

National Asthma and Chronic Obstructive Pulmonary
Disease Audit Programme (NACAP)

Child and young person asthma 2021 organisational audit

Resourcing and organisation of care in hospitals
in England and Wales

Summary report

Published 16 June 2022



In association with:

Commissioned by:

Asthma affects one in 11 children and young people in the UK, which is contributing to a rise in hospital admissions. NHS services face the challenge of strengthening existing structures and resources to ensure families receive the best possible care to prevent asthma attacks and hospital admissions. There is a link between the structure and resourcing of services and the quality of care they can provide.¹ This report presents information on the structure and resourcing of 136 out of 143 (95%) hospital-based services that provide acute asthma care to children and young people (CYP) in England and Wales. Data were gathered between 4 October and 5 November 2021, and measured against key performance indicators (KPIs) recommended by the National Asthma and COPD Audit Programme (NACAP) to support good practice in the delivery of acute asthma care.

Four of the KPIs have been identified as improvement priorities[†] which, if delivered, can help drive marked improvements to patient care. We have provided guidance and recommendations to enable these improvement priorities to be achieved more widely.

This report is intended for the use of service providers, commissioners and clinical teams to:

- > review and recognise the gaps in services across England and Wales, assessed against national standards of care
- > understand how services are performing against national averages and KPIs using the full data file and benchmarked key indicator report to identify where changes are needed or where successes offer opportunities for shared learning
- > review guidance on improving performance in the areas NACAP has identified as improvement priorities
- > influence change and work together to ensure services are sufficiently resourced to facilitate high-quality care for all children and young people with asthma.

[†]*In NACAP reports and publications released before 2022, improvement priorities are referred to as quality improvement (QI) priorities.*

NB: Please see the bibliography for a full list of references provided in this report.

Summary of performance against KPIs

Respiratory nurse specialist

51.5%



Access to a respiratory nurse specialist trained in the care of CYP with asthma*

Clinical lead

86.8%



Designated lead for CYP with asthma*

FeNO and spirometry

61.0%



Access to both diagnostic tools*

Transition service

62.5%



Formal transition from child to adult asthma services*

Smoking cessation service

36.8%



Availability of smoking cessation service to which CYP and families can be referred/signposted

*improvement priority

This report provides an insight into the challenges faced by NHS services during the pandemic. The infographic summarises the national position of services against audit key performance indicators (KPIs) and demonstrates variation in service provision across England and Wales. A total of nine out of 129 services met all five KPIs ([see Benchmarked Key Indicator report](#)), and they deserve commendation for implementing good practice. Since [NACAP's first CYP organisational audit in 2020](#) which collected data from 1 June 2019 and 31 January 2020:

- > the proportion of hospitals participating in the audit has increased to 95% (compared with the 78% participation rate in the first CYP asthma 2019/20 organisational audit)
- > there has been no overall improvement in the provision of respiratory nurse specialists or designation of a named asthma lead
- > access to smoking cessation services have been worsened
- > there has been a significant improvement in provision of spirometry and fractional exhaled nitric oxide (FeNO) diagnostic tools to diagnose asthma
- > there may have been an improvement in hospitals offering some aspects of transition for CYP with asthma, but the overall quality of transition is still suboptimal.

All hospital services providing acute asthma care to children and young people are encouraged to use the guidance available in this report and further [QI support](#) on the NACAP website, including good practice repository case studies from services delivering best practice.

As NHS services recover from the impact of the pandemic, there is potential for NHS providers to work towards restoring services in line with the [National bundle of care for children and young people with asthma](#), and core elements identified in the NICE Guidelines (2021) for Babies, Children and Young People's Experience of Healthcare.²

'..It is imperative that everyone who may be involved in dealing with young people through the transition age have access to resources / central databank which allows for better signposting of services and support.'
Patient quote, Royal College of Paediatrics and Child Health (RCPCH)¹⁹



Recommendation 1: National recommendation

This recommendation is for commissioners, service providers and clinical teams

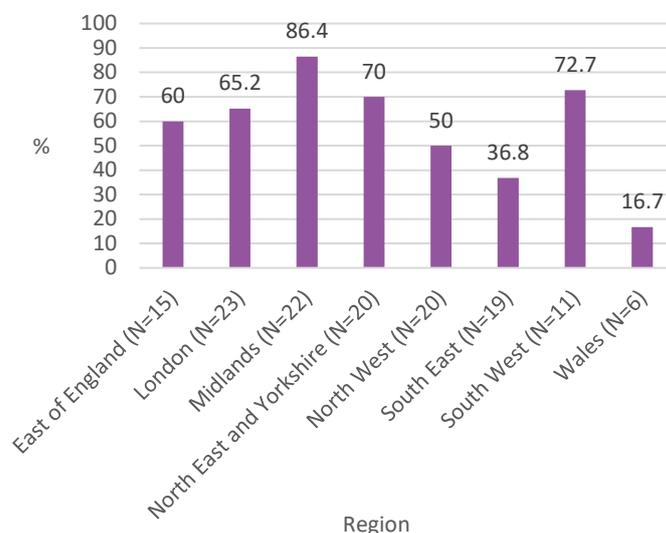
To drive improvement in care, NACAP urges NHS leaders, managers and commissioners to work with their children and young people's services, patients and families to identify where resources and plans are required to meet the recommendations outlined in this report.

KPI: Access to spirometry and fractional exhaled nitric oxide (FeNO) diagnostic tools

Ensuring accurate diagnosis helps CYP with asthma to be treated correctly, and also avoids overtreatment or delayed diagnosis in those who have other medical problems masquerading as asthma.

Fig 1 presents regional performance against this KPI and shows variation in access across England and Wales. There has been an increased availability of spirometry and FeNO with **84/136 (61.8%)** of services when compared with last year's data (48/117 (41%) in 2020).* Please see the footnote for proportion of hospitals with access to spirometry and FeNO separately.** Hospitals with access to a respiratory nurse were associated with a higher likelihood of having spirometry and FeNO available. 52/70 (74.3%) hospitals with a respiratory nurse also had spirometry and FeNO, compared with 30/66 (45.5%) hospitals that did not have a respiratory nurse, and this was statistically significant (p 0.0006 through Chi-Square testing).

Fig 1. Percentage of hospitals by region with access to spirometry and FeNO



Guidelines recommend that in cases where the diagnosis of asthma is uncertain, physiological testing should be undertaken to help clarify whether CYP have asthma or not. This is an important focus of the Healthy London Partnership CYP asthma toolkit,³ and in the consolidated asthma guidelines developed by NICE⁴ and BTS/SIGN.⁵



**Improvement
priority**

Recommendation 2: Spirometry and fractional exhaled nitric oxide (FeNO)

This recommendation is for service providers and clinical teams
All hospitals that manage CYP with acute asthma should have spirometry and FeNO available to aid diagnosis with suspected asthma with an improvement target of 85%.

Rationale	Practical steps that may help achieve this priority
<ul style="list-style-type: none"> > NICE (2017) NG80 (1.3.3)⁴ > BTS/SIGN 2019 (3.3.4)⁵ 	<ul style="list-style-type: none"> > Ensure that whoever performs the tests has appropriate training in the conduct of the test and maintenance of the machines. > Services should work with adult physiology services to help develop resources for CYP. An asthma lead and respiratory nurse specialist working in dedicated asthma clinics can facilitate the development of more robust and effective processes. > Utilise paediatric-specific training resources in respiratory function testing and spirometry, offered by the Association of Respiratory Technology and Physiology (ARTP).

* Due to differences in participation rates for the 2019/20 and 2021 organisational audits, and changes made to the audit in general, please approach comparisons between 2020 and 2021 data with consideration.

** Individually, 127/136 (93.4% of services had access to spirometry and 84/136 (61.8%) had access to FeNO.

KPI: Access to a respiratory nurse specialist trained in the care of CYP with asthma

CYP with access to respiratory nurse specialists varies widely across England and Wales (**Fig 2**). To meet the KPIs, services should prioritise access through the creation of posts, education and support. They should have sufficient time to review inpatients, conduct outpatient clinics and drive improvement.

70/136 (51.5%) of services provide CYP with access to a respiratory specialist nurse (58/117 (49.6%) in 2020)*.

87/136 (63.9%) of services had at least >0.1 whole-time equivalent (WTE) respiratory nurse specialists as indicated in **Fig 3** (compared with 69/117 (58.9%) in 2020).

Having access to a respiratory nurse specialist, either during hospitalisation or immediately after, increases the likelihood of better education, supported self-management, and optimisation of medicines. Respiratory nurse specialists can have several roles, including outpatient care, transition to adult services and driving service improvement.

Fig 2. Percentage of hospitals by region in which all CYP admitted with asthma have access to a respiratory nurse specialist

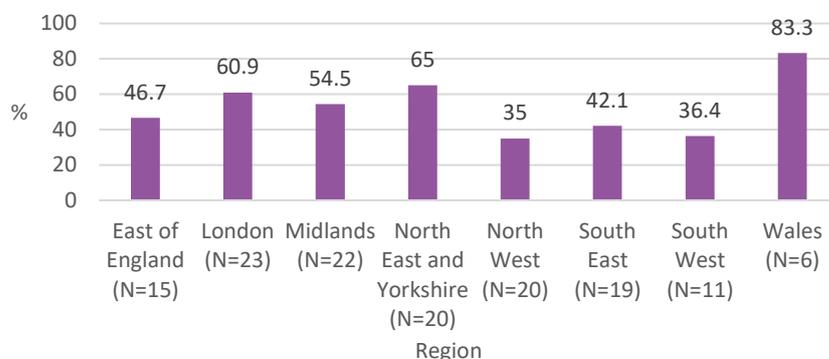
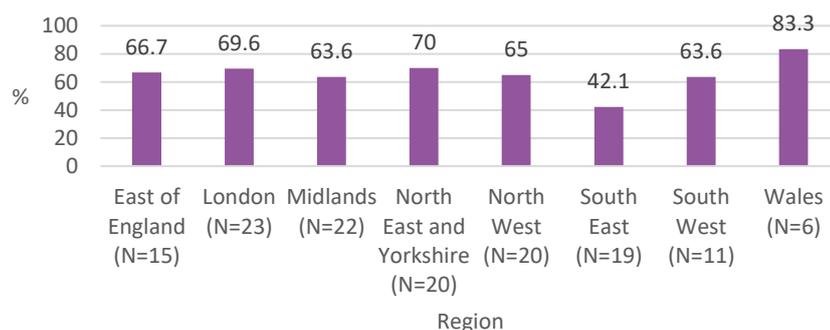


Fig 3. Percentage of hospitals by region with >0.1 WTE respiratory nurse specialist for CYP



Improvement
priority

Recommendation 3: Respiratory nurse specialist

This recommendation is for service providers and clinical teams
All hospitals that manage CYP with acute asthma should have a respiratory nurse specialist, trained in the care of children and young people with asthma according to nationally agreed standards, with dedicated time for inpatient care with an improvement target of 85%.

Rationale

- > [BTS/SIGN Asthma Guidelines 2016 \(9.6.2\)](#)⁶
- > [National Review of Asthma Deaths 2014 \(NRAD\) \(Recommendation 2\)](#)⁷

Practical steps that may help achieve this priority

- > Use the BKI report to highlight the need for respiratory nurse specialists at a regional and national level. The data suggest that developing a multidisciplinary team (MDT) improves the quality of care for CYP.
- > Develop a business case for an asthma specialist nurse focusing on clinical benefits.
- > Involve CYP and their parents and carers in identifying the benefits of having a respiratory nurse specialist in your department and supporting subsequent improvement activity.

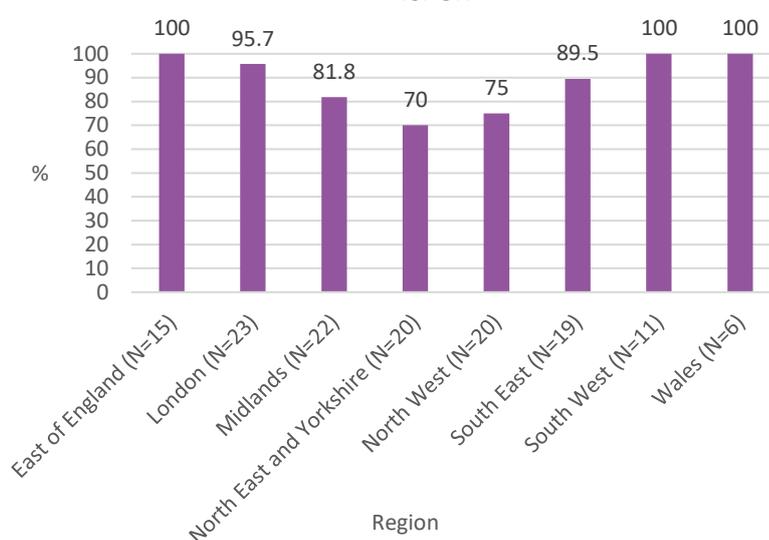
* Due to differences in participation rates for the 2019/20 and 2021 organisational audits, and changes made to the audit in general, please approach comparisons between 2020 and 2021 data with consideration.

KPI: Designated clinical lead for CYP with asthma

Good clinical leadership is required to ensure service improvement and to address gaps in services. While leadership can come from any member of the respiratory team, it is important that services have a designated clinical lead for CYP with asthma.

118/136 (86.8%) of services are led by a named asthma lead for adults and/or CYP (99/117 (84.6%) in 2020).* **110/136 (80.8%)** of services are led by a named asthma lead for CYP only (95/117 (81.2%) in 2020). The [NRAD report \(2014\)](#) highlights the need for hospitals to have a named lead for CYP asthma. Ensuring that hospitals that manage CYP have a specific paediatric lead is important – children are not small adults. CYP asthma care is better when there is a lead who a) is trained in CYP asthma, b) continues to develop expertise in this area, and c) focused on advocating strongly for CYP services which might otherwise be left behind in predominantly adult settings.

Fig 4. Percentage of hospitals by region with a named lead for CYP



NB: For ease of interpretation, please refer to the benchmarked key indicator report for the number of participating/non-participating hospital services per region.



**Improvement
priority**

Recommendation 4: Clinical leadership

This recommendation is for service providers and clinical teams

All hospitals that manage CYP with acute asthma should have an asthma lead whose role is specific to CYP services.

Rationale

- > [BTS/SIGN Asthma Guidelines 2019 \(11.11.3\)](#)⁸
- > [National Review of Asthma Deaths 2014 \(NRAD\) \(Recommendation 1\)](#)⁷
- > [NICE \(2021\) NG204](#)²

Practical steps that may help achieve this priority

- > Leaders and managers in paediatric services will be aware that CYP asthma is highlighted as an area of concern in the NHS Long Term Plan, and local leadership is needed to improve outcomes across the UK.
- > All hospitals should identify a designated named clinical lead with asthma expertise who is responsible for implementing asthma standards and improving support for children and young people with asthma.
- > Paediatric care is moving towards integrated models, with particular focus on the interfaces between primary/secondary and secondary/tertiary services. This offers opportunities within networks to identify centres where asthma leadership is required to ensure that national standards are met.

* Due to differences in participation rates for the 2019/20 and 2021 organisational audits, and changes made to the audit in general, please approach comparisons between 2020 and 2021 data with consideration.

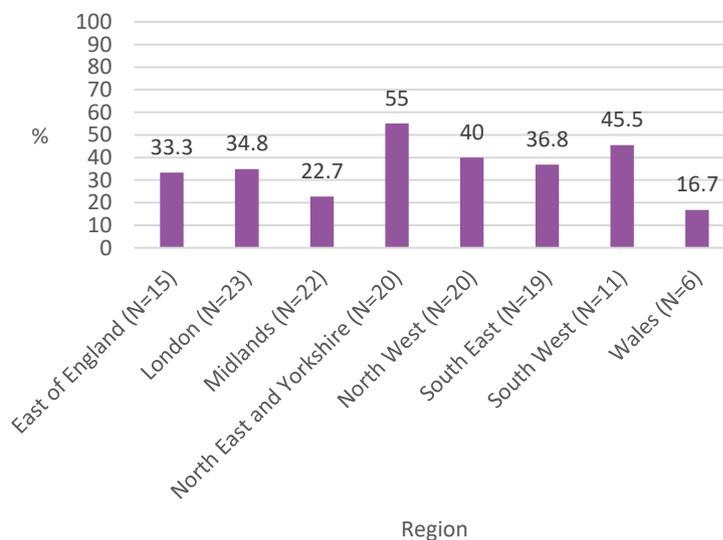
KPI: Availability of smoking cessation service to which CYP and families can be referred/signposted

There has been considerable decline (reduction of 24.4%) in the proportion of hospitals with access to smoking cessation services for both CYP with asthma and their parents/carers (50/136 (36.8%) in 2021 compared with 57/117 (48.7%) in 2020.

104/136 (76.4%) of services offer smoking cessation services to parents/carers through referral/signposting (84/117 (71.8%) in 2020).*

51/136 (37.5%) of services offer smoking cessation services to CYP with asthma (compared with 60/117 (51.3%) in 2020).

Fig 5. Percentage of hospitals by region with access to smoking cessation services through referral or signposting for parents and CYP



Recommendation 5: National recommendation

This recommendation is for service providers and clinical teams



We recommend that staff working with CYP and families are appropriately trained to explain the risk of asthma exacerbations linked to smoking and indoor air quality. NICE and BTS/SIGN guidelines recommend that routinely addressing tobacco dependency and exposure to second-hand smoke, and offering families support to quit smoking, is an important aspect of preventing asthma attacks in CYP (NICE 2013 (QS43),⁹ (NG209);¹⁰ BTS/SIGN 2019 (2.4)).¹¹

Recommendation 6: National recommendation

This recommendation is for service providers and clinical teams



Smoking, or having exposure to second-hand and third-hand smoke,[†] are important risk factors for the development of asthma in childhood, and for triggering an asthma attack as nicotine is one of the world's most addictive substances. All hospitals, that care for CYP with acute asthma should work with and provide schools and local authorities with clear referral to smoking cessation specialist services to help families overcome addiction.

* Due to differences in participation rates for the 2019/20 and 2021 organisational audits, and changes made to the audit in general, please approach comparisons between 2020 and 2021 data with consideration.

[†] Third-hand smoke refers to toxic nicotine residue and chemicals from tobacco smoke found in dust and on surfaces. Exposure occurs by touching contaminated surfaces or breathing in the chemicals.

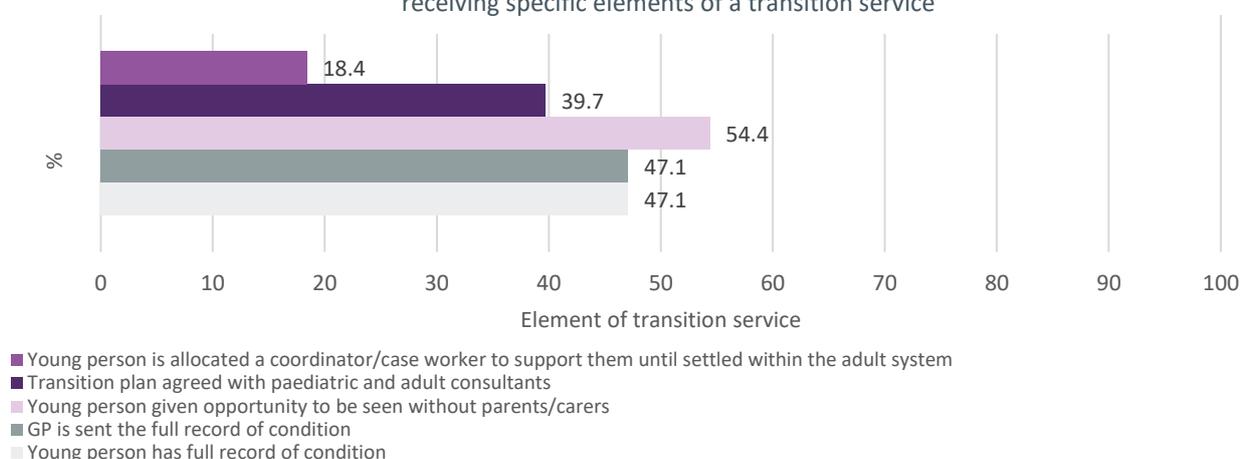
KPI: Formal transition service for CYP to adult asthma service

Wide variation exists in the provision of **transition services** for children and young people with asthma.¹² A structured formal transition service incorporating health education and self-management is essential to empowering CYP and their families as they move to adult asthma services. The move from paediatric to adult care can be a difficult period, due to the variable nature of asthma and multiple reviews with various healthcare professionals over a long period of time. A single point of contact with a named worker can coordinate transition care and support before, during and after transfer which aligns with

the NICE guidelines for transition to deliver high standards of care for families affected by asthma.¹³ NACAP's improvement priority in this audit was for all asthma services to provide at least one element of transition service.

Overall, **85/136 (62.5%)** of services reported providing at least one element of transition to adult services out of the five elements highlighted in **Fig 6** (61/117 (52.1%) in 2020).¹ **15/136 (11%)** of services with transition models incorporated all five aspects of transition (15/117 (12.8%) in 2020).

Fig 6. National level data presenting the percentage of hospitals in 2021 receiving specific elements of a transition service



Improvement priority

Recommendation 7: Transition services

This recommendation is for paediatricians, service providers, commissioners and clinical teams
All hospitals should provide a formal transition service from child to adult asthma services.

Rationale

- > [NICE 2016 \(NG43\)](#)¹³
- > [NICE 2013, updated 2018 QS25 \(QS2\)](#)¹⁴
- > [NICE 2013 QS25 \(QS4\) \(updated 2018\)](#)¹⁵
- > [BTS/SIGN Asthma Guidelines 2016 \(11.11.3, 11.11.4, 11.12.1\)](#)¹⁶
- > [BTS/SIGN 2019 \(9.6.3\)](#)¹⁷
- > [National Review of Asthma Deaths 2014 \(NRAD\) \(Recommendation 1, 2, 3\)](#)⁷

Practical steps that may help achieve this priority

- > Ensure you have a respiratory nurse specialist and asthma lead, as this enables a more structured and reliable transition process.
- > Ensure you work with CYP undergoing transition to adult services, or those who have recently transitioned, as this can help develop services that are more attuned to the lives and needs of adolescents.
- > Ensure paediatricians involved in transition have sufficient time to conduct outpatient clinics and engage in service development with adult colleagues.
- > Each centre should have an appropriate amount of respiratory nurse specialist time and a named asthma lead specifically for CYP to achieve this.
- > Ensure [NICE recommendations on transition planning](#)¹³ are implemented in your centre.
- > Refer to [RCPCH resources](#)¹⁸ on delivering effective transition services.



Recommendation 8: National recommendation

This recommendation is for paediatricians, service providers, commissioners and clinical teams

To support CYP as they move to adult asthma services, NACAP recommends that all adult and paediatric asthma services identify areas where additional resource is required to incorporate all five elements of the transition service.

Reference list

- 1 Allen M. Respiratory medicine: GIRFT programme national speciality report. London: NHS, 2021:p11.
- 2 National Institute for Health and Care Excellence. *Babies, children and young people's experience of healthcare*. NICE guideline 204 (NG204). London: NICE, 2021. <http://www.nice.org.uk/guidance/ng204>
- 3 Healthy London Partnership. *London Asthma Toolkit*. 2021. www.healthylondon.org/resource/london-asthma-toolkit
- 4 National Institute for Health and Care Excellence. *Asthma: diagnosis, monitoring and chronic management*. NICE guidelines 80 (NG80). London: NICE, 2017. www.nice.org.uk/guidance/ng80
- 5 British Thoracic Society / Scottish Intercollegiate Guidelines Network. *SIGN 158 [3.3.4]: British guideline on the management of asthma – a national clinical guideline*. London: BTS, 2019:p25. www.brit-thoracic.org.uk/document-library/guidelines/asthma/btssign-guideline-for-the-management-of-asthma-2019
- 6 British Thoracic Society / Scottish Intercollegiate Guidelines Network. *SIGN 158 [9.6.2]: British guideline on the management of asthma – a national clinical guideline*. BTS: London, 2019:p101. www.brit-thoracic.org.uk/document-library/guidelines/asthma/btssign-guideline-for-the-management-of-asthma-2019
- 7 Royal College of Physicians. *Why asthma still kills: the National Review of Asthma Deaths (NRAD) Confidential Enquiry report (Recommendations 1–3)*. London: RCP, 2014. www.rcplondon.ac.uk/projects/national-review-asthma-deaths
- 8 British Thoracic Society / Scottish Intercollegiate Guidelines Network. *SIGN 158 [11.11.3; 11.11.4; 11.12.1]: British guideline on the management of asthma – A national clinical guideline*. BTS: London, 2019:p123. www.brit-thoracic.org.uk/document-library/guidelines/asthma/btssign-guideline-for-the-management-of-asthma-2019
- 9 National Institute for Health and Care Excellence. *Smoking: supporting people to stop*. NICE quality standard 43 (QS43); quality statement 2: Referral to smoking cessation services. London: NICE, 2013. <http://www.nice.org.uk/guidance/qs43>
- 10 National Institute for Health and Care Excellence. *Tobacco: preventing uptake, promoting quitting and treating dependence*. NICE guideline 209 (NG209). London: NICE, 2013. www.nice.org.uk/guidance/ng209
- 11 British Thoracic Society / Scottish Intercollegiate Guidelines Network. *SIGN 158 [2.4]: British guideline on the management of asthma – a national clinical guideline*. BTS: London, 2019:p7. www.brit-thoracic.org.uk/document-library/guidelines/asthma/btssign-guideline-for-the-management-of-asthma-2019
- 12 Allen M. *Respiratory Medicine: GIRFT programme national speciality report*. London: NHS, 2021:p124
- 13 National Institute for Health and Care Excellence. *Transition from children's to adults' services for young people using health or social care services*. NICE guideline 43 (NG43). London: NICE, 2016.
- 14 National Institute for Health and Care Excellence. *NICE Quality Standard 25 (QS2)*. London: NICE, 2018. <https://www.nice.org.uk/guidance/qs25>
- 15 National Institute for Health and Care Excellence. *NICE Quality Standard 25 (QS4)*. London: NICE, 2018. <https://www.nice.org.uk/guidance/qs25>
- 16 British Thoracic Society / Scottish Intercollegiate Guidelines Network. *SIGN 158 [11.11.3; 11.11.4; 11.12.1]: British guideline on the management of asthma – a national clinical guideline*. BTS: London, 2019:p123 www.brit-thoracic.org.uk/document-library/guidelines/asthma/btssign-guideline-for-the-management-of-asthma-2019
- 17 British Thoracic Society / Scottish Intercollegiate Guidelines Network. *SIGN 158 [9.6.3]: British guideline on the management of asthma – a national clinical guideline*. BTS: London, 2019:p101. www.brit-thoracic.org.uk/document-library/guidelines/asthma/btssign-guideline-for-the-management-of-asthma-2019
- 18 Royal College of Paediatrics and Child Health. *Health transition resources – Follow good practice and existing guidelines*. www.rcpch.ac.uk/resources/health-transition-resources#-follow-good-practice-and-existing-guidelines
- 19 Royal College of Paediatrics and Child Health (RCPCH). *Health transition resources*. www.rcpch.ac.uk/resources/young-peoples-experiences-health-transition

The Royal College of Physicians

The Royal College of Physicians (RCP) plays a leading role in the delivery of high-quality patient care by setting standards of medical practice and promoting clinical excellence. The RCP provides physicians in over 30 medical specialties with education, training and support throughout their careers. As an independent charity representing over 40,000 fellows and members worldwide, the RCP advises and works with government, patients, allied healthcare professionals and the public to improve health and healthcare.

Healthcare Quality Improvement Partnership

The National Asthma and Chronic Obstructive Pulmonary Disease (COPD) Audit Programme (NACAP) is commissioned by the Healthcare Quality Improvement Partnership (HQIP) as part of the National Clinical Audit Patient Outcomes Programme (NCAPOP), and works within a governance structure that includes the Programme's Board, Advisory Group and Patient Panel groups. HQIP is led by a consortium of the Academy of Medical Royal Colleges, the Royal College of Nursing and National Voices. Its aim is to promote quality improvement, and in particular, to increase the impact that clinical audit, outcome review programmes and registries have on healthcare quality in England and Wales. HQIP holds the contract to commission, manage and develop the National Clinical Audit and Patient Outcomes Programme (NCAPOP), comprising around 40 projects covering care provided to people with a wide range of medical, surgical and mental health conditions. The programme is funded by NHS England, the Welsh government and, with some individual projects, other devolved administrations and crown dependencies www.hqip.org.uk/national-programmes.

NACAP

NACAP is a programme of work that aims to improve the quality of care, services and clinical outcomes for patients with asthma and COPD in England and Wales. Spanning the entire patient care pathway, NACAP includes strong collaboration with asthma and COPD patients, as well as healthcare professionals, and aspires to set out a vision for a service which puts patient needs first. To find out more about NACAP visit: www.rcp.ac.uk/nacap.

Child and young person asthma 2021 organisational audit report

This report was prepared by the following people, on behalf our governance groups. The full list of members can be found on the NACAP webpage: www.rcp.ac.uk/nacap.

Professor Ian Sinha, NACAP CYP clinical lead, consultant respiratory paediatrician, Alder Hey Children's NHS Foundation Trust, Liverpool honorary associate clinical professor, Division of Child Health, University of Liverpool

Ms Lara Amusan, programme manager, NACAP, Care Quality Improvement Directorate (CQID), RCP

Ms Rachael Andrews, deputy programme manager, NACAP, CQID, RCP

Ms Cheyanne Kailla, project manager, NACAP, CQID, RCP

Patsy Emblem, programme coordinator, NACAP, CQID, RCP

Mr Tim Bunning, principal consultant, Crown Informatics

Mr Alex Adamson, research assistant in medical statistics, National Heart and Lung Institute, Imperial College London

Mr Philip Stone, research assistant in statistics/epidemiology, National Heart and Lung Institute, Imperial College London

Professor Jennifer Quint, professor in respiratory epidemiology, National Heart and Lung Institute, Imperial College London; honorary respiratory consultant, Royal Brompton and Imperial NHS trusts

Professor John Hurst, senior clinical lead, NACAP, CQID, RCP; professor and honorary consultant in respiratory medicine, University College London / Royal Free London NHS Foundation Trust

NACAP Patient Panels, The Royal College of Paediatrics & Child Health (RCPCH) and Asthma + Lung UK

Citation for this document: Adamson A, Amusan L, Andrews R, Bunning T, Emblem P, Hurst J, Kailla C, Quint J, Sinha I, Stone P. *National Asthma and COPD Audit Programme: Child and young person asthma 2021 organisational audit. Resourcing and organisation of care in hospitals in England and Wales. Summary report.* London: RCP, 2022.

Royal College of Physicians
11 St Andrews Place
Regent's Park
London NW1 4LE

Tel: +44 (020) 3075 1526

Email: nacap@rcp.ac.uk

www.rcp.ac.uk/nacap



@NACAPaudit

#NACAPQI

Registered charity no 210508

© 2022 Healthcare Quality Improvement Partnership (HQIP)



**Royal College
of Physicians**

NACAP