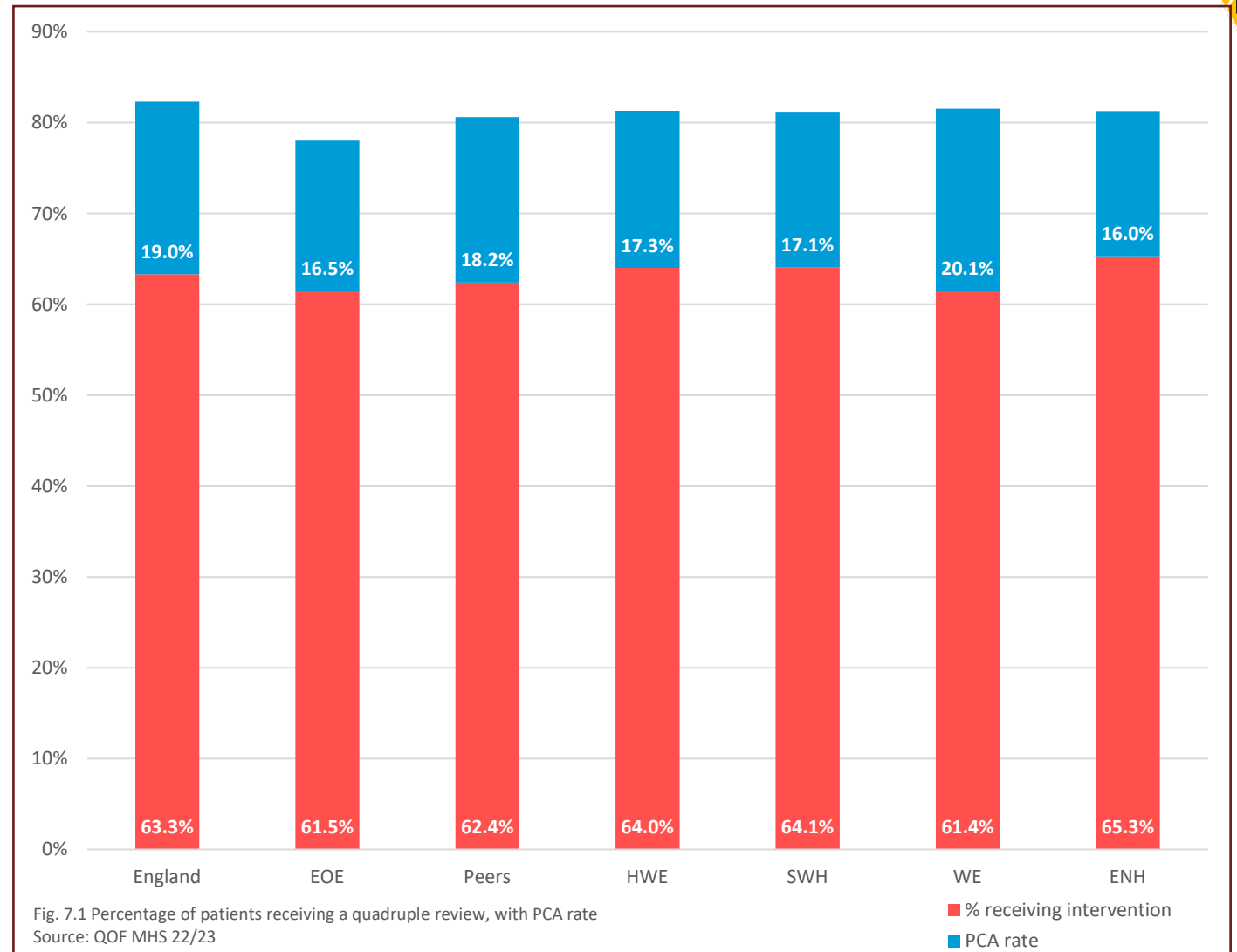
Fig. 6.2 Testing within 3-6 months of diagnosis or 6 months of registration: potential maximum interventions vs actual  
Source: QOF/MHS 22/23





# Monitoring

- It is often through the patient reviews that disease burden on the patient is assessed and plans are created or changed, acting as a stepping stone into improving the patient's health.
- [Why asthma still kills | RCP London](#) showed that patients who did not receive a comprehensive four-point review ([definition](#)) were at higher risk of mortality.
- Previously, the 3 RCP questions were used but QOF data collection changed to include the more detailed review (in 2020/21) as this was deemed more robust for monitoring.
- HWE had a higher average review rate than its peers and the national average during 2022/23 (Fig. 7.1)
  - ENH has higher engagement with the four-point review process (and a lower [PCA rate](#)) than the other sub-ICBs
  - WE has the lowest (and highest [PCA rate](#)).
  - The following slide shows the variation at practice level, displaying the top and bottom 10 practices
    - ENH has practices at both ends of the ranking, suggesting variability within the sub-ICBs.



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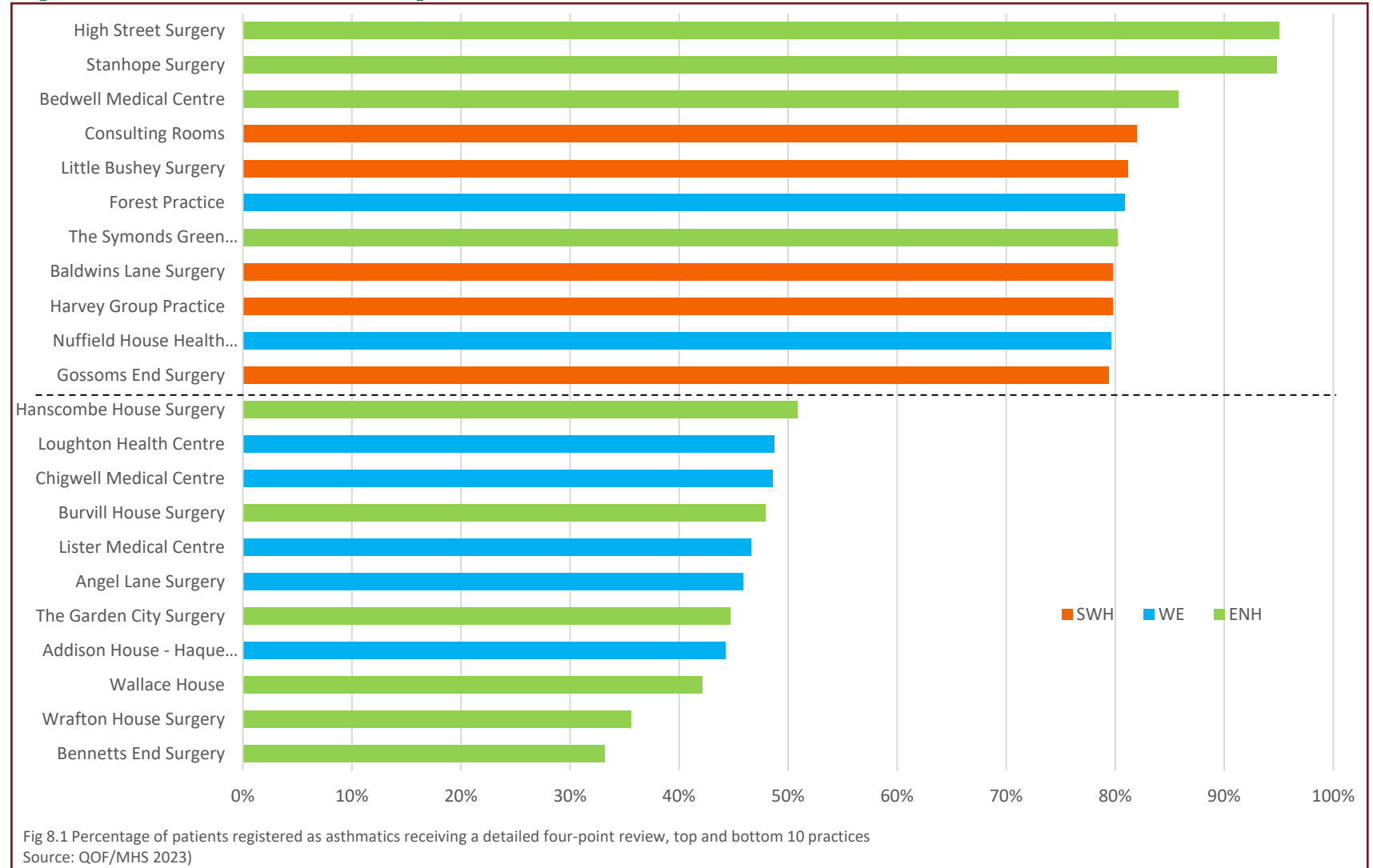






# Four-point review, the top and bottom 10 practises

- Fig. 8.1 demonstrates the differences within the ICBs
- It is a summary intended for future examination to reveal favourable and unfavourable actions that increase review rate



# ICS prescriptions

- High dose inhaled corticosteroids are defined in the SIGN (158) guidelines for asthma management, Table 12. BTS recommends that patients should be on the lowest possible dose of inhaled corticosteroid, with reductions considered every 3 months.
- HWE was in the 100<sup>th</sup> [centile](#) for high dose ICS prescribing in November 2022 but this fell to 85<sup>th</sup> centile by November 2023 ([Fig 9.3](#)).
  - The averages for HWE's peers, EoE and England had minimal change
  - HWE's peers are above the 10<sup>th</sup> [centile](#) for performance (Fig. 9.1)
- HWE has a greater proportion of patients receiving 5 or fewer ICS products than other areas examined (Fig. 9.2)
  - Patients should use their ICS such that they require a new prescription every month.
  - Those that do not collect monthly prescriptions may be doing so due to poor compliance and hence may have worse outcomes.
  - ENH has the lowest rate of the 3 sub-ICBs

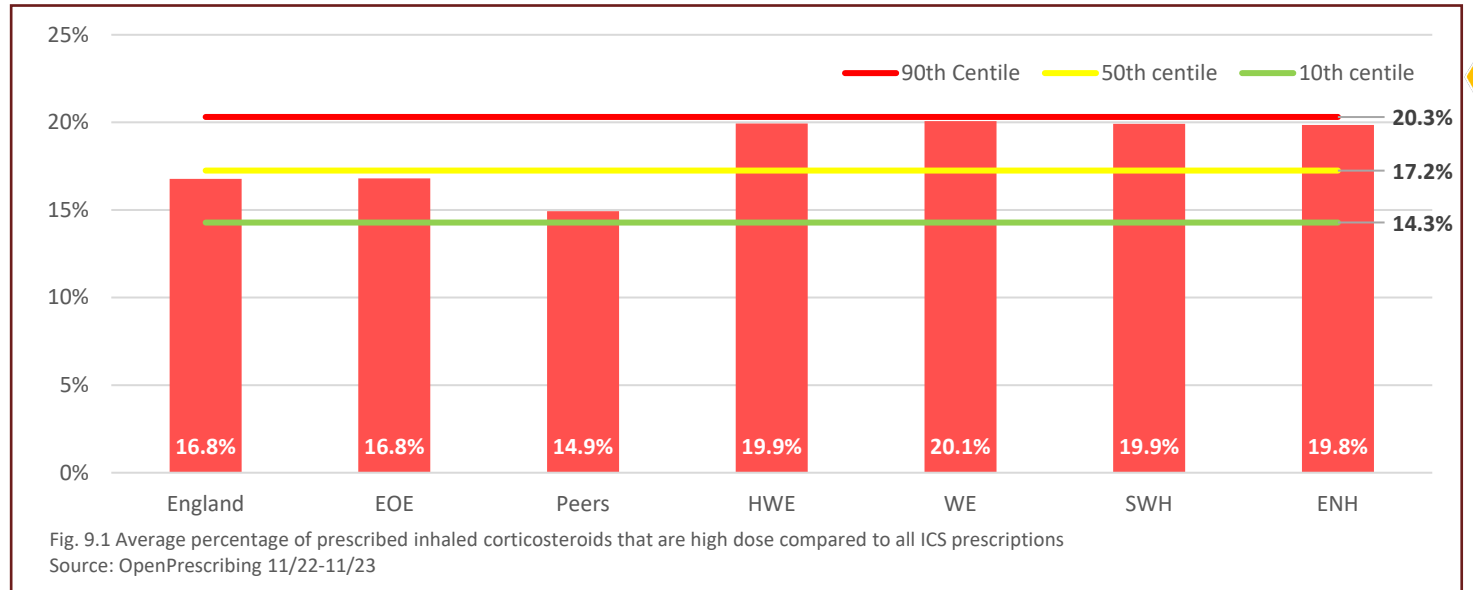


Fig. 9.1 Average percentage of prescribed inhaled corticosteroids that are high dose compared to all ICS prescriptions  
Source: OpenPrescribing 11/22-11/23

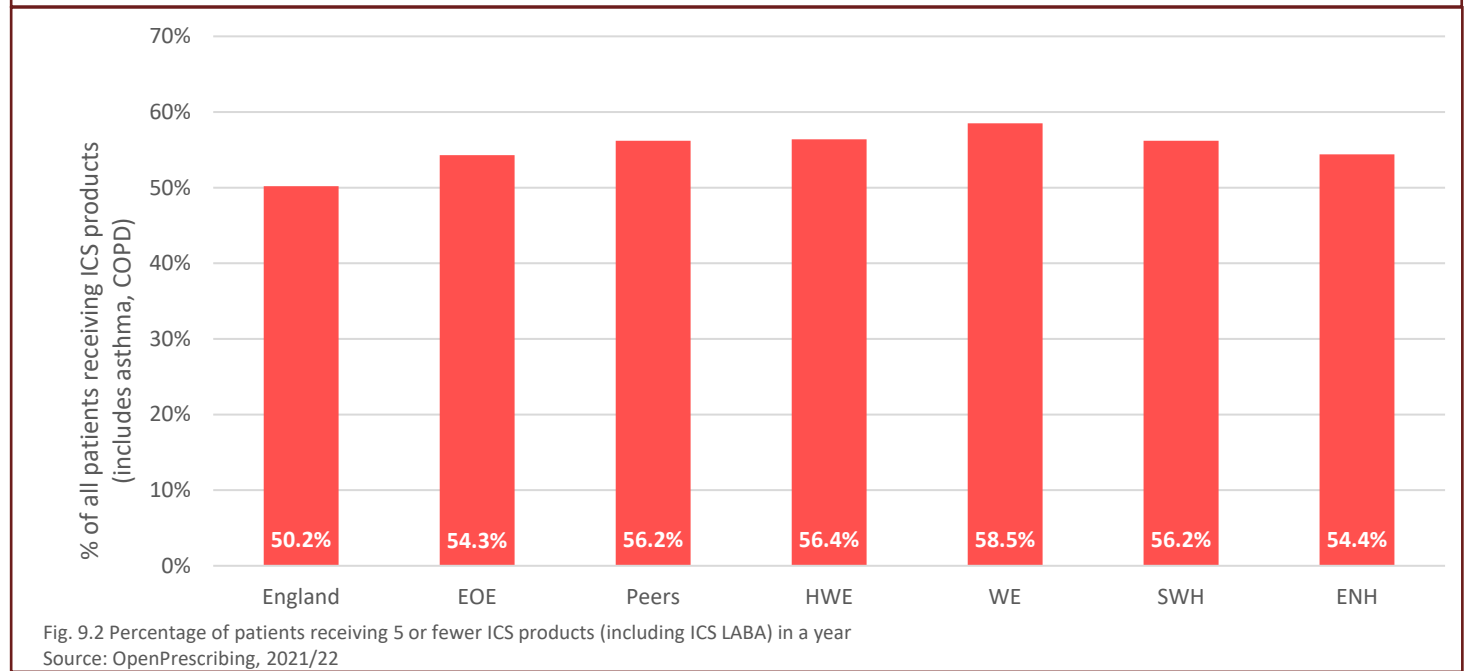
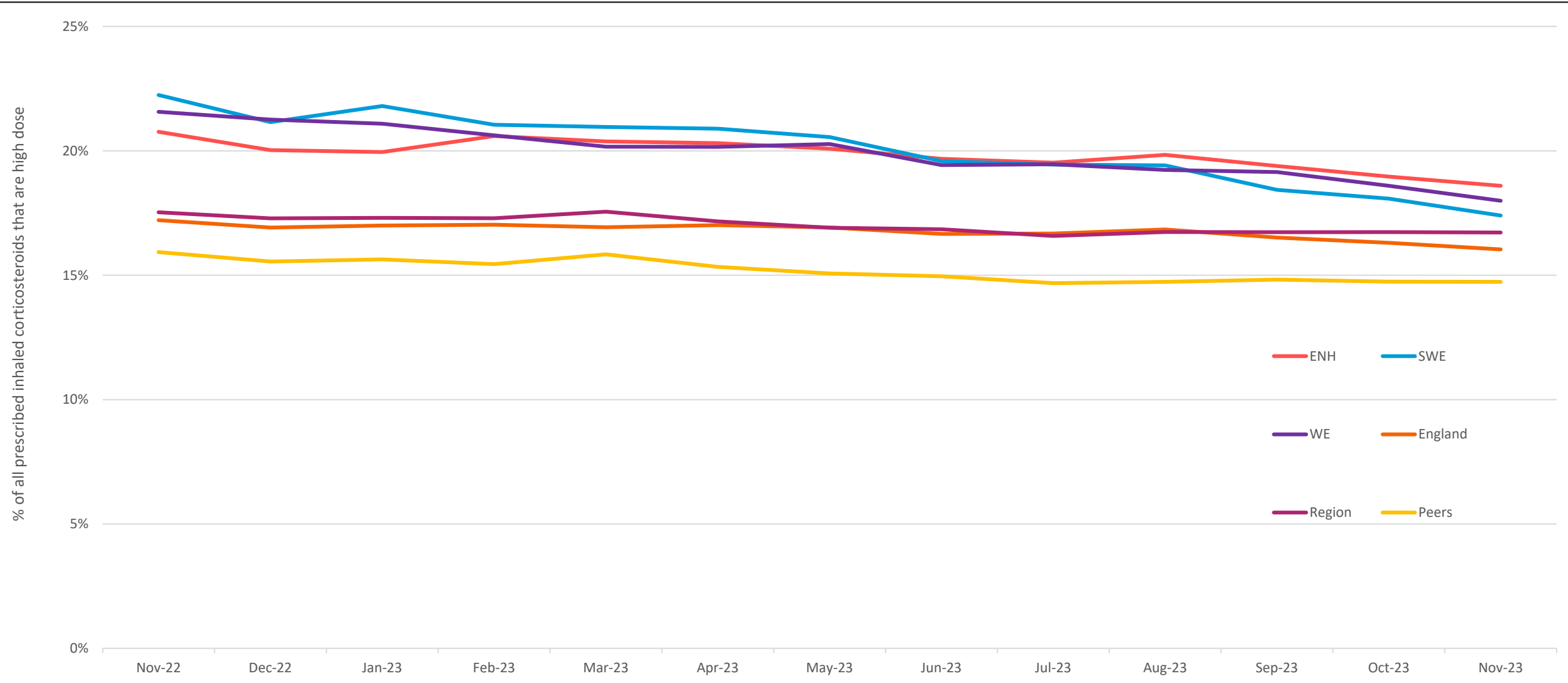


Fig. 9.2 Percentage of patients receiving 5 or fewer ICS products (including ICS LABA) in a year  
Source: OpenPrescribing, 2021/22





Fig. 9.3 High dose ICS prescribing ratios Nov 22 - Nov 23. Source: OpenPrescribing, accessed 2024



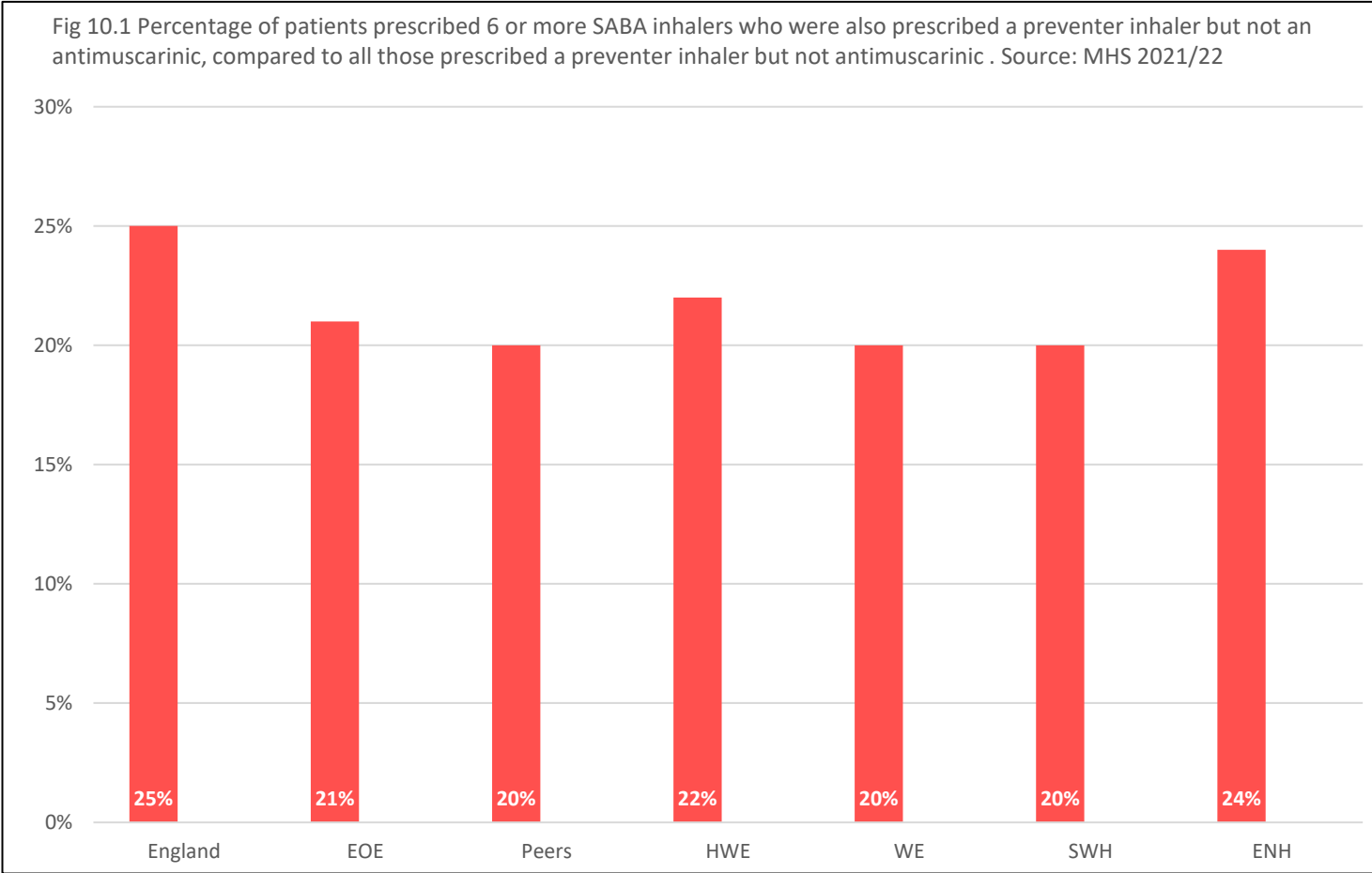
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# SABA prescriptions

- [Why asthma still kills | RCP London](#) suggested that those with higher usage of their reliever inhalers had worse outcomes
  - In a patient with “perfect” control, they should never need to use their reliever inhaler, only their preventer.
- HWE has a greater proportion of its patients prescribed more than 6 SABA inhalers per year than region and peers but lower than the national average (Fig. 10.1)
  - ENH has a greater proportion of patients using more than 6 SABA prescriptions a year
- \*\*\*\*SABA inhalers (salbutamol and terbutaline) compared with prescribing of inhaled corticosteroid inhalers and SABA inhalers (???)



# Admissions

- HWE has the lowest admission rate (elective and non) for young people (6-19) in the country (Fig 11.1).
  - At 42 per 100,000, it is under half of the national median of 87.
- HWE lies on the national median at 65 patients per 100,000 for adults over 19 years (Fig. 11.2)
- HWE, on average, has a lower critical care admission rate than the other areas examined (Fig. 11.3)
  - A higher value may not be seen as a negative as it may be due to better recognition of when critical care is required.
  - Princess Alexandra Hospital has a higher rate than all other areas examined
    - PAH has a [low readmission rate](#) and longer average stay length

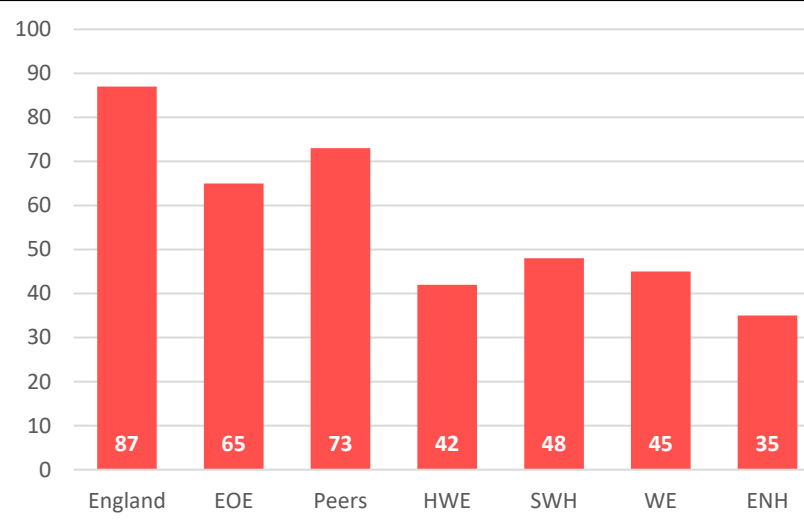


Fig. 11.1 Number of elective and non-elective admissions for asthma per 100,000 patients in young people aged 0-19 (12 months to Q2 end 2023/24). Source: GIRFT, MHS 2023/24

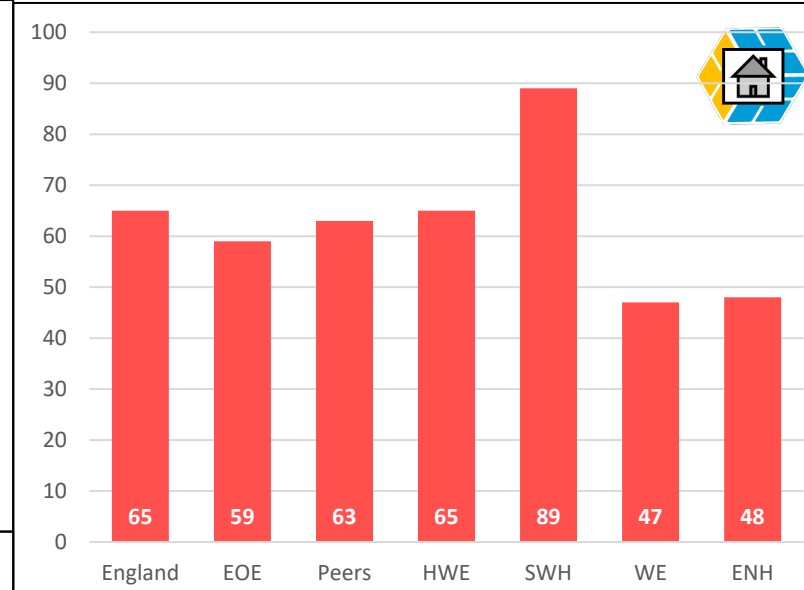


Fig. 11.2 Number of elective and non-elective admissions for asthma per 100,000 patients in adults 17+ (12 months to Q2 end 2023/24). Source: GIRFT, MHS 2023/24

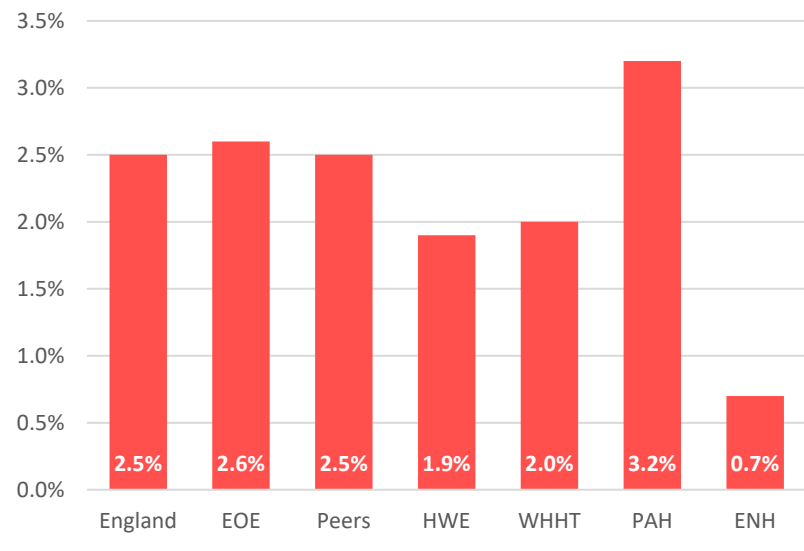


Fig. 11.3 Percentage of patients admitted to critical care (QOF/MHS 23/24 12 months to Q2 end). Source: GIRFT, MHS 2023/24



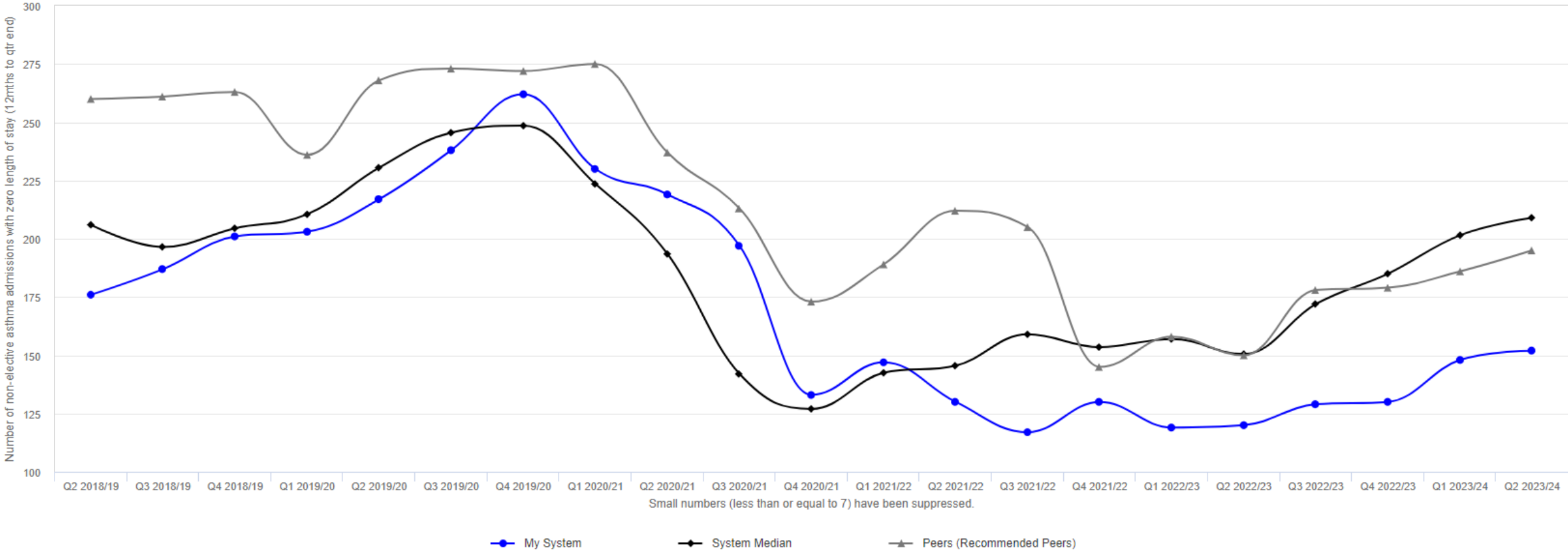


# Admissions with zero length of stay

- Fig. 11.4 shows trends in zero-length of stay admissions. These are days where patients are admitted and discharged on the same day.
  - This does not include being seen in the emergency department
  - The data is a raw value, not an average, but is useful for seeing trends in activity
- HWE has a lower activity than its peers throughout the examined years (Q2 2018/19 – Q2 2023/24)
  - Its activity is more closely related to the national median until it trends below it at Q2 2021/22 and remains lower to Q2 2023/24

Fig 11.4, Number of non-elective asthma admissions with zero length of stay (12mths to qtr end)

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# Admission length and readmissions

- The average length of stay in HWE is lower than other areas (Fig. 12.1)
  - PAH and ENH have a higher length of stay
- WHHT has the highest 30 and 90 day readmission rate of the examined groups (Fig. 12.2)
  - PAH and ENH fall below other areas examined.
  - Contributing factors may include higher age or incidence of comorbidity within the trust's catchment area.
- Another influence on readmissions could be length of stay
  - ENH and PAH have lower readmission rates but longer lengths of stay
- An additional point to note is that patients occupying beds for longer may result in lower thresholds to not admit patients due to increased bed pressures ([Longer hospital stays and fewer admissions - The Health Foundation](#))

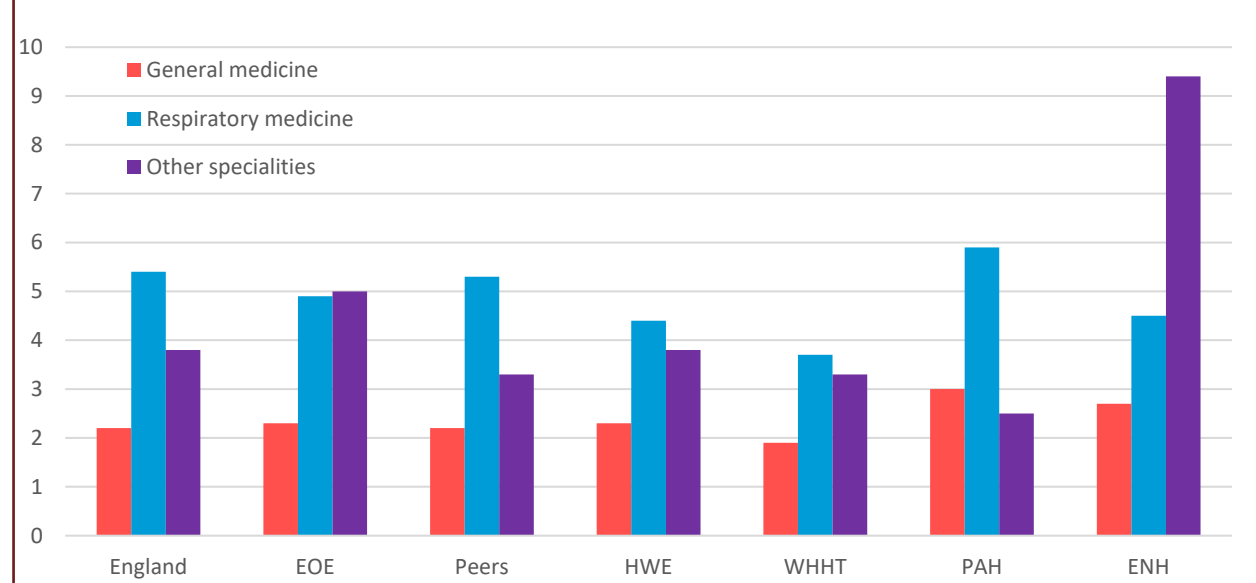


Fig. 12.1 Average length of stay (days) where the admitting issue was asthma  
Source: GIRFT, MHS 2022/23

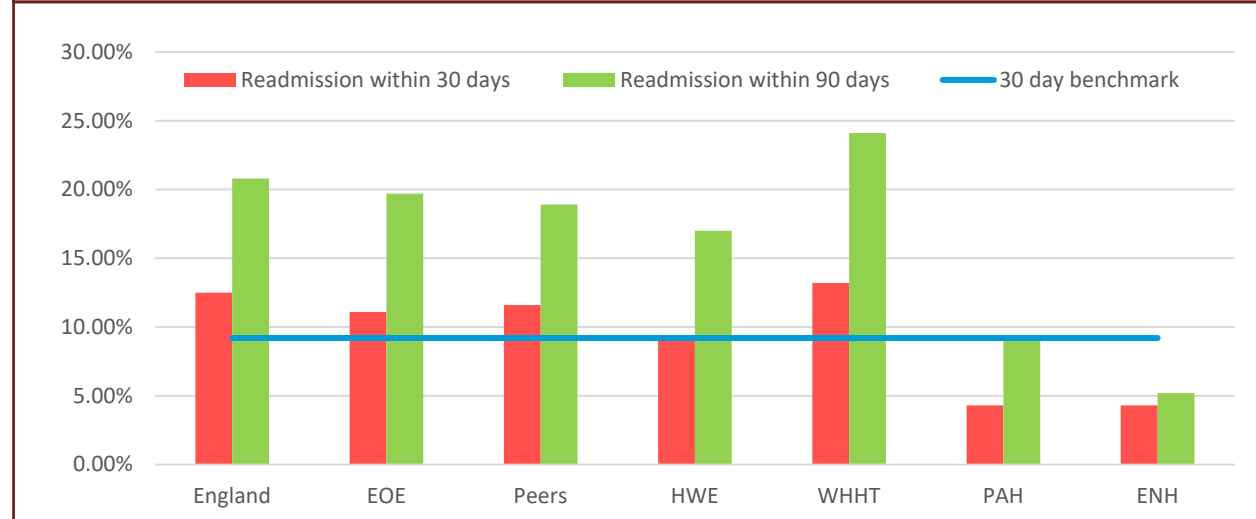


Fig. 12.2 Emergency readmission rate (12 mth to qtr end) after discharge from any speciality where the admitting issue was asthma (Q2 2024)  
Source: GIRFT, MHS 2023/24



# Readmissions vs length of stay and face-to-face appointments

- Length of stay and readmission rate are recommended for comparison by [Insight - Model Health System](#).
- The length of stay of a patient for asthma in any specialty appears to inversely correlate to readmission rate at 30 and 90 days (Fig 13.1-3)
  - This is best demonstrated looking at PAH and ENH in any department admission
  - Fig. 13.3 has had the sub-ICB provider data omitted as there were insufficient values for them
- There is no trend across the 3 sub-ICBs regarding correlation between face-to-face follow up and readmission rate (fig. 13.4)
- It is also worth noting that WHHT has the [lowest face-to-face follow-up rate of the areas examined](#) and ENH the highest.

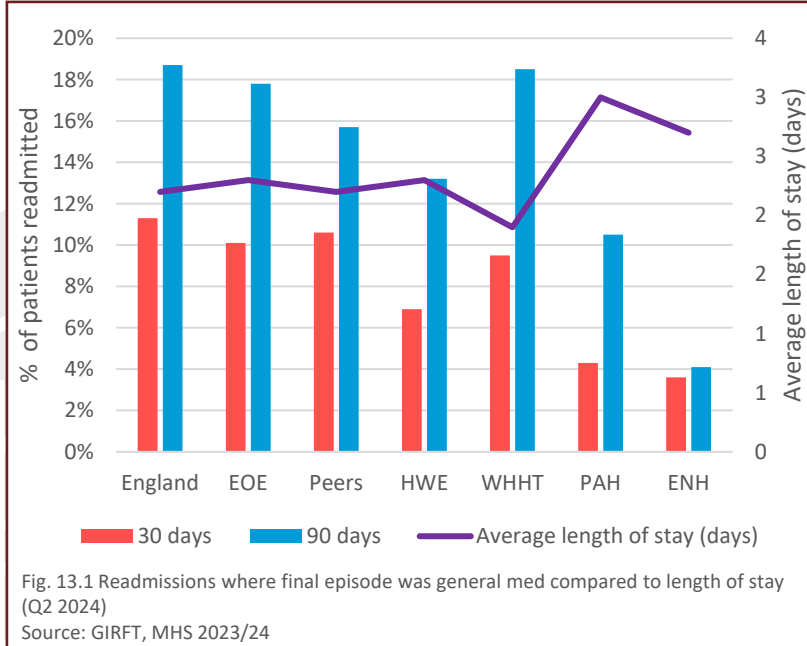


Fig. 13.1 Readmissions where final episode was general med compared to length of stay (Q2 2024)  
Source: GIRFT, MHS 2023/24

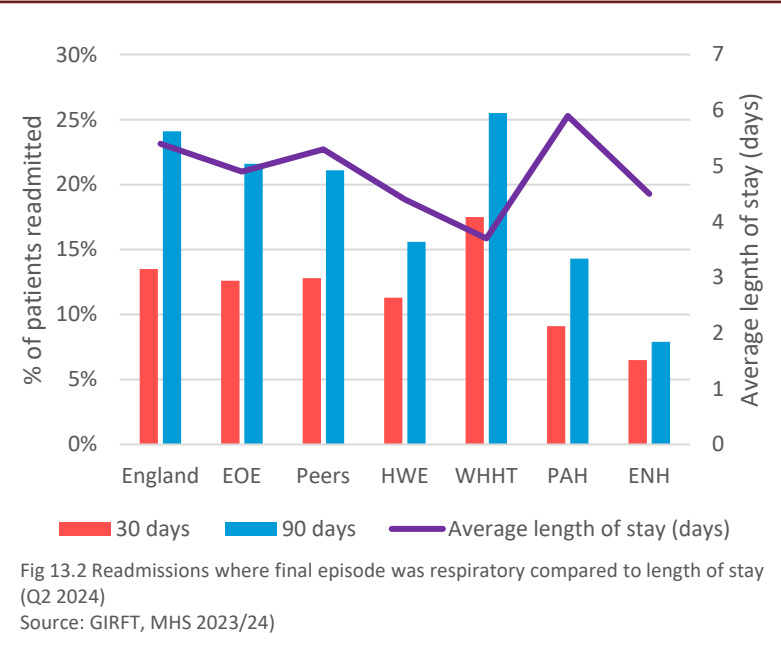


Fig 13.2 Readmissions where final episode was respiratory compared to length of stay (Q2 2024)  
Source: GIRFT, MHS 2023/24

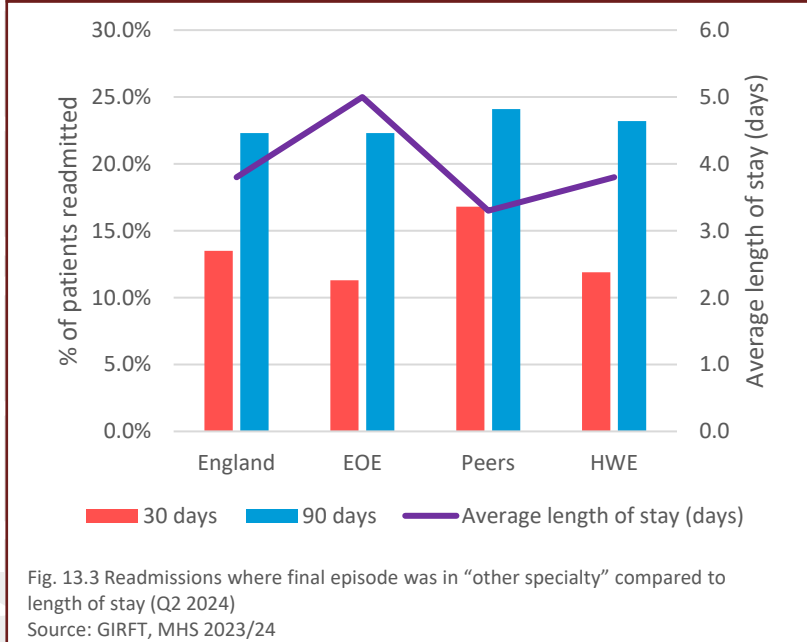


Fig. 13.3 Readmissions where final episode was in "other specialty" compared to length of stay (Q2 2024)  
Source: GIRFT, MHS 2023/24

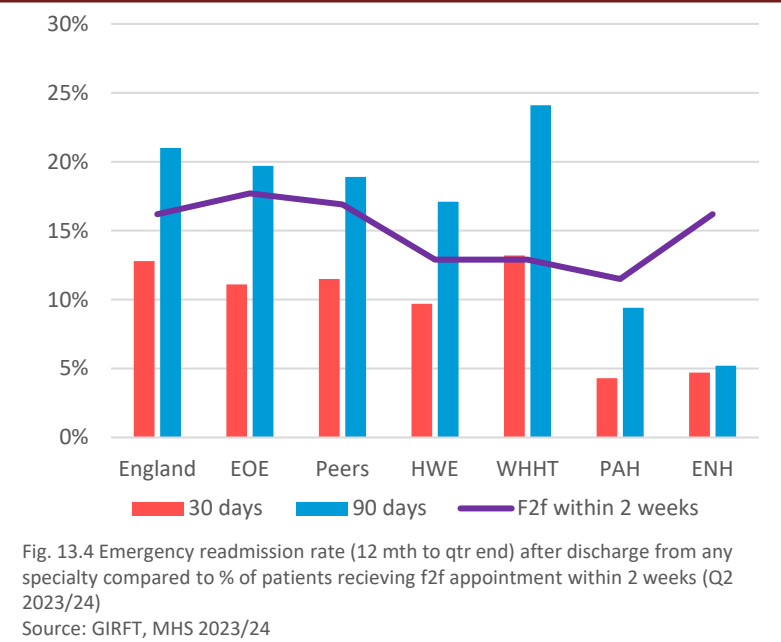


Fig. 13.4 Emergency readmission rate (12 mth to qtr end) after discharge from any specialty compared to % of patients receiving f2f appointment within 2 weeks (Q2 2023/24)  
Source: GIRFT, MHS 2023/24



# Discharge and follow-up

- Every patient that is admitted (where asthma is the primary coded complaint) should have a face-to-face follow up in outpatients within 2 weeks.
- HWE is has a lower 2-week follow-up rate than the other areas examined (Fig. 14.1)
  - ENHT is the only trust to match the national average
- A steadily increasing respiratory outpatient [pathway](#) list (12,895 as of 04/02/24) can inhibit face-to-face appointments within 2 weeks (Fig. 14.2)
  - This may reflect an increasing number of referrals or longer waiting periods

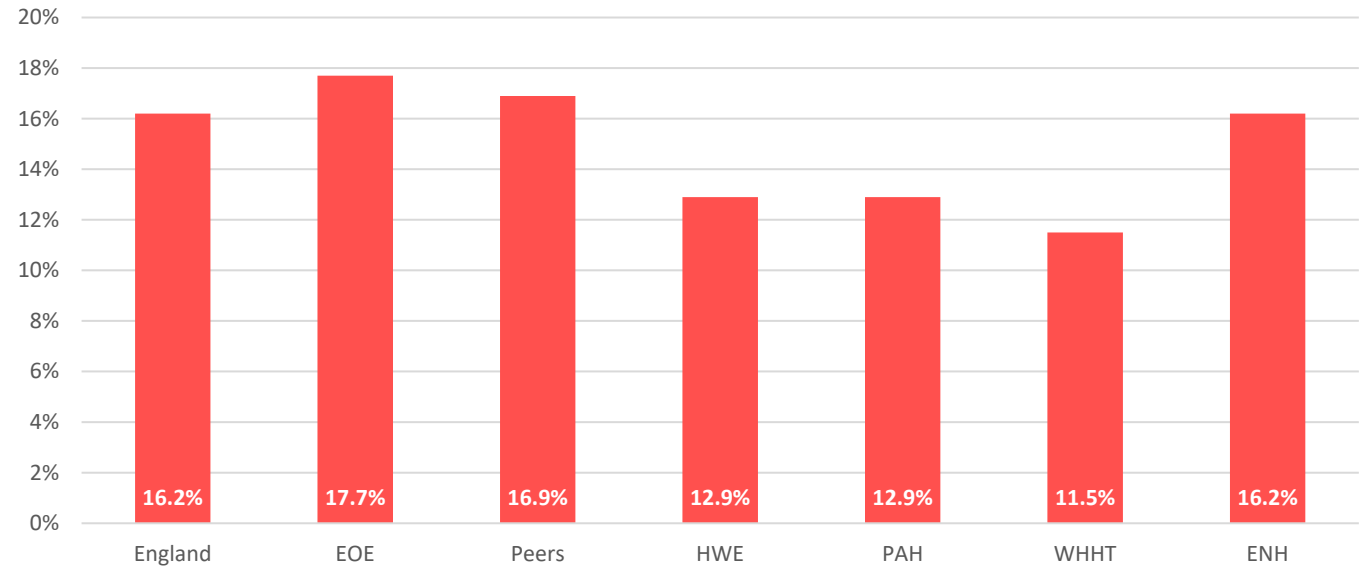


Fig. 14.1 Percentage of admitted asthma patients who get a f2f or virtual follow up outpatient appointment within 2 weeks (12mths to qtr end, Q2 2024)  
Source: MHS GIRFT 22/23

## Open Pathways - by Week Ending Date

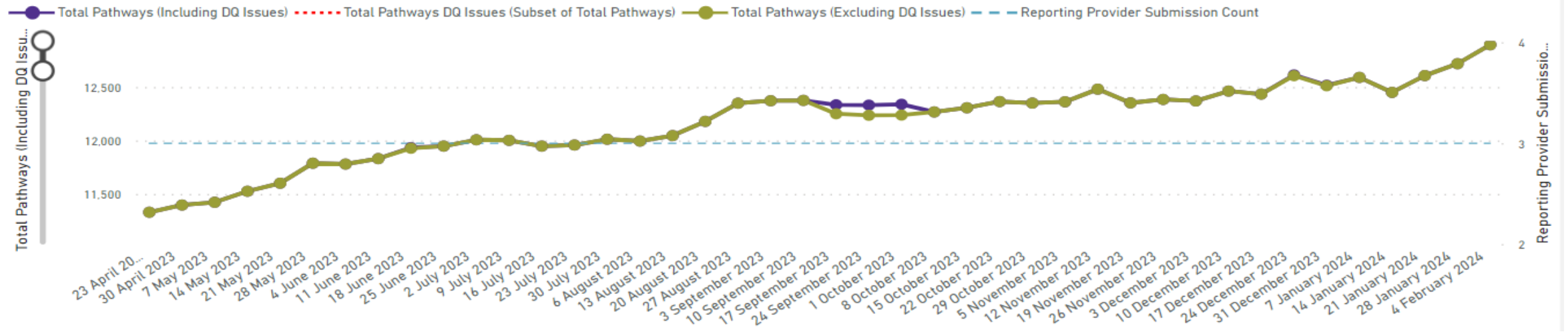


Fig 14.2 Total number of open patient pathways across HWE from April 23-Feb 24.  
Source: RAIDR NEWL, accessed 2024

# Mortality

- Asthma-related deaths in hospital in the East of England roughly followed the national median from 1995 to 2020 (Fig. 15.2)
  - The overall trend was a decrease in the death rate
  - The linear averages crossed in 2013, where EoE's death rate exceeded the national average.
  - Community deaths are not included
- The three HWE sub-ICBs have a lower asthma-related death rate than the England average when looking at the 3 year average (Fig. 15.1)
  - The confidence intervals of the sub-ICBs are large and overlap and it is difficult to infer statistically significant differences with this data

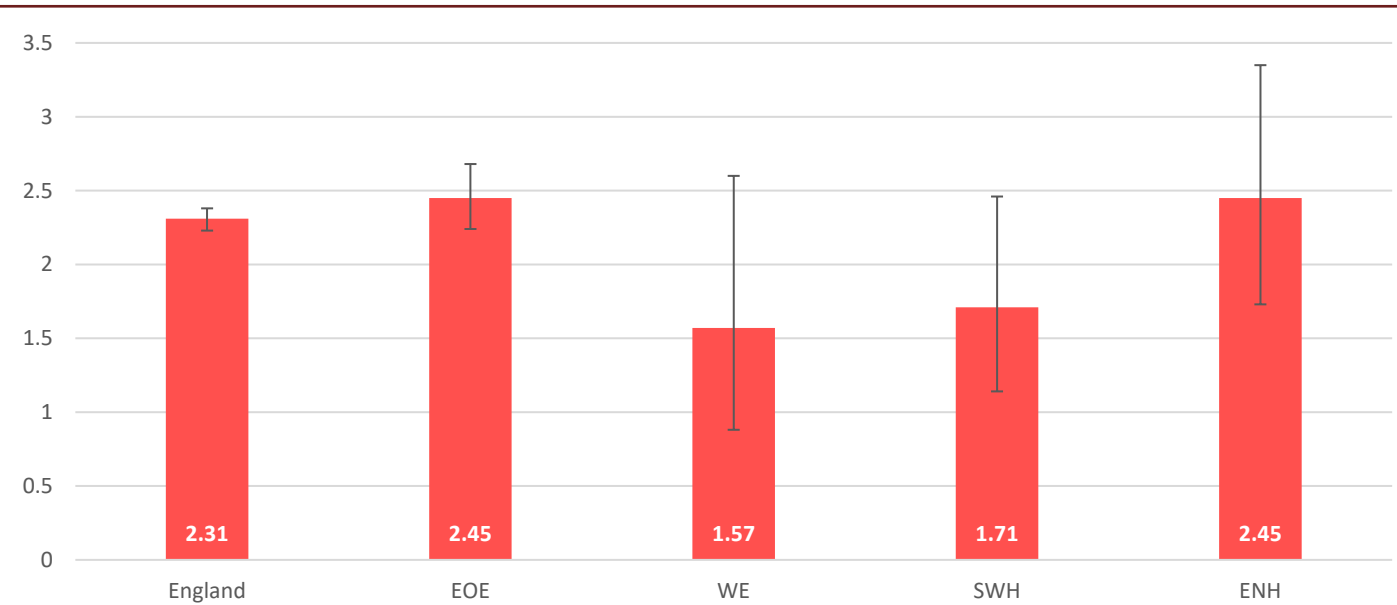


Fig. 15.1 Asthma-related mortality, 3 Year Average 01 Jan 2018 – 31 Dec 2020, directly standardised rate (per 100,000)  
Source: NHS Digital Compendium, Mortality from Respiratory Disease

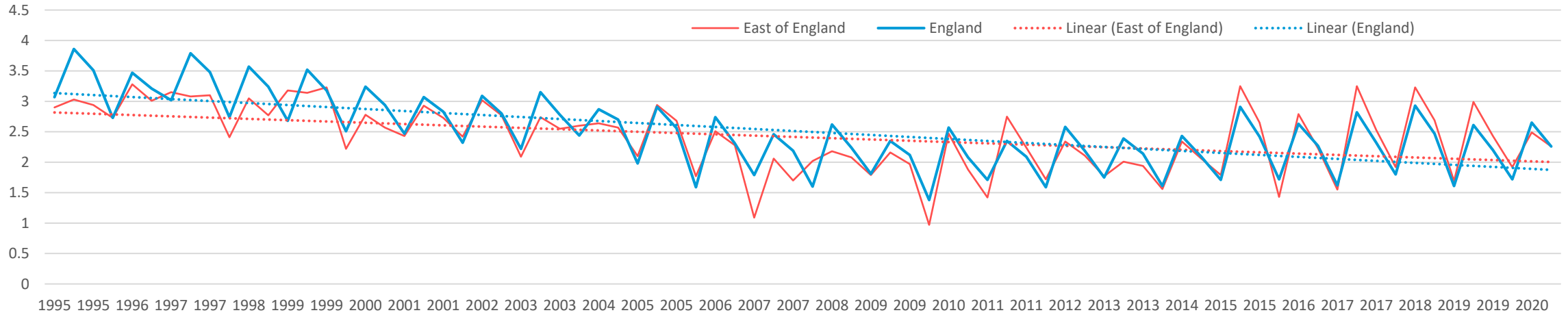


Fig. 15.2 Asthma-related hospital deaths, DSR per 100,000, 1995-2020  
Source: NHS Digital Compendium – Mortality from respiratory disease, directly standardised rate, 1995-2020



# Data not available

Below is a list of data not included in the pack. The authors decided it based on several criteria:

1. Not recent enough to be applicable
  2. Insufficient level of detail
  3. Not available
- Admissions to the emergency department for asthma
  - Asthma-specific ICS prescriptions
  - Asthma-specific waiting lists
  - Readmissions data for PAH and ENH
  - Proportion of admissions where length of stay is [x] days
    - This would help describe the distribution of length of stays
  - Better information on mortality including:
    - Smaller confidence intervals
  - Confidence intervals on most of the data collected from MHS



Hertfordshire and  
West Essex Integrated  
Care System





# Glossary

## 1. “All patients that are ‘at risk’”

- The value represents the percentage of patients with any or any combination of the following conditions: CHD, PAD, stroke or TIA, hypertension, diabetes, COPD, CKD, asthma or SMI (schizophrenia, bipolar affective disorder or other psychoses) who are recorded as current smokers who have a record of an offer of support and treatment within the preceding 12 months.
- (QOF/MHS 2023)

## 2. Centiles/deciles for ICS prescriptions etc.

- All ICBs (or care providers) are organised from highest to lowest in their metric and are then divided into 10 equal groups, giving the decile. The centile is calculated by dividing into 100 equal groups.

## 3. “Four-point review”

- Percentage of patients with asthma with a review that includes a validated asthma control questionnaire, a recording of the number of exacerbations, an assessment of inhaler technique and an asthma plan
- (QOF/MHS 2023)

## 4. “Testing within 3-6 months of diagnosis or 6 months of registration”:

- The percentage of patients with asthma on the register from 1 April 2020 with either:
- A record of spirometry and one other objective test (FeNO or reversibility or variability) between 3 months **before** or 6 months **after** diagnosis; or
- If newly registered in the preceding 12 months with a diagnosis of asthma recorded on or after 1 April 2020 but no record of objective tests being performed before the date of registration, with a record of spirometry and one other objective test (FeNO or reversibility or variability) recorded within 6 months of registration.
- (QOF/MHS 2023)

## 4. “PCA rate”

- Personalised care adjustments
- The % of patients that were considered for the intervention but were not given it. A useful measure for activity in addition to actual uptake of the intervention.
- *“Examples of PCAs could be patient or carer refusal of treatment, a patient cancels or does not attend a consultation appointment, or a GP’s advice that two types of medication or treatment methodology should not be administered simultaneously.”*
- [QOF Glossary | NHS Digital](#)

## 5. “Peers”

- Surrey Heartlands; Frimley; Buckinghamshire, Oxford and Berkshire; Mid and South Essex; Hampshire and Isle of Wight
- (QOF/MHS 2023)

## 6. “Region”

- Bedfordshire, Luton and Milton Keynes; Cambridgeshire and Peterborough; Mid and South Essex; Suffolk and North East Essex; Norfolk and Waveney
- (QOF/MHS 2023)

## 7. “Pathways”

- **“The specific route** that a particular patient takes from the first referral request received date of a service request or the activity date of the first emergency activity where there is no related service request.
- Where a patient has more than one referral for unrelated clinical reasons, each referral will have its own patient pathway.”
- [PATIENT PATHWAY \(datadictionary.nhs.uk\)](#)

