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Appendix 1: Report purpose

Document purpose	To disseminate the outcomes, recommendations and proposed next steps of phase 2 of the Asthma Audit Development Project (AADP)
Title	*Asthma Audit Development Project (AADP): Phase 2 final report*
Authors	Andrews R, McMillan V, Nasser S, Quint J, Roberts CM (on behalf of the Asthma Audit Development Project (AADP) steering committee)
Publication date	August 2018
Audience	Healthcare professionals; NHS managers, chief executives and board members; service commissioners; policymakers; voluntary organisations; patient support groups; asthma patients and their families/carers; and the public. The successful provider of the National Asthma and COPD Audit Programme.
Description	This is the second of the Asthma Audit Development Audit (AADP) reports, released by the Royal College of Physicians, London. This report details the activities, outcomes and recommendations from phase 2 of the Asthma Audit Development Project and proposed next steps in the implementation of a National Asthma Audit in England and Wales. The report is relevant to anyone with an interest in asthma. It enables lay people, as well as experts, to understand the outcomes, recommendations and next steps proposed.
Supersedes	None
Related publications	Asthma Audit Development Project (AADP): Phase 1 final report https://www.rcplondon.ac.uk/projects/outputs/asthma-audit-development-project-information-and-resources
Contact	asthmaauditdevelopmentproject@rcplondon.ac.uk

Appendix 2: Report preparation

This report was prepared and written by the following, on behalf of the Asthma Audit Development Project (AADP) steering committee. Full Steering Committee membership included in Appendix 3.

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Appendix 3: Current members of the AADP steering committee

- **Shuaib Nasser,** Clinical Lead, Asthma Audit Development Project (AADP), Care Quality Improvement Department, Royal College of Physicians, London, Consultant in Allergy and Asthma, Addenbrookes Hospital, Cambridge University Hospitals NHS Foundation Trust
- **Rachael Andrews**, Project Manager, Asthma Audit Development Project (AADP), Care Quality Improvement Department, Royal College of Physicians, London
- **Catherine Broadbent**, Asthma UK, Senior Insight Analyst
- **James Calvert**, British Thoracic Society, Consultant Respiratory Physician, North Bristol NHS Trust
- **Toby Capstick**, Royal Pharmaceutical Society of Great Britain, Lead Respiratory Pharmacist, Leeds Teaching Hospital NHS Trust
- **Teena Chowdhury**, Operations Director Audit and Accreditation, Care Quality Improvement Department, Royal College of Physicians, London
- **Anita Critchlow**, National Paediatric Respiratory and Allergy Nurses Group (NPRANG) chair, Respiratory Nurse Specialist, Sheffield Children's Hospital NHS Foundation Trust
- **Luke Daines**, Primary Care Respiratory Society UK (PCRS-UK), Academic Clinical Fellow in General Practice, Usher Institute of Population Health Sciences and Informatics, University of Edinburgh
- **Erol Gaillard**, Royal College of Paediatrics and Child Health, Senior Lecturer in Child Health and Honorary Consultant in Paediatric Respiratory Medicine
- **Lizzie Grillo**, Association for Chartered Physiotherapists in Respiratory Care (ACPRC) chair, Therapy Lead and Specialist Physiotherapist, Royal Brompton Hospital
- **Kevin Gruffydd-Jones**, Respiratory Lead, Royal College of General Practitioners; Clinical Policy Lead, Primary Care Respiratory Society UK; Honorary Lecturer at University of Bath
- **Natalie Harper**, Association of Respiratory Nurse Specialists (ARNS), Respiratory Advanced Nurse Practitioner, Dorset County Hospital NHS Foundation Trust
- **Petronella Hutchinson**, Patient Representative
- **Richard Iles**, Respiratory Paediatrics Consultant, Evelina London Children's Hospital
- **Jeff Keep**, Royal College of Emergency Medicine, Consultant and Honorary Senior Lecturer in Emergency Medicine & Major Trauma, King's College Hospital
- **Viktoria McMillan**, National COPD Audit Programme Manager, Care Quality Improvement Department, Royal College of Physicians, London
- **Daniel Menzies**, NHS Wales representative, Consultant Respiratory Physician, Glan Clwyd Hospital
- **Andrew Menzies-Gow** , Difficult Asthma Registry, Respiratory Medicine Consultant, Royal Brompton Hospital
- **Jenni Quint**, Clinical Senior Lecturer in Respiratory Epidemiology, Occupational Medicine and Public Health, National Heart and Lung Institute, Imperial College London; and Honorary Consultant Physician in Respiratory Medicine, Royal Brompton Hospital, London
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- **Carol Roberts**, Chief Executive Officer, PrescQIPP Community Interest Company
- **Sophie Robinson**, National COPD Audit Programme Coordinator, Care Quality Improvement Department, Royal College of Physicians, London
- **Robert Spaight**, Clinical Audit and Research Manager, East Midlands Ambulance Service NHS Trust
- **Simon Standen**, College for Paramedics, Consultant Paramedic Emergency Care, Yorkshire Ambulance Service NHS Trust
- **Carol Stonham MBE**, Senior Nurse Practitioner Respiratory, Gloucestershire CCG and Primary Care Respiratory Society UK (PCRS-UK) Lead Nurse
- **Ralph Sullivan**, Clinical Lead for Patient Online, Royal College of General Practitioners
- **Ian Woolhouse**, Clinical Director Audit and Accreditation, Care Quality Improvement Department, Royal College of Physicians, London

Appendix 4: Participating hospitals in the AADP pilot

Hospitals that submitted clinical and organisational data for the adult and/or paediatric pilot datasets. Those with a * additional submitted a case study on participating in the AADP pilot.

Trust	Hospital	Adult	Paediatric
Abertawe Bro Morgannwg University Health Board	Singleton Hospital	✓	✓
	Morriston Hospital	✓	✓
	Princess of Wales Hospital	✓	✓
Cambridge University Hospitals NHS Foundation Trust	Addenbrookes Hospital	✓	✓
Cardiff and Vale University Health Board	University Hospital Llandough	✓	✓ *(Minimal org submission)*
	University Hospital Wales	✓	✓ *(Minimal org submission)*
Colchester Hospital University NHS Foundation Trust	Colchester General Hospital		✓
Countess of Chester Hospital NHS Foundation Trust	Countess of Chester Hospital	✓	✓
Dartford and Gravesham NHS Trust	Darent Valley Hospital	✓	✓
Derby Teaching Hospitals NHS Foundation Trust	Royal Derby Hospital	✓	✓*
East Kent Hospitals University NHS Foundation Trust	Queen Elizabeth The Queen Mother	✓	
	William Harvey Hospital	✓	
Frimley Health Foundation Trust	Frimley Park Hospital	✓	✓
	Wexham Park Hospital	✓	✓
Gloucestershire Hospitals NHS Foundation Trust	Gloucestershire Royal Hospital	✓	
Guy's and St Thomas' NHS Foundation Trust	Evelina Children's Hospital		✓
Lancashire Teaching Hospitals NHS Foundation Trust	Royal Preston Hospital	✓ *(Clinical data only)*	
Maidstone and Tunbridge Wells NHS Trust	Tunbridge Wells Hospital	✓	✓
	Maidstone Hospital	✓	✓
Manchester University Foundation Trust	Wythenshawe Hospital	✓	✓
Mid-Yorkshire Hospitals NHS Trust	Pinderfields General Hospital	✓	✓
Norfolk and Norwich University Hospital NHS Foundation Trust	Norfolk and Norwich University Hospital	✓	✓
Northumbria Healthcare NHS Foundation Trust	Northumbria Specialist Emergency Hospital	✓	✓
Oxford University Hospitals NHS Foundation Trust	Oxford University Hospitals NHS Foundation Trust, Children's hospital		✓
Portsmouth Hospitals NHS Trust	Queen Alexandra Hospital	✓	
Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust	Royal Bournemouth Hospital	✓	

Royal Free London NHS Foundation Trust	Hampstead Hospital	✓	
Royal United Hospitals Bath NHS Foundation Trust	Royal United Hospital, Bath	✓*	✓
Sandwell & West Birmingham Hospitals NHS Trust	City Hospital	✓	✓
	Sandwell Hospital	✓	✓
Sheffield Children's NHS Foundation Trust	Sheffield Children's Hospital		✓
Southend University Hospital NHS Foundation Trust	Southend University Hospital		✓ *(Clinical data only)*
St Helen's and Knowsley Teaching Hospitals NHS Trust	Whiston Hospital	✓	✓
Tameside and Glossop Integrated Care NHS Foundation Trust	Tameside General Hospital	✓	✓
Taunton and Somerset NHS Foundation Trust	Musgrove Park Hospital	✓	✓ *(Minimal org submission)*
The Royal Wolverhampton NHS Trust	Newcross Hospital	✓	✓
University Hospital of North Midlands	Royal Stoke University Hospital	✓	✓ *(Clinical data only)*
University Hospitals Birmingham NHS Foundation Trust	Queen Elizabeth Hospital, Birmingham	✓*	
University Hospitals Bristol NHS Foundation Trust	Bristol Royal Hospital for Children		✓
University Hospitals of Leicester NHS Trust	Leicester Children's Hospital		✓ *(Clinical data only)*
West Hertfordshire Hospitals NHS Trust	Watford Hospital	✓*	✓

Appendix 5: Consultation respondents

Secondary care clinical datasets: Public consultation

Name	On behalf of:
Angela Cooper	University Hospital of North Midlands, Royal Stoke University Hospital
Carol Still	Maidstone and Tunbridge Wells NHS Trust
Jeremy Hull	Oxford University Hospitals NHS Foundation Trust
Kathryn Crabb	Royal Bournemouth and Christchurch Hospitals, Royal Bournemouth Hospital
Paul Gilliatt	Northampton General Hospital NHS Trust
Rachel Evens	Abertawe Bro Morgannwg University Health Board
Sara Lock	Whittington Health NHS Trust
Sarah Elkin	Imperial College Healthcare NHS Trust
Seema Brij	North West Anglia NHS Foundation Trust, Peterborough City Hospital
Sharon Sturney	Royal United Hospitals Bath NHS Foundation Trust, Royal United Hospital, Bath
Simon Gompertz	University Hospitals Birmingham NHS Foundation Trust, QE Hospital Birmingham
Will McConnell	Dorset County Hospital NHS Foundation Trust, Dorset County Hospital

Primary care queries: Targeted consultation

Name	On behalf of:
Deirdre Siddaway	Primary Care Respiratory Society (PCRS)
Duncan Keeley	Royal College of General Practitioners (RCGP)
Durush Attar	Primary Care Respiratory Society (PCRS)
Imran Rafi	Royal College of General Practitioners (RCGP)
John Robinson	Royal College of General Practitioners (RCGP)
Kevin Gruffydd-Jones	Royal College of General Practitioners (RCGP)
Natalie Harper	Association for Respiratory Nurse Specialists (ARNS)
Ralph Sullivan	Royal College of General Practitioners (RCGP)
Val Gerrard	Primary Care Respiratory Society (PCRS)
Wendy Preston	Association for Respiratory Nurse Specialists (ARNS)

Appendix 6: Other acknowledgements

Name	Organisation
Andrew Cumella	Asthma UK
Pooja Panchasara	National Clinical Audit for Rheumatoid and Early Inflammatory Arthritis
Catherine Broadbent	Asthma UK
Paul Davies	NHS Business Services Authority, Prescription Information Services
Margaret Dockey	NHS Business Services Authority, Prescription Information Services
Daisy Ellis	Asthma UK
Emma Fernandez	Royal College of Emergency Medicine
Focus Group attendees	Asthma UK patient and carer representatives
Natasha Dunkley	Health Research Authority
Noel Baxter	Primary Care Respiratory Society, National COPD Audit Programme Clinical Lead
Sam McIntyre	Royal College of Emergency Medicine
Tim Bunning	Crown Informatics

Appendix 7: Secondary care audit: Adult clinical dataset

Secondary Care (Adult)

Clinical audit (adult) data collection sheet

Version: FINAL 1.2 AADP 310118

This dataset should be used and completed for adult asthma patients (age 16 years and over on the date of admission) who have been **admitted to hospital adult services** with a primary diagnosis of an acute exacerbation of asthma.

Case definition

Any adult (16 and above) who is admitted to hospital with a primary diagnosis of an acute exacerbation of asthma and treated within an adult unit/ward.

Item	Question and answer options	Helpnotes and rationale
1. Generic questions		
1.1	NHS number _ _ _ / _ _ _ / _ _ _ _	**Rationale** Enables linkage
1.2	Date of birth _ _ / _ _ / _ _ _ _ (DD/MM/YYYY)	**Helpnotes** Do not include asthma patients under the age of 16 or between the ages of 16-18 (on date of admission) who have been treated on a paediatric unit/ward. Please use the Secondary Care (Paediatric) Pilot 2017 dataset (6 – 18 years) for these patients. **Rationale** Enables linkage and investigation into demographics of asthma patients.
1.3	Home postcode _ _ _ _ / _ _ _	**Rationale** Enables linkage and investigation into deprivation demographics.
1.4	Patient GP practice (Drop down list)	**Rationale** Enables linkage
1.5	Gender *(Select one only)* ☐ Male ☐ Female ☐ Other	**Helpnotes** Select one only. **Rationale** Enables investigation into asthma demographics.
1.6	What was the smoking status of the patient, as documented for the current admission? *(Tick all that apply)* ☐ Never smoked ☐ Ex-smoker	**Helpnotes** *Tick all that apply*. Please enter the smoking status as recorded during the admission.

	☐ Current smoker ☐ Vaping only ☐ Not recorded	If smoking status was not documented, please select 'not recorded'. If the patient stopped smoking at least 4 weeks prior to the admission, please enter 'ex-smoker'. If the patient has stopped within 4 weeks, mark as a smoker. This question does not just refer to tobacco smokers, regular cannabis smokers should also be counted as current smokers. **Rationale** **BTS Adult Asthma Audit** Included in dataset **BTS guideline** Parents with asthma should be advised about the dangers, to themselves and to their children with asthma, of smoking, and be offered appropriate support to stop smoking. Clinicians should be aware that higher doses of inhaled corticosteroids may be needed in patients who are smokers or ex-smokers. **NRAD** A history of smoking and/or exposure to second-hand smoke should be documented in the medical records of all people with asthma. Current smokers should be offered referral to a smoking-cessation service. This question embraces NICE 2011 QS 5, NICE 2013 (Smoking: Supporting People to Stop) QS43. https://www.nice.org.uk/guidance/qs43.
1.7	Was the patient regularly exposed to smoke at home? *(Select one only)* ☐ Yes ☐ No ☐ Not recorded	**Helpnotes** Select one only. This question aims to ascertain if the patient has prolonged or acute exposure to second hand smoke. These are associated with an increased risk of developing asthma and exacerbations respectively. Please select yes if the patient is exposed to second hand smoke in the home at least weekly. If the exposure stopped at least 4 weeks prior to the admission, please enter 'No'. **Rationale** **NRAD** A history of smoking and/or exposure to second-hand smoke should be documented in the medical records of all people with asthma. Current smokers should be offered referral to a smoking-cessation service.

2. Pre-hospital care and arrival at hospital		
2.1	In the 12 hours prior to arrival at hospital, were systemic steroids administered to the patient? This includes administration by primary care professionals, ambulance or first responder crew. *(Select one only)* ☐ Yes ☐ No ☐ Not known	**Helpnotes** Select one only. Only select 'Yes' if systemic steroids were administered **within 12 hours prior to arrival** to hospital **for this exacerbation**. Administration since the patient became symptomatic for **this exacerbation of asthma**. Should include administration by healthcare professionals including **primary care**, **ambulance crew** and **first responder crew**. **Rationale** See rationale given for systemic steroids in question 4.2.
2.2	In the 4 hours prior to arrival at hospital, was nebulised β2 agonist administered to the patient? This includes administration by primary care professionals, ambulance or first responder crew. *(Select one only)* ☐ Yes ☐ No ☐ Not known	**Helpnotes** Select one only. Only select 'Yes' if nebulised β2 agonist was administered **within 4 hours prior to arrival** to hospital **for this exacerbation**. Administration since the patient became symptomatic for **this exacerbation of asthma**. Should include administration by healthcare professionals including **primary care**, **ambulance crew** and **first responder crew**. BTS guidance on nebulised salbutamol in acute severe asthma: Give salbutamol 5 mg by oxygen driven nebuliser. **Rationale** Nebulised salbutamol is recommended for acute severe asthma by BTS guidance. In moderate acute asthma salbutamol can be administered via pMDI and spacer but patients in this category are less likely to require admission.
2.3	Prior to arrival at hospital, was oxygen administered to the patient? This includes administration by primary care professionals, ambulance or first responder crew. *(Select one only)* ☐ Yes ☐ No ☐ Not known	**Helpnotes** Select one only. Only select 'Yes' if oxygen was administered **prior to arrival** to hospital **for this exacerbation**. Administration since the patient became symptomatic for **this exacerbation of asthma**. Should include administration by healthcare professionals including **primary care**, **ambulance** crew and **first responder crew**. **Rationale** See rationale given for oxygen in question 4.2.

2.4	Did the patient arrive by ambulance? *(Select one only)* ☐ Yes ☐ No ☐ Not known	**Helpnotes** Select one only
2.5	What was the date and time of arrival at your hospital? Date of arrival _ _ /_ _ / _ _ _ _ *(dd/mm/yyyy)* Time of arrival _ _ / _ _ *(24hr clock 00:00*)	**Helpnotes** dd/mm/yyyy 24 hour clock 00:00 Arrival date/time refers to the patient's first contact with the hospital. The point of arrival is most often the Emergency Department (ED) or Medical Assessment Unit (MAU), although patients do occasionally come straight from home/elsewhere into other wards, and you must include these cases also. The time is best determined from the ambulance transfer sheet, the ED record or the MAU, ward arrival record. **Rationale** To ensure that analysis can take place against individual time-pressured metrics (administration of steroids, β2 agonists etc) and enables investigation into length of stay etc.
3. Acute observations		
3.1	What was the first recorded heart rate for the patient following arrival at hospital? *(Whole number. Range 30-150 BPM)* ___beats/min (BPM)	**Helpnotes** Whole number. Range 30-150 BPM. Record the first measured heart rate upon arrival at hospital for this exacerbation. The number of times the heart beats per minute. **Rationale** **NICE quality standard 25, statement 7:** Assessing severity People with asthma who present with an exacerbation of their symptoms receive an objective measurement of severity at the time of presentation. **RCEM dataset** Included in audit questions. **BTS Adult Asthma Audit** Included in dataset
3.2	What was the first recorded respiratory rate for the patient following arrival at hospital? *(Whole number. Range 0-60 BPM)* __breaths/min	**Helpnotes** Whole number. Range 0-60 BPM. Record the first measured respiratory rate upon arrival at hospital for this exacerbation.

		The number of times the person breathes per minute. **Rationale** **NICE quality standard 25, statement 7:** Assessing severity People with asthma who present with an exacerbation of their symptoms receive an objective measurement of severity at the time of presentation. **RCEM dataset** Included in audit questions. **BTS Adult Asthma Audit** Included in dataset
3.3	What was the first recorded oxygen saturation (SpO_2) measurement for the patient following arrival at hospital? *(Whole number. Range 60 – 100%)* ___% ☐ Not recorded	**Helpnotes** Whole number. Range 60 – 100%. Record the first measured $Sp0_2$ upon arrival at hospital for this exacerbation. If 'Not recorded' go straight to Q.3.4 **Rationale** **NICE quality standard 25, statement 7:** Assessing severity People with asthma who present with an exacerbation of their symptoms receive an objective measurement of severity at the time of presentation **RCEM dataset** Included in audit questions **BTS Adult Asthma Audit** Included in dataset **BTS guideline** Give controlled supplementary oxygen to all hypoxaemic patients with acute severe asthma titrated to maintain an SpO_2 level of 94–98%. Do not delay oxygen administration in the absence of pulse oximetry but commence monitoring of SaO_2 as soon as it becomes available.
3.3.1	Was this measurement taken whilst the patient was on supplementary oxygen? *(Select one only)* ☐ No, on room air ☐ Yes ☐ Not recorded	**Helpnotes** Select one only. Do not answer if Q3.3 = 'Not recorded'.
3.4	What was the first recorded peak flow measurement (PEF) for the patient following arrival at hospital? *(Whole number. Range – 30-800)*	**Helpnotes** Whole number. Range 30-800.

	___L/min (on arrival) ☐ Patient too unwell ☐ Not recorded	The best pre-bronchodilator value should be recorded in L/min. Record the first measured peak flow (PEF) upon arrival at hospital for this exacerbation. PEF on arrival to hospital must be completed for all patients, unless they are too unwell. **Rationale** **NICE quality standard 25, statement 7:** Assessing severity People with asthma who present with an exacerbation of their symptoms receive an objective measurement of severity at the time of presentation. **BTS guideline** Throughout the guideline peak flow is one of the recommended measurement systems referred to for assessing asthma severity. **RCEM dataset** Included in audit questions. **BTS Adult Asthma Audit** Included in dataset
3.4.1	What was the patient's previous best PEF? *(Whole number. If not recorded, enter predicted. Range – 30-800)* ___L/min ☐ Not recorded If previous best PEF = 'Not recorded' please give predicted PEF: ___L/min	**Helpnotes** Whole number. If not recorded, enter predicted. Range 30-800. Previous best according to Personalised Asthma Action Plan (PAAP), patient notes or the patient themselves is to be given to accompany PEF on arrival. If previous best is not available, predicted should be entered. **Rationale** See rationale for question 3.4.
Section 4: Acute treatment		
4.1	Was oxygen prescribed for the patient at any point during this admission? *(Select one for prescribed and one for administered only)* *Prescribed* ☐ Yes ☐ No *Administered* ☐ Yes ☐ No	**Helpnotes** Select one for prescribed and one for administered only. Patients likely to require oxygen **at any point** during their admission should have it formally prescribed. This is to ensure that all patients admitted with an exacerbation of asthma have a prescription of oxygen available to them at all times during their in-patient stay and includes patients who do not use the prescription. **Rationale** **RCEM dataset** O2 should be given on arrival to maintain sats of 94-98% O2 should be prescribed on arrival to maintain sats 94-98%

		BTS guideline Give supplementary oxygen to all hypoxaemic patients with acute severe asthma to maintain an SpO_2 level of 94-98%. BTS/SIGN 2.6.1 **BTS Adult Asthma Audit** Included in dataset Enables timings of administration to be measured.
4.2	When was the patient first administered systemic steroids (including oral or IV) following arrival at hospital? *(Enter date and time **OR** Not recorded **OR** Not administered alone).* Date of steroids _ _ /_ _ / _ _ _ _ *(dd/mm/yyyy)* Time of steroids _ _ / _ _ *(24hr clock 00:00)* ☐ Not recorded ☐ Not administered	**Helpnotes** dd/mm/yyyy 24 hour clock 00:00 Enter ONE of: Date and time **OR** Not recorded **OR** Not administered. Date and time should not be before date and time of arrival. Please record the date and time of the first administration of systemic steroids. ie. prednislone given orally, hydrocortisone IV or (rarely) IM steroids such as depomedrone or kenalog upon arrival at hospital for this exacerbation. **Rationale** **NICE quality standard 25, statement 8**: Treatment of acute asthma People aged 5 years or older presenting to a healthcare professional with severe or life threatening acute exacerbation of asthma receive oral or intravenous steroids within 1 hour of presentation. Also, BTS guideline. To enable analysis of time to steroid administration. **RCEM dataset** Included in dataset If not already given before arrival to the ED, steroids should be given as soon as possible (within 60 minutes of arrival for severe and 4 hours of arrival for moderate). **BTS guideline** People aged 5 years or older presenting to a healthcare professional with a severe or life-threatening acute exacerbation of asthma receive oral or intravenous steroids within 1 hour of presentation. Give steroids in adequate doses to all patients with an acute asthma attack. BTS/SIGN 2.6.1

		BTS Adult Asthma Audit Included in dataset Enables timings of administration to the measured.
4.3	When was the patient first administered nebulised β2 agonist following arrival at hospital? *(Enter date and time **OR** Not recorded **OR** Not administered alone).* Date of administration _ _ / _ _ / _ _ _ _ *(dd/mm/yyyy)* Time of administration _ _ /_ _ *(24hr clock 00:00)* ☐ Not recorded ☐ Not administered	**Helpnotes** dd/mm/yyyy 24 hour clock 00:00 Enter ONE of: Date and time **OR** Not recorded **OR** Not administered. Date and time should not be before date and time of arrival. Please record the time and date of the first administration of nebulised β2 agonist (eg salbutamol) upon arrival at hospital for this exacerbation. BTS guidance on nebulised salbutamol: Give nebulised β2 agonist more frequently eg salbutamol 5 mg up to every 15-30 minutes or 10 mg per hour via continuous nebulisation (requires special nebuliser). **Rationale** **BTS guideline** In hospital, ambulance and primary care, nebulisers for giving nebulised β2 agonist bronchodilators should preferably be driven by oxygen BTS/SIGN 9.3.2 In patients with severe asthma that is poorly responsive to an initial bolus dose of β2 agonist, consider continuous nebulisation with an appropriate nebuliser. BTS/SIGN 9.3.2 **RCEM dataset** Included in dataset High dose nebulised β2 agonist bronchodilator should be given 10 minutes of arrival at ED. Enables timings of administration to be measured.
Section 5. Review and discharge		
5.1	What was the date of discharge from your hospital? Date of discharge _ _ / _ _ / _ _ _ _ *(dd/mm/yyyy)* Time of discharge _ _ /_ _ *(24hr clock 00:00)*	**Helpnotes** dd/mm/yyyy 24 hour clock 00:00 Date should not be before date and time entered into sections 1, 2, 3 or 4. The date of discharge is usually found at the end of the admission record, or on the discharge summary. If the patient is discharged onto another hospital, an early discharge scheme, hospital at home or community

		asthma scheme, please give the date of discharge from your hospital and not the scheme. If the patient self-discharged, use date of self-discharge. **Rationale** Enables length of stay to be measured. **BTS Adult Asthma Audit** Included in dataset **RCEM dataset** Included in dataset
5.2	What was the date of death, if the patient died as an inpatient? Date of death _ _/_ _/ _ _ _ _ (dd/mm/yyyy) Time of death _ _/_ _ (24hr clock 00:00)	**Helpnotes** dd/mm/yyyy 24 hour clock 00:00 Date should not be before date and time of dates and times entered into sections 1, 2, 3 or 4. **Rationale** **BTS Adult Asthma Audit** Included in dataset **RCEM dataset** Included in dataset Enables investigation into mortality rates within hospital.
5.3	Was a discharge bundle completed for this admission? *(Select one only. If yes, select one only for BTS discharge bundle)* ☐ Yes ☐ No ☐ Self-discharge If yes, was this a BTS discharge bundle? ☐ Yes ☐ No	**Helpnotes** Select one only. If yes, select one only for BTS discharge bundle A structured way of improving discharge processes and care leading to improved patient outcomes. Based on evidence based clinical interventions or actions. BTS care bundle for asthma https://www.brit-thoracic.org.uk/standards-of-care/quality-improvement/care-bundle-for-asthma/ If 'No' or 'Self-discharge' are selected please still complete what elements of a discharge bundle were complete for this patient in Q 5.3.1. **Rationale** **NICE quality standard 25, statement 9:** Specialist review *People admitted to hospital with an acute exacerbation of asthma have a structured review by a member of the specialist respiratory team before discharge* **BTS Adult Asthma Audit** Included in dataset

5.3.1	Which of the following elements were undertaken as part of the patient's discharge? *(Tick all that apply)* **Inhaler technique** ☐ Inhaler technique checked **Assessment of medication and adherence** ☐ Medication issued/classes reviewed ☐ Doses (including ICS) reviewed (increasing/decreasing as necessary) ☐ Importance of adherence to preventer medication discussed with patient/family **Personal Asthma Action Plan** ☐ Reviewed/Modified existing **OR** ☐ Issued new **Triggers and exacerbating factors** ☐ Triggers and exacerbating factors documented **Smoking cessation** ☐ Referral to stop smoking services ☐ Smoking cessation discussed/prescribed *(validation = if not current smoker to grey out)* **Follow up requests** ☐In the community within 2 working days ☐ Specialist review within 4 weeks	**Helpnotes** Tick all that apply. If any of the discharge elements have not been completed and/or are not applicable please do not select that the component has been completed. If 'No' or 'self-discharge' are selected (question 5.3) please still complete which elements of a discharge bundle were completed for this patient (if any). Do not complete smoking cessation if patient is not current smoker. **Follow up requests** Communication directly with a named individual responsible for asthma care within the practice, by means of fax or email counts as a request for follow-up. If the patient has been asked and/or been provided with the necessary information they need to make/request the follow up appointment(s) themselves within the recommended timeframe please select that the component was completed. **TAPES** = **T**echnique and Medication + **Ac**tion **P**lan + **E**nvironment + **S**ubsequent care An acronym used to describe the elements of the British Thoracic Society (BTS) discharge bundle. https://www.brit-thoracic.org.uk/document-library/audit-and-quality-improvement/asthma-care-bundle/care-bundle-statement/ **Bundle Statement 1:** All patients (or family members/carers administering medicines) should have their inhaler technique assessed prior to discharge. **Bundle Statement 2:** All patients should have their medications assessed. The importance of medication adherence to good asthma control should be reinforced to patients (and/or any family members or carers administering medicines) prior to discharge. **Bundle Statement 3:** A written asthma action plan for how to manage care should be provided to patients and families/carers. **Bundle Statement 4:** Triggering and exacerbating factors in the patient's overall environment should be considered. **Bundle Statement 5:**

		Subsequent care: follow-up in the community to be arranged within 2 working days plus specialist care according to criteria* within 2 weeks. * **BTS/SIGN British guideline on the management of asthma, sections 8.6.3.** 'It is essential that the patient's primary care practice is informed within 24 hours of discharge from the emergency department or hospital following an asthma attack. Ideally this communication should be directly with a named individual responsible for asthma care within the practice, by means of fax or email.' **Rationale** **NICE quality standard 25, statement 3: Written personalised action plans** **NICE quality standard 25, statement 4: Inhaler technique** **NICE quality standard 25, statement 6: Assessing asthma control** **NICE quality standard 25, statement 10: Follow up on Primary Care** **RCEM dataset** Evidence of assessment before discharge: The patient's inhaler technique The patient's inhaler type is satisfactory GP or clinical follow up arranged according to local policy for discharged patients within 2 working days. **BTS guideline** BTS/SIGN 2.4 BTS/SIGN 2.5 and 7.1. BTS/SIGN 2.2 BTS/SIGN 2.2 BTS/SIGN 8.6.3 (Page 43) **BTS Adult Asthma Audit** Included in dataset **NRAD** **Please see NRAD recommendations in Why Asthma Still Kills on:** Personal asthma action plan (PAAP) which details triggers and current treatment, and specifies how to prevent relapse and when to seek help in an emergency. Follow-up arrangements for patients who have attended ED or out of hours services. Factors that trigger or exacerbate asthma. An assessment of recent asthma control should be undertaken at every asthma review. Non-adherence to preventer inhaled corticosteroids.

		Health professionals' awareness of factors that increase risk of asthma attacks. Patient self-management. Parents and children, and those who care for or teach them, should be educated about managing asthma.
5.4	Was the patient prescribed prednisolone at discharge? *(Select one only. If yes, enter mgs per day and number of days)* ☐ Yes ☐ No ☐ No, completed course prior to discharge ☐ No, patient on maintenance dose of steroids *If yes,* _ _ mgs per day *(Range – 5-60)* _ _ days *(Range – 1-30)*	**Helpnotes** Select one only. If yes, enter mgs per day **AND** number of days Range 5-60 (mgs) and 1-30 (days). Please record the daily dose and length of the course of prednisolone in days. Do not include dose and days prior to discharge. If self-discharge, select 'No'. **Rationale** **RCEM dataset** Included in dataset Discharged patients should have oral prednisolone prescribed. **BTS guideline** Give Steroids in adequate doses for all acute attacks. BTS/SIGN 2.6.1 Continue prednisolone 40–50mg daily for at least 5 days or until recovery. BTS/SIGN 8.3.3 **BTS Adult Asthma Audit** Included in dataset

Appendix 8: Secondary care audit: Adult organisation dataset

NEW questions included in the pilot only.

Secondary Care (Adult)

Organisational audit (Adult) data collection sheet

(Version – AADP Final 1.2: 31 January 2018)

All items are compulsory unless specified.

Section 1	**Admissions – Number and beds**	
	Admission numbers	
1.3	**How many emergency coded admissions did your hospital admit in XXXX for asthma:** **Number**	*Whole number only.* *This refers to all emergency asthma coded admissions only. A stay in hospital of less than 4 hours would be classed as a non-admission and would not be included. XXXX refers to 1 April – 31 March XXXX inclusive. This may be identified from your hospital's discharge/death codes – ICD10 codes. Consider asking your IT or clinical coding department to help with this. We have already approached your audit department to facilitate the derivation of this metric.* *Asthma should be the primary diagnosis. The main codes that will be relevant are:* J45.2- Mild intermittent J45.3- Mild persistent J45.4- Moderate persistent J45.5- Severe persistent J45.9- Other and unspecified asthma *J46* - Acute severe asthma *This additionally includes all sub-component codes within these (eg J45.20 uncomplicated, J45.21 with (acute) exacerbation), J45.22 with status asthmaticus).* *See links below for full list:* http://www.icd10data.com/ICD10CM/Codes/J00-J99/J40-J47/J45-
1.4	**What number of the total emergency asthma coded respiratory admissions (response to 1.3) were discharged from your dedicated respiratory ward(s) in XXXX:** **Number**	*Whole number only.* *This is the number of asthma coded admissions discharged from your dedicated respiratory wards during XXXX. We have already approached your audit department to facilitate the derivation of this metric.*
Section 3	**Access to specialist staff and 7-day working**	
	Access to specialist staff	
3.4	**Does your hospital have a designated, named clinical lead for asthma? *(Select one only)*** • ☐ Yes • ☐ No	*Select one only.* **NRAD** Every NHS hospital and general practice should have a

		designated, named clinical lead for asthma services, responsible for formal training in the management of acute asthma.
3.4.1	**If yes, is this person responsible for formal training in the management of acute asthma? *(Select one only)*** • ☐ Yes • ☐ No	*Select one only.* **NRAD** Every NHS hospital and general practice should have a designated, named clinical lead for asthma services, responsible for formal training in the management of acute asthma.
	7 day working	
3.9	**On which days is a respiratory nurse(s) available to review asthma patients: (Tick all that apply)** • ☐ No respiratory nurse(s) available to review asthma patients • ☐ Monday • ☐ Tuesday • ☐ Wednesday • ☐ Thursday • ☐ Friday • ☐ Saturday • ☐ Sunday	*Tick all that apply.* *This could be a respiratory nurse specialist, Asthma nurse or clinical nurse specialist.* *If these days can vary, select the days this is most likely to or 'usually' happen(s) on.*
Section 5	**Integrating care**	
5.3	**Are you a severe asthma service? (Select one only)** • ☐ Yes • ☐ No	*Select one only.* **NICE quality statement 11: Difficult asthma** People with difficult asthma are offered an assessment by a multidisciplinary difficult asthma service. **NRAD** Patients with asthma must be referred to a specialist asthma service if they have required more than two courses of systemic corticosteroids, oral or injected, in the previous 12 months or require management using British Thoracic Society (BTS) stepwise treatment 4 or 5 to achieve goal. **BTS guideline** Patients with difficult asthma should be systematically evaluated, including: - confirmation of the diagnosis of asthma, and - identification of the mechanism of persisting symptoms and assessment of adherence to therapy. This assessment should be facilitated through a dedicated multidisciplinary difficult asthma service, by a team experienced in the assessment and management of difficult asthma. https://www.england.nhs.uk/publication/specialised-respiratory-services-adult-severe-asthma/

5.3.1	**If no, do you have a referral pathway to a severe asthma service? (Select one only)** • ☐ Yes • ☐ No	*Select one only.* See rational above.
Section 6	**Patient and carer engagement**	
6.1	**How often is there a formal survey seeking patient/carer views on respiratory services undertaken? *(Select one only)*** • ☐ Continuous (every patient) • ☐ More than 4 times a year • ☐ 3-4 times a year • ☐ 1-2 times a year • ☐ Less than once a year • ☐ Never	*Select one only.* *Excludes the Friends and Family Test.*
6.2	**Do you have a strategic group for respiratory services? *(Select one only)*** • ☐ Yes • ☐ No • ☐ Not known	*Select one only.* *This group is defined as consisting of senior clinical and management representatives, who meet regularly, set and review targets, implement the stroke strategy and make plans for the future of the service.*
6.2.1	**If yes, does this group have a patient representative? *(Select one only)*** • ☐ Yes • ☐ No • ☐ Not known	*Select one only.* *A patient or carer who attends to provide a user perspective of care.*
6.3	**Are patients able to access their own electronic records at your hospital, as part of a collaborative self-management scheme? *(Select one only)*** • ☐ Yes • ☐ No • ☐ Not known	*Select one only.* *This question aims to establish if patients have access to their own electronic records routinely, outside of the FOI request process, as part of a self-management scheme.*
6.4	**Is your respiratory service linked with a specific patient support or engagement group? *(Select one only)*** • ☐ Yes • ☐ No • ☐ Not known	*Select one only.* *This can include groups such as the British Lung Foundations 'Breathe Easy' groups.*
Section 7	**Transitional care**	
7.1	**Do your processes for transitioning young people from paediatric to adult services include ensuring that: (Tick all that apply)** • ☐ we do not have any formal transition arrangements • ☐ the young person has a full record of their condition • ☐ their GP is sent the same record • ☐ the young person has a transition plan and	*Tick all that apply.* **NICE guideline: Transition from children's to adults' services for young people using health or social care services** https://www.nice.org.uk/guidance/ng43/chapter/Implementation-getting-started **Ready Steady Go programme** A suite of resources designed to deliver high-quality transition

	that they have worked on this with both paediatric and adult clinicians • ☐ the young person has a named case worker to assist in signposting for them and their family	for young people (YP) across all subspecialties. https://www.nice.org.uk/sharedlearning/implementing-transition-care-locally-and-nationally-using-the-ready-steady-go-programme **BTS guideline** TRANSITION TO ADULT-BASED HEALTHCARE Transition to adult services is important for all adolescents with asthma, irrespective of the asthma severity. No studies on transition of adolescents with asthma to adult services were identified although there are many studies looking at transition of adolescents with chronic illness. Few studies compare different approaches and many recommendations come from consensus statements rather than randomised controlled trials. It is important that the process of transition is co-ordinated and it is recommended that a healthcare professional be identified to oversee transition and either link with a counterpart in adult services or remain involved until the young person is settled within adult services. In the initial period after transition to adult services in secondary care, adolescents are best seen by one consultant to build their confidence and encourage attendance. PREPARATION FOR TRANSITION Transition should be seen as a process and not just the event of transfer to adult services. It should begin early, be planned, involve the young person, and be both age and developmentally appropriate (see Table 15). British guideline on the management of asthma Table 15: Recommendations for organising transition services (Table 15) • Young people should be given the opportunity to be seen without their parents/ carers. • Transition services must address the needs of parents/carers whose role in their child's life is evolving at this time. • Transition services must be multidisciplinary and multiagency. Optimal care requires a co-operative working relationship between adult and paediatric services, particularly where the young person has complex needs with multiple specialty involvement. • Co-ordination of transitional care is critical. There should be an identified coordinator who supports the young person until he or she is settled within the adult system. • Young people should be encouraged to take part in transition/support programmes and/or put in contact

		with other appropriate youth support groups. The involvement of adult physicians prior to transfer supports attendance and adherence to treatment. • Transition services must undergo continued evaluation.

Appendix 9: Secondary care audit: Paediatric clinical dataset_1-5 year olds

Secondary Care (Paediatric, 1-5 years)

Clinical audit (Paediatric, 1-5 year olds) data collection sheet

Version: FINAL 1.2 AADP 220118

This dataset should be used and completed for paediatric asthma patients (age 1-5 years on the date of admission) who have been **admitted to hospital paediatric services** for asthma as per the case definition below.

Case definition (1 – 5 year olds)

Paediatric patients:

- Over 12 months old at the time admission to hospital, and
- Admitted to a paediatric unit/ward, with a primary diagnosis of:
  - a) wheezing (ICD-10 R06.2) **which is responsive to salbutamol**, or
  - b) asthma

Item	Question and answer options	Helpnotes/Rationale
1. Generic questions		
1.1	NHS number _ _ _ / _ _ _ / _ _ _ _	**Rationale** Enables linkage
1.2	Date of birth _ _ / _ _ / _ _ _ _ (DD/MM/YYYY)	**Helpnotes** 1-5 years Do not include patients who are under the age of 1 or above 5 years old. The Secondary Care (paediatric 6-18 years) dataset should be used for any paediatric patients 6 years or above. **Rationale** Enables linkage and investigation into demographics of asthma.
1.3	Home postcode _ _ _ _ / _ _ _	**Rationale** Enables linkage and investigation into deprivation demographics.
1.4	Patient GP practice (Drop down list)	**Rationale** Enables linkage
1.5	Gender *(Select one only)* ☐ Male ☐ Female ☐ Other	Select one only **Rationale** Enables investigation into asthma demographics.

1.6	Was the patient regularly exposed to smoke at home? *(Select one only)* ☐ Yes ☐ No ☐ Not recorded	**Helpnotes** Select one only. This question aims to ascertain if the patient has prolonged or acute exposure to second hand smoke. These are associated with an increased risk of developing asthma and exacerbations respectively. Please select yes if the patient is exposed to second hand smoke in the home at least weekly. If the exposure stopped at least 4 weeks prior to the admission, please enter 'No'. **Rationale** **NRAD** A history of smoking and/or exposure to second-hand smoke should be documented in the medical records of all people with asthma. Current smokers should be offered referral to a smoking-cessation service.
2. Pre-hospital care and arrival at hospital		
2.1	In the 12 hours prior to arrival at hospital, were systemic steroids administered to the patient? This includes administration by primary care professionals, ambulance or first responder crew. *(Select one only)* ☐ Yes ☐ No ☐ Not known	**Helpnotes** Select one only. Only select 'Yes' if systemic steroids were administered **within 12 hours prior to arrival** at hospital **for this exacerbation**. Administration since the patient became symptomatic for **this exacerbation of asthma**. Should include administration by healthcare professionals including **primary care**, **ambulance crew** and **first responder crew**. Children between 1-5 years of age should only be given systemic steroids in the event of a severe exacerbation of asthma. **Rationale** See rationale given for systemic steroids in question 4.2.
2.2	In the 4 hours prior to arrival at hospital, were high dose β2 agonists administered to the patient? This includes administration by primary care professionals, ambulance or first responder crew. *(Select one only)* ☐ Yes ☐ No ☐ Not known	**Helpnotes** Select one only. Only select 'Yes' if β2 agonists were administered **within 4 hours prior to arrival** at hospital **for this exacerbation**. Administration since the patient became symptomatic for **this exacerbation of asthma**. Should include administration by healthcare professionals including **primary care**, **ambulance crew** and **first responder crew**.

		BTS guidance on high dose β2 agonist: Children (2-5 years): Moderate attack: β2 agonist 2–10 puffs via spacer ± facemask (given one puff at a time inhaled separately using tidal breathing) Acute severe: β2 agonist 10 puffs via spacer ± facemask or nebulised salbutamol 2.5 mg Life threatening: Nebulised β2 agonist: salbutamol 2.5 mg plus ipratropium bromide 0.25 mg nebulised **Rationale** Nebulised salbutamol is recommended for acute severe asthma by BTS guidance. In moderate acute asthma salbutamol can be administered via pMDI and spacer but patients in this category are less likely to require admission.
2.3	Prior to arrival at hospital, was oxygen administered to the patient, for this exacerbation? This includes administration by primary care professionals, ambulance or first responder crew. *(Select one only)* ☐ Yes ☐ No ☐ Not known	**Helpnotes** Select one only. Only select 'Yes' if oxygen was administered **prior to arrival** at hospital **for this exacerbation**. Administration since the patient became symptomatic for **this exacerbation of asthma**. Should include administration by healthcare professionals including **primary care**, **ambulance crew** and **first responder crew**. **Rationale** See rationale given for oxygen in question 4.1.
2.4	Did the patient arrive by ambulance? *(Select one only)* ☐ Yes ☐ No ☐ Not known	**Helpnotes** Select one only
2.5	What was the date and time of arrival at your hospital? Date of arrival _ _ /_ _ / _ _ _ _ *(dd/mm/yyyy)* Time of arrival _ _ /_ _ *(24hr clock 00:00)*	**Helpnotes** dd/mm/yyyy 24 hour clock 00:00 Arrival date/time refers to the patient's first contact with the hospital. The point of arrival is most often the Emergency Department (ED) or Medication Assessment Unit (MAU), although patients do occasionally come straight from home/elsewhere into other wards, and you must include these cases also. The time is best determined from the ambulance transfer sheet, the ED record or the MAU ward arrival record. **Rationale**

		To ensure that analysis can take place against individual time pressured metrics (administration of steroids, β2 agonists etc) and enables investigation into length of stay etc.
3. Acute observations		
3.1	What was the first recorded heart rate for the patient following arrival at hospital? *(Whole number. Range 30-250 BPM)* ___beats/min (BPM)	**Helpnotes** Whole number. Range 30-250 BPM. Record the first measured heart rate upon arrival at hospital for this exacerbation. The number of times the heart beats per minute. **Rationale** **NICE quality standard 25, statement 7:** Assessing severity *People with asthma who present with an exacerbation of their symptoms receive an objective measurement of severity at the time of presentation.* **RCEM dataset** Included in audit questions **BTS guideline** Includes pulse (heart) rate in diagrams for assessing and recording asthma severity. No NICE support. **BTS Paediatric Asthma Audit** Included in dataset
3.2	What was the first recorded respiratory rate for the patient following arrival at hospital? *(Whole number. Range 0-80 BPM)* __breaths/min	**Helpnotes** Whole number. Range 0-80 BPM. Record the first measured respiratory rate upon arrival at hospital for this exacerbation. The number of times the person breathes per minute. **Rationale** **NICE quality standard 25, statement 7:** Assessing severity *People with asthma who present with an exacerbation of their symptoms receive an objective measurement of severity at the time of presentation.* **RCEM dataset** Included in audit questions **BTS guideline** Includes respiratory rate in diagrams for assessing and recording asthma severity. No NICE support. **BTS Paediatric Asthma Audit** Included in dataset

3.3	What was the first recorded oxygen saturation ($Sp0_2$) measurement for the patient following arrival at hospital? *(Whole number. Range 60 – 100%)* ___% ☐ Not recorded	**Helpnotes** Whole number. Range 60 – 100%. Record the first measured $Sp0_2$ upon arrival at hospital for this exacerbation. If 'Not recorded' go straight to section 4. **Rationale** **NICE quality standard 25, statement 7:** Assessing severity People with asthma who present with an exacerbation of their symptoms receive an objective measurement of severity at the time of presentation **RCEM dataset** Included in audit questions **BTS Paediatric Asthma Audit** Included in dataset **BTS guideline** Children with life-threatening asthma or SpO_2 <94% should receive high-flow oxygen via a tight fitting face mask or nasal cannula at sufficient flow rates to achieve normal saturations of 94-98%.
3.3.1	Was this measurement taken whilst the patient was on supplementary oxygen? *(Select one only)* ☐ No, on room air ☐ Yes ☐ Not recorded	**Helpnotes** Select one only. Do not answer if Q3.3 = 'Not recorded'.
Section 4: Acute treatment		
4.1	Was oxygen prescribed for the patient at any point during admission? *(Select one for prescribed and one for administered only)* *Prescribed* ☐ Yes ☐ No *Administered* ☐ Yes ☐ No	**Helpnotes** Select one for prescribed and one for administered only. Patients likely to require oxygen **at any point** during their admission should have it formally prescribed. This is to ensure that all patients admitted with an exacerbation of asthma have a prescription of oxygen available to them at all times during their in-patient stay and includes patients who do not use the prescription. **Rationale** **RCEM dataset** O2 should be given on arrival to maintain sats of 94-98% O2 should be prescribed on arrival to maintain sats 94-98% **BTS guideline** Give supplementary oxygen to all hypoxaemic patients with acute severe asthma to maintain an SpO_2 level of 94-98%. BTS/SIGN 2.6.1

		BTS Paediatric Asthma Audit Included in dataset Enables timings of administration to be measured.
4.2	Was the patient administered systemic steroids (oral or IV) following arrival at hospital? *(Select one only)* ☐ Yes ☐ No ☐ Not recorded	**Helpnotes** Select one only. Can include prednisolone given orally, hydrocortisone IV or (rarely) IM steroids such as Depomedrone or Kenalog upon arrival at hospital for this exacerbation. Children between 1-5 years of age should only be given systemic steroids in the event of a severe exacerbation of asthma. If not indicated select 'No'. **Rationale** **NICE quality standard 25, statement 8**: Treatment of acute asthma *People aged 5 years or older presenting to a healthcare professional with severe or life threatening acute exacerbation of asthma receive oral or intravenous steroids within 1 hour of presentation.* Also, BTS guideline. To enable analysis of time to steroid administration. **RCEM dataset** Included in dataset If not already given before arrival to the ED, steroids should be given as soon as possible (within 60 minutes of arrival for severe and 4 hours of arrival for moderate). **BTS guideline** People aged 5 years or older presenting to a healthcare professional with a severe or life-threatening acute exacerbation of asthma receive oral or intravenous steroids within 1 hour of presentation. Give steroids in adequate doses to all patients with an acute asthma attack. BTS/SIGN 2.6.1 Give oral steroids early in the treatment of acute asthma attacks in children Use a dose of 10 mg prednisolone for children under 2 years of age, 20 mg for children aged 2–5 years and 30–40 mg for children older than 5 years. Those already receiving maintenance steroid tablets should receive 2 mg/ kg prednisolone up to a maximum dose of 60 mg. Repeat the dose of predisolone in children who vomit and consider intravenous steroids in those who are unable to retain orally ingested medication. BTS/SIGN 9.8.4 **BTS Paediatric Asthma Audit**

		Included in dataset
4.3	When was the patient first administered β2 agonist via nebuliser or inhaler + spacer following arrival at hospital? *(Enter date and time **OR** Not recorded **OR** Not administered alone).* Date of administration_ _ /_ _ / _ _ _ _ *(dd/mm/yyyy)* Time of administration _ _ / _ _ *(24hr clock 00:00)* ☐ Not recorded ☐ Not administered	**Helpnotes** dd/mm/yyyy 24 hour clock 00:00 Enter ONE of: Date and time **OR** Not recorded **OR** Not administered. Date and time should not be before date and time of arrival. Please record the time and date of the first administration of β2 agonist (eg salbutamol) upon arrival at hospital for this exacerbation. A pMDI + spacer is the preferred option for children except for life-threatening attacks. BTS guidance on high dose β2 agonist: Children (2-5 years): Moderate attack: β2 agonist 2–10 puffs via spacer ± facemask (given one puff at a time inhaled separately using tidal breathing) Acute severe: β2 agonist 10 puffs via spacer ± facemask or nebulised salbutamol 2.5 mg Life threatening: Nebulised β2 agonist: salbutamol 2.5 mg plus ipratropium bromide 0.25 mg nebulised **Rationale** **BTS guideline** In hospital, ambulance and primary care, nebulisers for giving nebulised β2 agonist bronchodilators should preferably be driven by oxygen BTS/SIGN 9.3.2 In patients with severe asthma that is poorly responsive to an initial bolus dose of β2 agonist, consider continuous nebulisation with an appropriate nebuliser. BTS/SIGN 9.3.2 **RCEM dataset** Included in dataset High dose nebulised β2 agonist bronchodilator should be given within 10 minutes of arrival at ED. **BTS Paediatric Asthma Audit** Included in dataset Enables timings of administration to be measured.
5. Review and discharge		
5.1	What was the date of discharge from your hospital? Date of discharge _ _ /_ _ / _ _ _ _ *(dd/mm/yyyy)* Time of discharge _ _ /_ _ *(24hr clock 00:00)*	H**elpnotes** dd/mm/yyyy 24 hour clock 00:00 Date and time should not be before date and time entered into sections, 1, 2, 3 or 4. The date of discharge is usually found at the end of the

		admission record, or on the discharge summary. If the patient is discharged onto another hospital, an early discharge scheme, hospital at home or community asthma scheme, please give the date of discharge from your hospital and not the scheme. If the patient was discharged by their parent of guardian, use parental-discharge date. **Rationale** Enables length of stay to be measured. **BTS Paediatric Asthma Audit** Included in dataset **RCEM dataset** Included in dataset
5.2	What was the date of death, if patient died as an inpatient? Date of death _ _/_ _/ _ _ _ _ (dd/mm/yyyy) Time of death _ _/_ _ (24hr clock 00:00)	**Helpnotes** dd/mm/yyyy 24 hour clock 00:00 Date and time should not be before date and time entered into sections 1, 2, 3 or 4. **Rationale** **BTS Adult Asthma Audit** Included in dataset **RCEM dataset** Included in dataset Enables investigation into mortality rates within hospital.
5.3	Was a discharge bundle completed for this admission? *(Select one only. If yes, select one only for BTS discharge bundle)* ☐ Yes ☐ No ☐ Parental-discharge If yes, was this a BTS discharge bundle? ☐ Yes ☐ No	**Helpnotes** Select one only. If yes, select one only for BTS discharge bundle. A structured way of improving discharge processes and care leading to improved patient outcomes. Based on evidence-based clinical interventions or actions. BTS care bundle for asthma https://www.brit-thoracic.org.uk/standards-of-care/quality-improvement/care-bundle-for-asthma/ If 'No' or 'Parental-discharge' are selected please still complete what elements of a discharge bundle were complete for this patient in Q 5.3.1. **Rationale** **NICE quality standard 25, statement 9:** Specialist review People admitted to hospital with an acute exacerbation of asthma have a structured review by a member of the specialist respiratory team before discharge

		As below
5.3.1	Which of the following elements were undertaken as part of the patients discharge? *(Tick all that apply)* **Inhaler technique** ☐ Inhaler technique checked **Assessment of medication and adherence** ☐ Medication issued/classes reviewed ☐ Doses reviewed (increasing/decreasing as necessary) ☐ Importance of adherence to preventer medication discussed with patient/family **Personal Asthma Action Plan** ☐ Reviewed/Modified existing **OR** ☐ Issued new **Triggers and exacerbating factors** ☐ Triggers and exacerbating factors documented **Smoking cessation** ☐ Advice given to or discussion had with parents about smoking **Following up requests** ☐ In the community within 2 working days ☐ Paediatric asthma clinic within 4 weeks ☐ Paediatric respiratory specialist review if there have been life threatening features	**Helpnotes** Tick all that apply. If any of the discharge elements have not been completed and/or are not applicable please do not select that the component has been completed. If 'No' or 'Parental-discharge' are selected (question 5.3) please still complete which elements of a discharge bundle were completed for this patient (if any). **Smoking** Parents with asthma should be advised about the dangers, to themselves and to their children with asthma, of smoking, and be offered appropriate support to stop smoking. Advice can include schemes such as Step Right Out http://www.stopsmokingleic.co.uk/step-right-out-sign-up/. **Follow up requests** Communication directly with a named individual responsible for asthma care within the practice, by means of fax or email counts as a request for follow-up. If the patient/guardian has been asked and/or been provided with the necessary information they need to make the follow up appointment(s) themselves within the recommended timeframe please select that the component was completed. **TAPES** = **T**echnique and Medication + **Ac**tion **P**lan + **E**nvironment + **S**ubsequent care An acronym used to describe the elements of the British Thoracic Society (BTS) discharge bundle. https://www.brit-thoracic.org.uk/document-library/audit-and-quality-improvement/asthma-care-bundle/care-bundle-statement/ **Bundle Statement 1:** All patients (or family members/carers administering medicines) should have their inhaler technique assessed prior to discharge. **Bundle Statement 2:** All patients should have their medications assessed. The importance of medication adherence to good asthma control should be reinforced to patients (and/or any family members or carers administering medicines) prior to discharge. **Bundle Statement 3:** A written asthma action plan for how to manage care should

		be provided to patients and families/carers. **Bundle Statement 4:** Triggering and exacerbating factors in the patient's overall environment should be considered. **Bundle Statement 5:** Subsequent care: follow-up in the community to be arranged within 2 working days plus specialist care according to criteria* within 2 weeks. * **BTS/SIGN British guideline on the management of asthma, sections 8.6.3.** 'It is essential that the patient's primary care practice is informed within 24 hours of discharge from the emergency department or hospital following an asthma attack. Ideally this communication should be directly with a named individual responsible for asthma care within the practice, by means of fax or email.' **Rationale** **NICE quality standard 25, statement 3: Written personalised action plans** **NICE quality standard 25, statement 4: Inhaler technique** **NICE quality standard 25, statement 6: Assessing asthma control** **NICE quality standard 25, statement 10: Follow up on Primary Care** **RCEM dataset** Evidence of assessment before discharge: The patient's inhaler technique The patient's inhaler type is satisfactory GP or clinical follow up arranged according to local policy for discharged patients within 2 working days. **BTS guideline** BTS/SIGN 2.4 2.5 and 7.1 BTS/SIGN 2.2 8.6.3 (Page 43) **BTS Paediatric Asthma Audit** Some elements included in dataset **NRAD** **Please see NRAD recommendations in Why Asthma Still Kills on:** Personal asthma action plan (PAAP) which details triggers and current treatment, and specifies how to prevent relapse and when to seek help in an emergency. Follow-up arrangements for patients who have attended ED or out of hours services. Factors that trigger or exacerbate asthma. An assessment of recent asthma control should be

		undertaken at every asthma review. Non-adherence to preventer inhaled corticosteroids. Health professionals' awareness of factors that increase risk of asthma attacks. Patient self-management. Parents and children, and those who care for or teach them, should be educated about managing asthma. **BTS Paediatric Asthma Audit** Included in dataset
5.4	Was the patient prescribed prednisolone at discharge? *(Select one only)* ☐ Yes ☐ No ☐ No, completed course prior to discharge ☐ No, patient on maintenance steroids	**Helpnotes** Select one only. If parental discharge, select 'No'. **Rationale** **RCEM dataset** Included in dataset Discharged patients should have oral prednisolone prescribed. **BTS guideline** Give Steroids in adequate doses for all acute attacks. BTS/SIGN 2.6.1 Use a dose of 10 mg prednisolone for children under 2 years of age, 20 mg for children aged 2–5 years and 30–40 mg for children older than 5 years. Those already receiving maintenance steroid tablets should receive 2 mg/ kg prednisolone up to a maximum dose of 60 mg. Treatment for up to three days is usually sufficient, but the length of course should be tailored to the number of days necessary to bring about recovery. Tapering is unnecessary unless the course of steroids exceeds 14 days. BTS/SIGN 9.8.4 **BTS Paediatric Asthma Audit** Included in dataset

Appendix 10: Secondary care audit: Paediatric clinical dataset_6-18 year olds

Secondary Care (Paediatric, 6 – 18 years)

Clinical audit (Paediatric, 6 – 18 years old) data collection sheet

Version: FINAL 1.2 AADP 310118

This dataset should be used and completed for paediatric asthma patients (6-18 years old on the date of admission) who have been **admitted to hospital paediatric services** for asthma as per the case definition below.

Case definition

Paediatric patients between 6 and 18 years old:

- Admitted to a paediatric unit/ward, with a primary diagnosis of acute exacerbation of asthma.

Item	Question and answer options	Helpnotes/Rationale
1. Generic questions		
1.1	NHS number _ _ _/ _ _ _ /_ _ _ _	**Rationale** Enables linkage
1.2	Date of birth _ _/ _ _/ _ _ _ _ (DD/MM/YYYY)	**Helpnotes** Do not include patients under the age of 6. The Secondary Care (paediatric – 1-5 year) dataset should be completed for any patients below 6 years of ages**. Include patients between the ages of 16 and 18 who are treated on a paediatric ward/unit.** For patients between the ages of 16 and 18 who are treated on an adult ward/unit please use the Secondary Care (adult) dataset. **Rationale** Enables linkage and investigation into demographics of asthma.
1.3	Home postcode _ _ _ _/ _ _ _	**Rationale** Enables linkage and investigation into deprivation demographics.
1.4	Patient GP practice (Drop down list)	**Rationale** Enables linkage
1.5	Gender *(Select one only)* ☐ Male ☐ Female ☐ Other	Select one only **Rationale** Enables investigation into asthma demographics.
1.6	Was the patient regularly exposed to smoke at home? *(Select one only)*	**Helpnotes** Select one only.

	☐ Yes ☐ No ☐ Not recorded	This question aims to ascertain if the patient has prolonged or acute exposure to second hand smoke. These are associated with an increased risk of developing asthma and exacerbations respectively. Please select yes if the patient is exposed to second hand smoke in the home at least weekly. If the exposure stopped at least 4 weeks prior to the admission, please enter 'No'. **Rationale** **NRAD** A history of smoking and/or exposure to second-hand smoke should be documented in the medical records of all people with asthma. Current smokers should be offered referral to a smoking-cessation service.
2. Pre-hospital care and arrival at hospital		
2.1	In the 12 hours prior to arrival at hospital, were systemic steroids administered to the patient? This includes administration by primary care professionals, ambulance or first responder crew. *(Select one only)* ☐ Yes ☐ No ☐ Not known	**Helpnotes** Select one only. Only select 'Yes' if systemic steroids were administered **within 12 hours prior to arrival** at hospital **for this exacerbation**. Administration since the patient became symptomatic for **this exacerbation of asthma**. Should include administration by healthcare professionals including **primary care**, **ambulance crew** and **first responder crew**. **Rationale** See rationale given for systemic steroids in question 4.2.
2.2	In the 4 hours prior to arrival at hospital, were high dose β2 agonist administered to the patient? This includes administration by primary care professionals, ambulance or first responder crew. *(Select one only)* ☐ Yes ☐ No ☐ Not known	**Helpnotes** Select one only. Only select 'Yes' if high dose β2 agonists were administered **within 4 hours prior to arrival** at hospital **for this exacerbation**. Administration since the patient became symptomatic for **this exacerbation of asthma**. Should include administration by healthcare professionals including **primary care**, **ambulance crew** and **first responder crew**. BTS guidance on high dose β2 agonist: Children (>5 years): Moderate attack: β2 agonist 2–10 puffs via spacer and mouthpiece (given one puff at a time inhaled separately using tidal breathing) Acute severe: β2 agonist 10 puffs via spacer or nebulised salbutamol 5 mg Life threatening: Nebulised β2 agonist: salbutamol 5 mg plus

		ipratropium bromide 0.25 mg nebulised **Rationale** See rationale given for high dose β2 agonists n question 4.3.
2.3	Prior to arrival at hospital, was oxygen administered to the patient, for this exacerbation? This includes administration by primary care professionals, ambulance or first responder crew. *(Select one only)* ☐ Yes ☐ No ☐ Not known	**Helpnotes** Select one only. Only select 'Yes' if oxygen was administered **prior to arrival** at hospital **for this exacerbation**. Administration since the patient became symptomatic for **this exacerbation of asthma**. Should include administration by healthcare professionals including **primary care**, **ambulance** crew and **first responder crew**. **Rationale** See rationale given for oxygen in question 4.1.
2.4	Did the patient arrive by ambulance? *(Select one only)* ☐ Yes ☐ No ☐ Not known	**Helpnotes** Select one only
2.5	What was the date and time of arrival at your hospital? Date of arrival _ _ /_ _ / _ _ _ _ *(dd/mm/yyyy)* Time of arrival _ _ /_ _ *(24hr clock 00:00)*	**Helpnotes** dd/mm/yyyy 24 hour clock 00:00 Arrival date/time refers to the patient's first contact with the hospital. The point of arrival is most often the ED or MAU, although patients do occasionally come straight from home/elsewhere into other wards, and you must include these cases also. The time is best determined from the ambulance transfer sheet, the ED record or the MAU, ward arrival record. **Rationale** To ensure that analysis can take place against individual time pressured metrics (administration of steroids, β2 agonists etc) and enables investigation into length of stay etc.
3. Acute observations		
3.1	What was the first recorded heart rate for the patient following arrival at hospital? *(Whole number. Range 30-250 BPM)* ___beats/min (BPM)	**Helpnotes** Whole number. Range 30-250 BPM. Record the first measured heart rate upon arrival at hospital for this exacerbation. The number of times the heart beats per minute.

		Rationale **NICE quality standard 25, statement 7:** Assessing severity *People with asthma who present with an exacerbation of their symptoms receive an objective measurement of severity at the time of presentation.* **RCEM dataset** Included in audit questions **BTS guideline** Includes pulse (heart) rate in diagrams for assessing and recording asthma severity. No NICE support. **BTS Paediatric Asthma Audit** Included in dataset
3.2	What was the first recorded respiratory rate for the patient following arrival at hospital? *(Whole number. Range 0-80 BPM)* __breaths/min	**Helpnotes** Whole number. Range 0-80 BPM. Record the first measured respiratory rate upon arrival at hospital for this exacerbation. The number of times the person breathes per minute. **Rationale** **NICE quality standard 25, statement 7:** Assessing severity *People with asthma who present with an exacerbation of their symptoms receive an objective measurement of severity at the time of presentation.* **RCEM dataset** Included in audit questions **BTS guideline** Includes respiratory rate in diagrams for assessing and recording asthma severity. No NICE support. **BTS Paediatric Asthma Audit** Included in dataset
3.3	What was the first recorded oxygen saturation ($Sp0_2$) measurement for the patient following arrival at hospital? *(Whole number. Range 60 – 100%)* ___% ☐ Not recorded	**Helpnotes** Whole number. Range 60 – 100%. Record the first measured $Sp0_2$ upon arrival at hospital for this exacerbation. If 'Not recorded' go straight to Q.3.4 **Rationale** **NICE quality standard 25, statement 7:** Assessing severity People with asthma who present with an exacerbation of their symptoms receive an objective measurement of severity at the

		time of presentation **RCEM dataset** Included in audit questions **BTS Paediatric Asthma Audit** Included in dataset **BTS guideline** Children with life-threatening asthma or SpO_2 <94% should receive high-flow oxygen via a tight fitting face mask or nasal cannula at sufficient flow rates to achieve normal saturations of 94-98%.
3.3.1	Was this measurement taken whilst the patient was on supplementary oxygen? *(Select one only.)* ☐ No, on room air ☐ Yes ☐ Not recorded	**Helpnotes** Select one only. Do not answer if Q3.3 = 'Not recorded'.
3.4	What was the first recorded peak flow measurement (PEF) for this patient following arrival at hospital? *(Whole number. Range – 30-800)* ___L/min (on arrival) ☐ Patient too unwell ☐ Not recorded	**Helpnotes** Whole number. Range 30-800. The best pre-bronchodilator value should be recorded in L/min. Record the first measured peak flow (PEF) upon arrival at hospital for this exacerbation. PEF on arrival to hospital must be completed for all patients, unless they are too unwell. **Rationale** **NICE quality standard 25, statement 7:** Assessing severity *People with asthma who present with an exacerbation of their symptoms receive an objective measurement of severity at the time of presentation.* **BTS guideline** Throughout the guideline peak flow is the recommended measurement system reference to for assessing asthma severity. **RCEM dataset** Included in audit questions. **BTS Adult Asthma Audit** Included in dataset
3.4.1	What was the patient's previous best PEF? *(Whole number. If not recorded, enter predicted. Range – 30-800)* ___L/min ☐ Not recorded	**Helpnotes** Whole number. If not recorded, enter predicted. Range 30-800. Previous best according to Personalised Asthma Action Plan (PAAP), patient notes or the patient themselves is to be given to accompany PEF on arrival. If previous best is not available,

	If previous best = 'Not recorded' please give predicted PEF: ___L/min	predicted should be entered. **Rationale** See rationale for question 3.4.
Section 4: Acute treatment		
4.1	Was oxygen prescribed for the patient at any point during admission? *(Select one for prescribed and one for administered only)* *Prescribed* ☐ Yes ☐ No *Administered* ☐ Yes ☐ No	**Helpnotes** Select one for prescribed and one for administered only. Patients likely to require oxygen **at any point** during their admission should have it formally prescribed. This is to ensure that all patients admitted with an exacerbation of asthma have a prescription of oxygen available to them at all times during their in-patient stay and includes patients who do not use the prescription. **Rationale** **RCEM dataset** O2 should be given on arrival to maintain sats of 94-98% O2 should be prescribed on arrival to maintain sats 94-98% **BTS guideline** Give supplementary oxygen to all hypoxaemic patients with acute severe asthma to maintain an SpO_2 level of 94-98%. BTS/SIGN 2.6.1 **BTS Paediatric Asthma Audit** Included in dataset Enables timings of administration to be measured.
4.2	When was the patient first administered systemic steroids (including oral or IV) following arrival at hospital? *(Enter date and time **OR** Not recorded **OR** Not administered alone).* Date of steroids _ _ /_ _ / _ _ _ _ *(dd/mm/yyyy)* Time of steroids _ _ /_ _ *(24hr clock 00:00)* ☐ Not recorded ☐ Not administered	**Helpnotes** dd/mm/yyyy 24 hour clock 00:00 Enter ONE of: Date and time **OR** Not recorded **OR** Not administered alone. Date and time should not be before date and time of arrival. Please record the date and time of the first administration of systemic steroids. i.e. prednisolone given orally, hydrocortisone IV or (rarely) IM steroids such as Depomedrone or Kenalog upon arrival at hospital for this exacerbation. **Rationale** **NICE quality standard 25, statement 8**: Treatment of acute asthma *People aged 5 years or older presenting to a healthcare professional with severe or life threatening acute exacerbation of asthma receive oral or intravenous steroids within 1 hour of presentation.* Also, BTS guideline. To enable analysis into time to administration of steroids..

		RCEM dataset Included in dataset If not already given before arrival to the ED, steroids should be given as soon as possible (within 60 minutes of arrival for severe and 4 hours of arrival for moderate). **BTS guideline** People aged 5 years or older presenting to a healthcare professional with a severe or life-threatening acute exacerbation of asthma receive oral or intravenous steroids within 1 hour of presentation. Give steroids in adequate doses to all patients with an acute asthma attack. BTS/SIGN 2.6.1 Give oral steroids early in the treatment of acute asthma attacks in children Use a dose of 10 mg prednisolone for children under 2 years of age, 20 mg for children aged 2–5 years and 30–40 mg for children older than 5 years. Those already receiving maintenance steroid tablets should receive 2 mg/ kg prednisolone up to a maximum dose of 60 mg. Repeat the dose of prednisolone in children who vomit and consider intravenous steroids in those who are unable to retain orally ingested medication. BTS/SIGN 9.8.4 **BTS Paediatric Asthma Audit** Included in dataset Enables timings of administration to the measured.
4.3	When was the patient been first administered high dose β2 agonist via nebuliser or inhaler + spacer following arrival at hospital? *(Enter date and time **OR** Not recorded **OR** Not administered alone).* Date of administration_ _ /_ _ / _ _ _ _ *(dd/mm/yyyy)* Time of administration _ _ / _ _ *(24hr clock 00:00)* ☐ Not recorded ☐ Not administered	**Helpnotes** dd/mm/yyyy 24 hour clock 00:00 Enter ONE of: Date and time **OR** Not recorded **OR** Not administered alone. Date and time should not be before date and time of arrival. Please record the time and date of the first administration of high dose β2 agonist (eg salbutamol) upon arrival at hospital for this exacerbation. A pMDI + spacer is the preferred option for children. BTS guidance on high dose β2 agonist: Children (>5 years): Moderate attack: β2 agonist 2–10 puffs via spacer and mouthpiece (given one puff at a time inhaled separately using tidal breathing) Acute severe: β2 agonist 10 puffs via spacer or nebulised salbutamol 5 mg Life threatening: Nebulised β2 agonist: salbutamol 5 mg plus ipratropium bromide 0.25 mg nebulised.

		Rationale **BTS guideline** In hospital, ambulance and primary care, nebulisers for giving nebulised β2 agonist bronchodilators should preferably be driven by oxygen BTS/SIGN 9.3.2 In patients with severe asthma that is poorly responsive to an initial bolus dose of β2 agonist, consider continuous nebulisation with an appropriate nebuliser. BTS/SIGN 9.3.2 **RCEM dataset** Included in dataset High dose nebulised β2 agonist bronchodilator should be given within 10 minutes of arrival at ED. **BTS Paediatric Asthma Audit** Included in dataset Enables timings of administration to be measured.
5. Review and discharge		
5.1	What was the date of discharge from your hospital? Date of discharge _ _ /_ _ / _ _ _ _ *(dd/mm/yyyy)* Time of discharge _ _ /_ _ *(24hr clock 00:00)*	H**elpnotes** dd/mm/yyyy 24 hour clock 00:00 Date should not be before date and time entered into sections, 1, 2, 3 or 4. The date of discharge is usually found at the end of the admission record, or on the discharge summary. If the patient is discharged onto another hospital, an early discharge scheme, hospital at home or community scheme, please give the date of discharge from your hospital and not the scheme. If the patient discharged themselves or their parent/guardian discharged them, use date of self/parental-discharge. **Rationale** Enables length of stay to be measured. **BTS Paediatric Asthma Audit** Included in dataset **RCEM dataset** Included in dataset
5.2	What was the date of death, if patient died as an inpatient? Date of death _ _/_ _/ _ _ _ _ (dd/mm/yyyy) Time of death _ _/_ _ (24hr clock 00:00)	**Helpnotes** dd/mm/yyyy 24 hour clock 00:00 Date should not be before date and entered into sections 1, 2, 3 or 4. **Rationale** **BTS Adult Asthma Audit**

		Included in dataset **RCEM dataset** Included in dataset Enables investigation into mortality rates within hospital.
5.3	Was a discharge bundle completed for this admission? *(Select one only. If yes, select one only for BTS discharge bundle)* ☐ Yes ☐ No ☐ Self/Parental-discharge If yes, was this a BTS discharge bundle? ☐ Yes ☐ No	**Helpnotes** Select one only. If yes, select one only for BTS discharge bundle. A structured way of improving discharge processes and care leading to improved patient outcomes. Based on evidence based clinical interventions or actions. BTS care bundle for asthma https://www.brit-thoracic.org.uk/standards-of-care/quality-improvement/care-bundle-for-asthma/ If 'No' or 'Self/Parental-discharge' are selected please still complete what elements of a discharge bundle were complete for this patient in Q 5.3.1. **Rationale** **NICE quality standard 25, statement 9:** Specialist review *People admitted to hospital with an acute exacerbation of asthma have a structured review by a member of the specialist respiratory team before discharge* As below
5.3.1	Which of the following elements were undertaken as part of the patients discharge? *(Tick all that apply)* **Inhaler technique** ☐ Inhaler technique checked **Assessment of medication and adherence** ☐ Medication issued/classes reviewed ☐ Doses reviewed (increasing/decreasing as necessary) ☐ Importance of adherence to preventer medication discussed with patient/family **Personal Asthma Action Plan** ☐ Reviewed/Modified existing **OR** ☐ Issued new **Triggers and exacerbating factors** ☐ Triggers and exacerbating factors documented ***6-18 only* - Smoking cessation**	**Helpnotes** Tick all that apply. If any of the discharge elements have not been completed and/or are not applicable please do not select that the component has been completed. If 'No' or 'self/Parental-discharge' are selected (question 5.3) please still complete which elements of a discharge bundle were completed for this patient (if any). **Smoking** Parents with asthma should be advised about the dangers, to themselves and to their children with asthma, of smoking, and be offered appropriate support to stop smoking. Advice can include schemes such as Step Right Out http://www.stopsmokingleic.co.uk/step-right-out-sign-up/. **Follow up requests** Communication directly with a named individual responsible for asthma care within the practice, by means of fax or email counts as a request for follow-up.

	☐ Advice given to or discussion had with parents about smoking ☐ Referral to stop smoking services ☐ If current smoker, smoking cessation discussed/prescribed **Following up requests** ☐ In the community within 2 working days ☐ Paediatric asthma clinic within 4 weeks ☐ Paediatric respiratory specialist review if there have been life-threatening features	If the patient/guardian has been asked and/or been provided with the necessary information they need to make the follow up appointment(s) themselves within the recommended timeframe please select that the component was completed. **TAPES** = **T**echnique and Medication + **Ac**tion **P**lan + **E**nvironment + **S**ubsequent care An acronym used to describe the elements of the British Thoracic Society (BTS) discharge bundle. https://www.brit-thoracic.org.uk/document-library/audit-and-quality-improvement/asthma-care-bundle/care-bundle-statement/ **Bundle Statement 1:** All patients (or family members/carers administering medicines) should have their inhaler technique assessed prior to discharge. **Bundle Statement 2:** All patients should have their medications assessed. The importance of medication adherence to good asthma control should be reinforced to patients (and/or any family members or carers administering medicines) prior to discharge. **Bundle Statement 3:** A written asthma action plan for how to manage care should be provided to patients and families/carers. **Bundle Statement 4:** Triggering and exacerbating factors in the patient's overall environment should be considered. **Bundle Statement 5:** Subsequent care: follow-up in the community to be arranged within 2 working days plus specialist care according to criteria* within 2 weeks. * **BTS/SIGN British guideline on the management of asthma, sections 8.6.3.** 'It is essential that the patient's primary care practice is informed within 24 hours of discharge from the emergency department or hospital following an asthma attack. Ideally this communication should be directly with a named individual responsible for asthma care within the practice, by means of fax or email.' **Rationale** **NICE quality standard 25, statement 3: Written personalised action plans** **NICE quality standard 25, statement 4: Inhaler technique** **NICE quality standard 25, statement 6: Assessing asthma control** **NICE quality standard 25, statement 10: Follow up on Primary**

		Care **RCEM dataset** Evidence of assessment before discharge: The patient's inhaler technique The patient's inhaler type is satisfactory GP or clinical follow up arranged according to local policy for discharged patients within 2 working days. **BTS guideline** BTS/SIGN 2.4 2.5 and 7.1 BTS/SIGN 2.2 8.6.3 (Page 43) **BTS Paediatric Asthma Audit** Some elements included in dataset **NRAD** **Please see NRAD recommendations in Why Asthma Still Kills on:** Personal asthma action plan (PAAP) which details triggers and current treatment, and specifies how to prevent relapse and when to seek help in an emergency. Follow-up arrangements for patients who have attended ED or out of hours services. Factors that trigger or exacerbate asthma. An assessment of recent asthma control should be undertaken at every asthma review. Non-adherence to preventer inhaled corticosteroids. Health professionals' awareness of factors that increase risk of asthma attacks. Patient self-management. Parents and children, and those who care for or teach them, should be educated about managing asthma. **BTS Paediatric Asthma Audit** Included in dataset
5.4	Was the patient prescribed prednisolone at discharge? *(Select one only. If yes, enter mgs per day and number of days)* ☐ Yes ☐ No ☐ No, completed course prior to discharge ☐ No, patient on maintenance steroids *If yes,* *__mgs per day (Range – 5-60)* _ _ days *(Range – 1-30)*	**Helpnotes** Select one only. If yes, enter mgs per day AND number of days. Range 5-60 (mgs) and 1-30 (days). Complete dose AND days **OR** No, completed course prior to discharge **OR** No **OR** maintenance dose. Please record the daily dose and length of the course of prednisolone in days. Do not include dose and days prior to discharge. If self or parental discharge, select 'No'. **Rationale**

		RCEM dataset Included in dataset Discharged patients should have oral prednisolone prescribed. **BTS guideline** Give Steroids in adequate doses for all acute attacks. BTS/SIGN 2.6.1 Use a dose of 10 mg prednisolone for children under 2 years of age, 20 mg for children aged 2–5 years and 30–40 mg for children older than 5 years. Those already receiving maintenance steroid tablets should receive 2 mg/ kg prednisolone up to a maximum dose of 60 mg. Treatment for up to three days is usually sufficient, but the length of course should be tailored to the number of days necessary to bring about recovery. Tapering is unnecessary unless the course of steroids exceeds 14 days. BTS/SIGN 9.8.4 **BTS Paediatric Asthma Audit** Included in dataset

Appendix 11: Secondary care audit: Paediatric organisational dataset

Secondary Care (Paediatric)

Organisational audit (Paediatric) data collection sheet

(Version – AADP Final 1.1: 31 January 2018)

All items are compulsory unless stated otherwise.

Section 1	**Admissions – Number and beds**	
	Admission numbers	
1.1	**How many paediatric medical emergencies did your hospital admit in XXXX:** **Number**	*Whole numbers only.* *This refers to emergency admissions only.* *Please include all paediatric medical emergency admissions for your hospital.* *Please include admissions to a medical admissions ward via Accident and Emergency Department.* *Adults (>18 years of age) are not included. Adolescents between 16 and 18 years old are included if they are admitted to and treated on a paediatric ward.* *A stay in hospital of less than 4 hours would be classed as a non-admission and would not be included. These patients may be identified from your hospital's discharge/death codes using the appropriate ICD10 codes.* *Consider asking your IT or clinical coding department to help with this.* *XXXX means from 1 April– 31 March XXXX.*
1.2	**How many paediatric respiratory coded emergencies did your hospital admit in XXXX** **Number**	*Whole numbers only.* *This refers to all primary emergency respiratory coded admissions only. This will include respiratory coded admissions not admitted to the respiratory ward, as well as those admitted to the respiratory ward. Codes J00-J99 should be included.* *Adults (>18 years of age) are not included.*
1.3	**How many paediatric asthma emergency coded admissions did your hospital admit in XXXX?** **Number**	*Whole numbers only.* *This refers to all emergency paediatric asthma coded admissions only. A stay in hospital of less than 4 hours would be classed as a non-admission and would not be included. XXXX refers to 1 April– 31 March XXXX inclusive. This may be identified from your hospital's discharge/death codes – ICD10 codes. Consider asking your IT or clinical coding department to help with this. We have already approached your audit department to facilitate the derivation of this metric.* *Asthma should be primary diagnosis. The main codes that will be relevant are:*

		J45.2- Mild intermittent J45.3- Mild persistent J45.4- Moderate persistent J45.5- Severe persistent J45.9- Other and unspecified asthma *J46* - Acute severe asthma This additionally includes all sub-component codes within these (e.g. J45.20 uncomplicated, J45.21 with (acute) exacerbation), J45.22 with status asthmaticus). See links below for full list: http://www.icd10data.com/ICD10CM/Codes/J00-J99/J40-J47/J45- **AND** R06.2 – Wheeze. For children between the ages of 1-5 only *Adults (>16 years of age) who are treated on an adult ward are not included.*
1.4	**How many emergency paediatric coded respiratory admissions (response to 1.3) were discharged from your dedicated paediatric ward(s) in XXXX:** • Number • ☐ We don't have a dedicated paediatric ward	*Whole numbers only.* *This is the number of paediatric asthma coded admissions discharged from your dedicated paediatric/respiratory wards in XXXX. We have already approached your audit department to facilitate the derivation of this metric.* *Adults (>16 years of age) who are treated on an adult ward are not included.*
	Beds for admitted paediatric patients	
1.5	**How many medical paediatric beds are there in your hospital which can be used for paediatric asthma patients?** **Number**	*Whole numbers only.* *This refers to beds designated to acute paediatric medicine at the time of the audit. This can include beds such as escalation ambulatory and day surgery beds as long as these are available to paediatric patients (including asthma) as and when required and the patients within them are under the care of the paediatric care team. If these beds are not routinely available to asthma patients, please do not include them.*
1.6	**Does your hospital have High Dependency Units (HDUs) to which paediatric patients can be admitted?** ***(Tick all that apply)*** • ☐ No HDU • ☐ A dedicated paediatric HDU • ☐ A medical HDU • ☐ A mixed medical/surgical HDU • ☐ A respiratory HDU • ☐ Other, please specify	*Tick all that apply.*

1.7	**How many paediatric HDU beds are there in your hospital to which asthma patients can be admitted? (Select one only)** • ☐ Zero • ☐ One • ☐ Two • ☐ Three • ☐ Four • ☐ Five • ☐ Six • ☐ Seven • ☐ Eight • ☐ Nine • ☐ Ten • ☐ Ten+	*Select one only.*
1.8	**How many general operational Paediatric Intensive Care Unit (PICU) beds, does your hospital have to which asthma patients can be admitted? *(Select one only)*** • ☐ Zero • ☐ One • ☐ Two • ☐ Three • ☐ Four • ☐ Five • ☐ Six • ☐ Seven • ☐ Eight • ☐ Nine • ☐ Ten • ☐ Ten+	*Select one only.* *In practice this will be PICU beds to which asthma patients are admitted.*
Section 2	**Staffing levels**	
2.1	**How many of the following staff posts are there in your paediatric team?** • FY1/FY2 • CT1/CT2 • ST3 and above • Respiratory paediatric consultant • Paediatric consultant • Associate specialist • Staff grade • Asthma nurse specialist • Nurse consultant/other specialist nurse • Respiratory/paediatric physiologist (lung function technician) • Specialist respiratory/paediatric physiotherapist • Other (please specify)	*Up to 2 decimal places.* *Full time = 1 WTE (Whole Time Equivalent)* *Please give the number of WTEs for each type of post (include both filled and vacant posts for each type of post listed).If your paediatric patients have access to adult or generic staff routinely please include these in the WTE provided. For example, if you have two respiratory physiologists who provide routine support to both adults and paediatric patients please include the WTE for both of these in the box provided. If this is on a full time basis (paediatric asthma patients have access to them as and when required) enter 2 WTE. If they have time assigned specifically for treating paediatric patients, please only include the WTE assigned to this service. For example, if half of their time it dedicated to paediatric patients, enter 1 WTE, to represent 0.5 each.*

2.2	**How many unfilled paediatric team vacancies are there in your hospital at the time of completing this audit?** • FY1/FY2 • CT1/CT2 • ST3 and above • Respiratory paediatric consultant • Paediatric consultant • Associate specialist • Staff grade • Asthma nurse specialist • Nurse consultant/other specialist nurse • Respiratory/paediatric physiologist (lung function technician) • Specialist respiratory/paediatric physiotherapist • Other (please specify)	*Up to 2 decimal places.* *Full time = 1 WTE (Whole Time Equivalent)* *Please give number of WTE vacant posts for types of post listed at the time of completing this audit. If your paediatric patients will have access to planned/unfilled posts for adult or generic staff routinely please include these in the WTE provided. For example, there are two unfilled respiratory physiologists who will provide routine support to both adults and paediatric patients as and when required on a full time basis please include the 2 WTE for both of these in the box provided. If they will have time assigned specifically for treating paediatric patients, please only include the WTE to be assigned to this service. So, if only a quarter of their time will be dedicated to paediatric patients, enter 0.5 WTE to represent 0.25 each.* *The total WTE will be worked out by the audit team.*
Section 3	**Access to specialist staff and 7-day working**	
	Access to specialist staff	
3.1	**How many of the following staff members contribute to the acute paediatric intake rota?** • Paediatric consultant • Respiratory paediatric consultant (separate or on-call) • (Paediatric) Intensive care consultant • Other specialist paediatric consultant • Paediatric SpR/Specialty trainee and fellow	*Up to 2 decimal places.* *Full time = 1 WTE (Whole Time Equivalent)* *Please note the number of Whole Time Equivalents (WTEs). Acute paediatric consultant refers specifically to consultants in acute paediatric medicine, not other physicians participating in the on-call rota for medicine.*

3.2	**How frequently are paediatric patients on the admissions ward reviewed by a senior decision maker (SpR or above)?**
	(Select one only for both weekdays and weekends)
	• On weekdays?
	  ○ ☐ Twice daily
	  ○ ☐ Daily
	  ○ ☐ Other, please specify
	• On weekends?
	  ○ ☐ Twice daily
	  ○ ☐ Daily
	  ○ ☐ Other, please specify
		Select one for both weekdays and weekends.

3.3	**Which asthma patients have access to a paediatric respiratory nurse? *(Select one only)*** • ☐ None • ☐ All asthma patients • ☐ Those under the care of a paediatric respiratory consultant • ☐ Other (please specify)	*Select one only.*

3.4	**Does your hospital have a designated, named clinical lead for asthma? *(Select one only)*** • ☐ Paediatric lead only • ☐ Adult and paediatric lead • ☐ No lead	*Select one only.* **NRAD** Every NHS hospital and general practice should have a designated, named clinical lead for asthma services, responsible for formal training in the management of acute asthma.
3.4.1	**If your hospital does have an asthma lead: Is this person responsible for formal training in the management of acute paediatric asthma?** ***(Select one only)*** • ☐ Paediatric only • ☐ Adult and paediatric • ☐ No	*Select one only.*
	7 day working	

3.5	**On which days does your hospital provide a PICU outreach service for critically ill cases requiring PICU management, and when is it available?**
	(Tick all that apply)
	• ☐ None
	• ☐ Monday
	• ☐ Tuesday
	• ☐ Wednesday
	• ☐ Thursday
	• ☐ Friday
	• ☐ Saturday
	• ☐ Sunday
	• ☐ The outreach service runs overnight
	  • ☐ Every night
	  • ☐ Some nights
		Tick all that apply.
		
		Outreach teams are usually PICU doctors or nurses who are called by ward staff to review deteriorating patients in order to avoid or expedite transfer to the PICU.
		
		This these days can vary, select the days this is most likely to or 'usually' happen(s) on.

3.6	**On which days is there an on-call respiratory paediatric consultant available? *(Tick all that apply)*** • ☐ None • ☐ Monday • ☐ Tuesday • ☐ Wednesday • ☐ Thursday • ☐ Friday • ☐ Saturday • ☐ Sunday	*Tick all that apply.* *This is asking whether there is a formal on-call respiratory paediatric consultant available even if there isn't a respiratory take as such.* *If these days can vary, select the days this is most likely to or 'usually' happen(s) on.*
3.6.1	**When is the on-call respiratory paediatric consultant available on these days? *(Tick all that apply)*** • ☐ In-hours • ☐ Out of hours	*Tick all that apply.* *It is understood that in-hours and out-of-hours differs from Trust to Trust and is dependent on the structure of contracts*

		and handovers. *For consistency within this audit, in-hours is considered 9am – 5pm, Monday – Friday.* Out of hours is considered 24/7 on-call availability (including telephone) of a respiratory paediatric consultant.
3.7	**On which days does a senior decision maker from the paediatric team (ST3 or above) undertake a ward round of new paediatric respiratory patients on the Paediatric Admissions Unit (PAU)? *(Tick all that apply)*** • ☐ None • ☐ Monday • ☐ Tuesday • ☐ Wednesday • ☐ Thursday • ☐ Friday • ☐ Saturday • ☐ Sunday	*Tick all that apply.* *This question refers to whether formal ward rounds are undertaken by these staff, as opposed to 'Board Rounds'.* *If these days can vary, select the days this is most likely to or 'usually' happen(s) on.*
3.8	**On which days does a senior decision maker from the paediatric team (ST3 or above) undertake a ward round of new paediatric respiratory patients on the paediatric ward(s)? *(Tick all that apply)*** • ☐ None • ☐ Monday • ☐ Tuesday • ☐ Wednesday • ☐ Thursday • ☐ Friday • ☐ Saturday • ☐ Sunday	*Tick all that apply.* *This question refers to whether formal ward rounds are undertaken by these staff, as opposed to 'Board Rounds'.* *If these days can vary, select the days this is most likely to or 'usually' happen(s) on.*
3.9	**On which days is a respiratory nurse(s) available to review asthma paediatric asthma patients?** ***(Tick all that apply)*** • ☐ None • ☐ Monday • ☐ Tuesday • ☐ Wednesday • ☐ Thursday • ☐ Friday • ☐ Saturday • ☐ Sunday	*Tick all that apply.* *This could be a respiratory nurse specialist, Asthma nurse or clinical nurse specialist with an interest in asthma.* *If these days can vary, select the days this is most likely to or 'usually' happen(s) on.*

Section 4	Management of care	
	Smoking cessation	
4.1	**Is there a smoking cessation service available in the hospital, and if so how many WTEs are provided to run the service? *(Select one only)*** • ☐ No service available • ☐ Less than 0.5 • ☐ 0.5 • ☐ 1 • ☐ 2 • ☐ 3 • ☐ 4+ • ☐ Other, please specify	*Select one only.* *This refers to a formal smoking cessation programme, delivered in the hospital either by your staff or a visiting smoking cessation practitioner.* **http://www.nhs.uk/Conditions/Smoking-(quitting)/Pages/Treatment.aspx**
4.2	**Are smoking-cessation pharmacotherapies prescribed to paediatric patients in your hospital? *(Select one only)*** • ☐ Yes, to patients over 12 years old • ☐ Yes, to patients over 16 years old • ☐ No, to adults only	*Select one only.*
4.2.1	**If yes, what type of pharmacotherapy is prescribed for paediatric patients (over 12 or 16 years old)** ***(Tick all that apply)*** • ☐ Nicotine replacement therapy • ☐ Other, please specify	*Tick all that apply.* Varenicline and Bupropion are not licensed for use in people under the age of 18.
	Prescriptions	
4.3	**Does your hospital have paper prescriptions or electronic prescribing? *(Select one only)*** • ☐ Paper prescriptions only • ☐ Electronic prescribing partially implemented • ☐ Electronic prescribing fully implemented throughout the organisation	*Select one only.*
	Managing respiratory failure – emergency oxygen therapy	
4.4	**Does your hospital have a paediatric oxygen policy in place? *(Select one only)*** • ☐ Yes, paediatric specific • ☐ Yes, combined adult and paediatrics • ☐ No • ☐ Not known	*Select one only.* *This can often be found on the trust intranet or via the trust clinical governance department.* **RCEM dataset** O2 should be given on arrival to maintain sats 94-98% O2 should be prescribed on arrival to maintain sats 94-98% **BTS guideline** Give supplementary oxygen to all hypoxaemic patients with acute severe asthma to maintain an SpO_2 level of 94-98%. BTS/SIGN 2.6.1 Questions around oxygen are included in the BTS paediatric clinical audit.

4.5	**Does the ward based paediatric medication chart/record have a designated place in which to prescribe oxygen? *(Select one only)*** • ☐ Yes • ☐ No	*Select one only.* **RCEM dataset** O_2 should be given on arrival to maintain sats 94-98% O_2 should be prescribed on arrival to maintain sats 94-98% **BTS guideline** Give supplementary oxygen to all hypoxaemic patients with acute severe asthma to maintain an SpO_2 level of 94-98%. BTS/SIGN 2.6.1
4.6	**Does your hospital use a system of paediatric early warning detection? *(Select one only)*** • ☐ Yes • ☐ No	*Select one only.* *This would include PEWS scoring as an alert to patient deterioration and need for clinical and/or Outreach Review.*
4.6.1	**If yes, does your PEWS chart enable the recording of the following: *(Tick all that apply)*** • ☐ None • ☐ Target saturation • ☐ Actual saturation • ☐ Amount of oxygen administered	*Tick all that apply.*
4.6.2	**If none, or no to any of the above, (PEWS and oxygen recording for PEWS), is there another monitoring chart that allows the following to be recorded: *(Tick all that apply)*** • ☐ None • ☐ Target saturation • ☐ Actual saturation • ☐ Amount of oxygen administered	*Tick all that apply.* *Validation required: Question and options available based on what has been answered previously. Eg if PEWS chart captures target saturation, that is greyed out for this question.*
4.7	**Does the hospital have an oxygen training programme in place? *(Select one only)*** • ☐ Yes • ☐ No • ☐ Not known	*Select one only.* *Examples would include an online e-learning module, or formal teaching sessions around this topic*
Section 5	**Integrated care**	
5.1	**Does your hospital have a paediatric specialist asthma service? *(Select one only)*** • ☐ Yes • ☐ No • ☐ Not known	*Select one only.* **NRAD** *Patients with asthma must be referred to a specialist asthma service if they have required more than two courses of systemic corticosteroids, oral or injected, in the previous 12 months or require management using British Thoracic Society (BTS) stepwise treatment 4 or 5 to achieve goal.*

Section 6	Patient and carer engagement	
6.1	**How often is there a formal survey seeking patient/carer views on paediatric services? *(Select one only)*** • ☐ Continuous (every patient) • ☐ More than 4 times a year • ☐ 3-4 times a year • ☐ 1-2 times a year • ☐ Less than once a year • ☐ Never	*Select one only.* *Excludes the Friends and Family Test.*
6.2	**Do you have a strategic group for paediatric services? *(Select one only)*** • ☐ Yes • ☐ No • ☐ Not known	*Select one only.* *This group is defined as consisting of senior clinical and management representatives, who meet regularly, set and review targets, implement the stroke strategy and make plans for the future of the service.*
6.2.1	**Does this group have a patient representative? *(Select one only)*** • ☐ Yes • ☐ No • ☐ Not known	*Select one only.* *A patient or carer who attends to provide a user perspective of care.*
6.3	**Are patients able to access their own electronic records at your hospital, as part of a collaborative self-management scheme? *(Select one only)*** • ☐ Yes • ☐ No • ☐ Not known	*Select one only.* This question aims to establish if patients have access to their own electronic records routinely, outside of the FOI request process, as part of a self-management scheme.
6.4	**Is your paediatric service linked with a specific patient support or engagement group? *(Select one only)*** • ☐ Yes • ☐ No • ☐ Not known	*Select one only.*
6.4.1	If yes, what is this group's name? Free text	Free text.
Section 7	**Transitional care**	
7.1	**Do your processes for transitioning young people from paediatric to adult services include ensuring that: *(Tick all that apply)*** • ☐ we do not have any formal transition arrangements • ☐ the young person has a full record of their condition • ☐ their GP is sent the same record • ☐ the young person has a transition plan and that they have worked on this with both paediatric and adult clinicians • ☐ the young person has a named case worker to assist in signposting for them and their family	*Tick all that apply.* **NICE guideline: Transition from children's to adults' services for young people using health or social care services** https://www.nice.org.uk/guidance/ng43/chapter/Implementation-getting-started **Ready Steady Go programme** A suite of resources designed to deliver high-quality transition for young people (YP) across all subspecialties. https://www.nice.org.uk/sharedlearning/implementing-transition-care-locally-and-nationally-using-the-ready-steady-go-programme

		BTS/SIGN guideline TRANSITION TO ADULT-BASED HEALTHCARE Transition to adult services is important for all adolescents with asthma, irrespective of the asthma severity. No studies on transition of adolescents with asthma to adult services were identified although there are many studies looking at transition of adolescents with chronic illness. Few studies compare different approaches and many recommendations come from consensus statements rather than randomised controlled trials. It is important that the process of transition is co-ordinated and it is recommended that a healthcare professional be identified to oversee transition and either link with a counterpart in adult services or remain involved until the young person is settled within adult services. In the initial period after transition to adult services in secondary care, adolescents are best seen by one consultant to build their confidence and encourage attendance. PREPARATION FOR TRANSITION Transition should be seen as a process and not just the event of transfer to adult services. It should begin early, be planned, involve the young person, and be both age and developmentally appropriate (see Table 15). British guideline on the management of asthma Table 15: *Recommendations for organising transition services (Table 15)* • Young people should be given the opportunity to be seen without their parents/ carers. • Transition services must address the needs of parents/carers whose role in their child's life is evolving at this time. • Transition services must be multidisciplinary and multiagency. Optimal care requires a co-operative working relationship between adult and paediatric services, particularly where the young person has complex needs with multiple specialty involvement. • Co-ordination of transitional care is critical. There should be an identified coordinator who supports the young person until he or she is settled within the adult system. • Young people should be encouraged to take part in transition/support programmes and/or put in contact with other appropriate youth support groups. The

		involvement of adult physicians prior to transfer supports attendance and adherence to treatment. • Transition services must undergo continued evaluation.

	Generic Questions	Pre-hospital and arrival	Acute observation and treatment	Review and discharge
All patients (Adults and children) *Case definition: See below for all.*	• NHS number • Date of birth • Home postcode • Patient GP practice • Gender • Exposure to second hand smoke at home	• Systemic steroids within 12 hours prior to arrival • High dose B2 agonist within 4 hours prior to arrival • Oxygen prior to arrival • Arrival by ambulance • Arrival at hospital	• First recorded heart rate • First recorded respiratory rate • First recorded Sp02 • Supplementary oxygen • Oxygen prescribed • First administration of β2 agonists	• Discharge from hospital • If died as an inpatient • Discharge bundle for admission • Discharge bundle elements: ⇒ *Inhaler technique* ⇒ *Assessment of medication* ⇒ *PAAP* ⇒ *Triggers* ⇒ *Follow up requests*
Adults (16+) *Case definition: Admitted to hospital adult services for an acute exacerbation of asthma (primary diagnosis).*	• Smoking status		• First recorded PEF • Previous best PEF *(if not recorded, predicted)* • First administration of system steroids	• Discharge bundle elements: ⇒ *Smoking cessation* ⇒ *(6 - 18 only) Smoking advice to parents/guardian* • Prescribed prednisolone (Mgs and days)
Children (6—18 years) *Case definition: Admitted to hospital paediatric services for an acute exacerbation of asthma (primary diagnosis).*				
Children (1—5 years) *Case definition: Admitted to hospital paediatric services for an acute exacerbation of asthma **OR** wheeze which is responsive to salbutamol (ICD-10 R06.2) (primary diagnosis).*			• Systemic steroid administered	• Discharge bundle elements: ⇒ *Smoking advice to parents/ guardian* • Prescribed prednisolone

Appendix 13: Removed questions: Secondary care audit - adult clinical dataset

Question	Response	Helpnotes	Rationale REASON FOR REMOVAL
1. Generic questions			
Date and time of admission at your hospital	Date of admission to unit _ _/_ _/ _ _ _ _ (dd/mm/yyyy) Time of admission to unit _ _/_ _ (24hr clock 00:00)	Cannot be before date and time of arrival.	MOSCOW rating = M Consistency with COPD audit dataset. To ensure that analysis can take place against individual time pressured metrics and enables investigation into length of stay etc. **REMOVE – Time of arrival adequate for analysis of time pressured metrics (steroids).**
Route of referral to your hospital for this admission?	☐ Ambulance ☐ Another hospital ☐ Advised by GP ☐ Advised by NHS 111 ☐ Self- referral ☐ Minor Injury Unit ☐ Walk-in Centre ☐ Other Please specify_____ ☐ Not recorded	Select one only.	MOSCOW rating = C No NICE or BTS to support. Not in RCEM dataset. **REMOVE – No evidence and not collected by other asthma audits.**
Comorbidities recorded for this patient	☐ Diabetes ☐ Obesity ☐ Hypertension ☐ Coronary heart disease ☐ Stroke ☐ Heart failure ☐ Painful conditions (determined by repeat prescribed analgesics) ☐ Lung cancer ☐ COPD	Select all that apply	MOSCOW rating = C **NICE Quality statement 5: Review** Text re asthma reviews for both children and adults include reference to assessment of comorbidities. Statement = 'A structured review can improve clinical outcomes for people with asthma. Benefits associated with structured review may include reduced absence from school or work, reduced exacerbation rate, improved symptom control and reduced attendance in accident and emergency departments..'

	☐ Bronchiectasis ☐ Osteoporosis ☐ Other Please specify_____ ☐ None ☐ Not recorded		Does having this information enable clinicians to assess and change medication and treatment in a more informed way? **REMOVE – No evidence and not collected in other asthma audits and time consuming to complete. Could consider Charlson Index as a measure or derive from HES?**
Did this patient have a recorded mental health diagnosis?	☐ Yes ☐ No	Select one only. The record of the patientspatient's mental health diagnosis should be as documented within the patient's notes and identified at the point of admission to hospital. Do and not include a diagnosis made during this hospital stay.	**RCEM dataset** Included in dataset Evidence to consideration given to psychosocial factors in adults prior to discharge. **BTS guideline** Healthcare professionals must be aware that patients with severe asthma and one or more adverse psychosocial factors are at risk of death. BTS/SIGN 8.1.3 **BTS Adult Asthma Audit** Included in dataset. **NRAD** Health professionals must be aware of the factors that increase the risk of asthma attacks and death, including the significance of concurrent psychological and mental health issues. **REMOVE – Following investigation into other data sources, this question will be removed as it can be accessed via HES diagnostic fields (ICD-10 codes) to identify records with a mental health diagnosis.**

Psychosocial or social factors recorded for this patient	☐ Depression ☐ Anxiety ☐ Psychiatric treatment (in the last 12 months?) ☐ Drug or alcohol abuse ☐ Deliberate self-harm ☐ Learning disability ☐ Social isolation/Lived alone ☐ Other Please specify_____ ☐ None ☐ Not recorded	Select all that apply	MOSCOW rating = S **RCEM dataset** Evidence to consideration given to psychosocial factors in adults prior to discharge. **BTS guideline** Healthcare professionals must be aware that patients with severe asthma and one or more adverse psychosocial factors are at risk of death. BTS/SIGN 8.1.3 **BTS Adult Asthma Audit** Included in dataset. **NRAD** Health professionals must be aware of the factors that increase the risk of asthma attacks and death, including the significance of concurrent psychological and mental health issues. **REMOVE – Following investigation into other data sources, this question will be removed as it can be accessed via HES diagnostic fields (ICD-10 codes) to identify records with a mental health diagnosis.**
Did this patient have a recorded learning disability?	☐ Yes ☐ No	The record of learning disability diagnosis should be the point of admission to hospital and not include diagnosis during this hospital stay.	**RCEM dataset** Included in dataset Evidence to consideration given to psychosocial factors in adults prior to discharge. **BTS guideline** Healthcare professionals must be aware that patients with severe asthma and one or more adverse psychosocial factors are at risk of death. BTS/SIGN 8.1.3 **NRAD** Health professionals must be aware of the factors that increase the risk of asthma attacks and death, including

			the significance of concurrent psychological and mental health issues. **REMOVE – Following investigation into other data sources, this question will be removed as it can be accessed via HES diagnostic fields (ICD-10 codes F70-F79) to identify records with recorded learning difficulties.**
2. Asthma history			
Had asthma been diagnosed prior to this admission?	☐ Yes ☐ No ☐ Not recorded If no or Not recorded proceed to section 3.	Select one only	MOSCOW rating = S **BTS Adult Asthma Audit** Included in dataset **REMOVE – Felt too time consuming and onerous for a continuous audit and not necessarily something that improves the care a patient receives.**
Type of asthma at admission to your hospital	☐ Allergic asthma ☐ Late Onset asthma ☐ Occupational asthma ☐ Seasonal asthma ☐ Aspirin sensitive asthma ☐ Infective asthma ☐ Eosinophilic asthma ☐ Fungal asthma ☐ Other Please specify_____ ☐ Not recorded	Select all that apply Allergic asthma: where there is specific allergic triggers for the patients asthma Late onset asthma: adult onset asthma with no previous history Occupational asthma: where substances found in the workplace cause asthma symptoms, attacks and exacerbations Seasonal asthma: asthma only experienced at certain times of year Aspirin sensitive asthma: medications such as non-steroidal anti-inflammatory drugs (NSAIDS) or aspirin cause asthma symptoms, attacks and exacerbations Infective asthma: asthma attacks triggered by bacterial infection Eosinophilic asthma: eosinophilia usually>0.3cell/μl often associated with nasal polyps and elevated FeNO Fungal asthma: IgE sensitisation to a	MOSCOW rating = S **NICE quality statement 2: Diagnosing occupational asthma** Adults with new onset asthma are assessed for occupational cause No BTS or NICE support. Enables us to track if change in diagnosis/type of asthma was made during admission. **REMOVE - No evidence for inclusion and not asked in other audits. Having at discharge shows that review and triggers have been carried out appropriately and used to make an informed and accurate (re) diagnosis.**

		fungal spore such as Aspergillus usually with high total IgE and eosinophilia	
Did the patient have a Personalised Asthma Action Plan (PAAP) in place at the time of this admission?	☐ Yes ☐ No ☐ Not recorded	Select one only A formal record and effective self-management document which contains information and advice on a specific patient's asthma. Components of the PAAP are: • Medication and inhaler techniques • Advice on medication and when this should be increased • Triggers and exacerbating factors • Advice on peak flow levels (best and worst) • Advice on how to recognise loss of control and when help should be sought • Actions to take if asthma deteriorates This document should be reviewed and updated at each annual asthma review and following each acute asthma episode.	MOSCOW rating = S **NICE quality standard 3:** Written personalised action plans People with asthma receive a written personalised action plan. **BTS guideline** All people with asthma (and/or their parents or carers) should be offered self-management education which should include a written personalised asthma action plan and be supported by regular professional review. 5.2.2 (A) **NRAD** All people with asthma should be provided with written guidance in the form of a personal asthma action plan (PAAP) which details their own triggers and current treatment, and specifies how to prevent relapse and when to seek help in an emergency. **REMOVE – Feedback received regarding difficulty accessing PAAP. To retain PAAP element at discharge, the focal point of the audit according to the HQIP NCAP spec.**
If yes, what information was available within the existing PAAP?	☐ Current medication and adherence *(go to Q2.4)* ☐ Triggers and exacerbating factors *(go to Q2.5)* ☐ Advice on taking current medication ☐ Advice on increasing medication (action points)	Select all that apply	MOSCOW rating = C NICE quality standard above. Not in BTS or RCEM datasets. **REMOVE - No evidence for asking about content of PAAP. Onerous and time consuming for audit participants and not asked by other asthma audits.**

	☐ Advice on calling for help ☐ Peak flow levels at which action should be taken ☐ A record of best personal peak expiratory flow (PEF) ☐ A record of best predicted peak expiratory flow (PEF) ☐ Not recorded		
Asthma medication on admission	☐ Short acting reliever inhaler (SABA) ☐ Inhaled steroid inhalers (ICS) ☐ Inhaled steroid as a combined ICS/LABA ☐ Long acting bronchodilators (LABA) ☐ Xolair ☐ Methotrexate ☐ Spacer inhaler device ☐ Leukotriene Receptor Antagonist ☐ Home nebuliser ☐ Not recorded	Select all that apply	MOSCOW rating = C BTS dataset asks about being on inhaled ICS before admission. Enables us to track if a change in medication was necessary as a result of attack/exacerbation and hospital admission. **REMOVE - No evidence for collecting in this detail and also not asked by other asthma audits. BTS dataset asks about ICS before admission – we could include this alone.**
Triggers and exacerbating factors identified for this patient prior to admission	☐ Food allergy ☐ Animal allergy ☐ Hay fever/allergic rhinitis ☐ Virus infection/URTIs ☐ Drugs ☐ Exercise ☐ Other Please specify_____ ☐ Not recorded	Select all that apply	MOSCOW rating = C Not in BTS or RCEM datasets, only that should form part of PAAP – not that it should be asked on admission. **NRAD** Health professionals must be aware of the factors that increase the risk of asthma attacks and death, including the significance of concurrent psychological and mental health issues. Not in BTS or RCEM datasets, only that should form part of PAAP – not that it should be asked on admission. Enables us to track if a change in triggers was identified during hospital admission. **REMOVE - No evidence specific to including these and not included in other asthma datasets.**

3. Acute presentation and admission			
Level of consciousness on admission	GCS Scale _ _ (1-15) ☐ Not recorded	Glasgow Come Scale (GCS) is a neurological scale which gives a reliable and objective record of conscious state of a person for initial as well as subsequent assessment. A patient is assessed against the criteria of the scale and a score out of 15 is given. Elements of the scale include eyes, verbal and motor responses. Enter a range of 1-15 only.	MOSCOW rating = S **RCEM dataset** Included in audit questions (considered vital sign – I think?) No BTS or NICE support. **REMOVE- Little/no evidence for inclusion. Severity of asthma/attack can be obtained from Peak Flow and Sp02.**
Date and time PEF measurement taken	Date of PEF _ _/_ _/ _ _ _ _ (dd/mm/yyyy) Time of PEF _ _/_ _ (24hr clock 00:00) ☐ Not recorded	Date and time should not be before date and time of arrival or admission.	MOSCOW rating = M **NICE quality statement 7:** Assessing severity *People with asthma who present with an exacerbation of their symptoms receive an objective measurement of severity at the time of presentation* Peak flow and Sp02 are recommended for doing this. **BTS guideline** Throughout the guideline peak flow is the recommended measurement system reference to for assessing asthma severity. **RCEM dataset** Included in audit questions **BTS Adult Asthma Audit** Included in dataset **REMOVE - Record of measurement considered enough information to obtain necessary information.**
Date and time Sp02 was taken	Date of Sp02 _ _/_ _/ _ _ _ _ (dd/mm/yyyy) Time of Sp02_ _/_ _ (24hr clock 00:00) ☐ Not recorded	Date and time should not be before date and time of arrival or admission.	MOSCOW rating = M **NICE quality statement 7:** Assessing severity *People with asthma who present with an exacerbation of their symptoms receive an objective measurement of severity at the time of presentation* Peak flow and Sp02 are recommended for doing this. **RCEM dataset**

			Included in audit questions **BTS Adult Asthma Audit** Included in dataset No BTS guideline or NICE support. **REMOVE - Record of measurement considered enough information to obtain necessary information.**
Was an objective measurement of asthma severity made on admission?	☐ Yes ☐ No ☐ Not recorded	Select one only	MOSCOW rating = M NICE quality statement 7: Assessing severity People with asthma who present with an exacerbation of their symptoms receive an objective measurement of severity at the time of presentation. Peak flow and Sp02 are recommended for doing this. BTS guideline Throughout the guideline peak flow is the recommended measurement system reference to for assessing asthma severity. RCEM dataset Included in audit questions. **REMOVE – Sufficient to have Peak flow and SpO2 recorded.**
If yes, severity of asthma measured	☐ Mild ☐ Moderate ☐ Severe ☐ Life threatening	Select one only Children (older than 5) Moderate: Sp02 ≥92%, PEF ≥50% best or predicted, able to talk, heart rate ≤125/minute, respiratory rate ≤30/minute Severe: Sp02 <92%, PEF 33-50% best or predicted, too breathless to talk, heart rate >125/minute, respiratory rate >30/minute, use of accessory neck muscles Life threatening: Sp02 <92% plus any of: PEF 33% best or predicted, silent chest, poor respiratory effort too, agitation,	MOSCOW rating = M **NICE quality statement 7:** Assessing severity *People with asthma who present with an exacerbation of their symptoms receive an objective measurement of severity at the time of presentation.* **BTS guideline** Diagrams on management of acute asthma in adults in hospital and ED include assessing asthma severity. **REMOVE – Sufficient to have Peak flow and SpO2 recorded.**

		confusion, cyanosis Adults Moderate: Sp02 ≥92%, PEF >50-75% best or predicted, no features of acute severe asthma Severe: Sp02 ≥92%, PEF <50% best or predicted, heart rate ≥110/minute, respiratory rate ≥25/minute, cannot complete sentence in 1 breath Life threatening: Sp02 <92% plus any of: silent chest, cyanosis, poor respiratory effort, arrhythmia, hypotension, exhaustion, altered consciousness	
Patient admitted to an Intensive Care Unit (ICU)	☐ Yes ☐ No ☐ Not recorded	Select one only.	MOSCOW rating = C No BTS guideline or NICE support. **REMOVE - No evidence to include and not used in other asthma audits.**
If yes, patient was ventilated in ICU	☐ Yes ☐ No ☐ Not recorded	Select one only.	MOSCOW rating = C No BTS guideline or NICE support. **REMOVE - No evidence to include and not used in other asthma audits.**
4. Management in hospital			
Was the patient reviewed by a member of respiratory medical team within 24 hours of admission?	☐ Yes ☐ No ☐ Not recorded	Select one only.	MOSCOW rating = S/C Could compare this with COPD? **REMOVE - No evidence/not applicable to asthma. COPD only.**
If yes, date and team of review	Date of assessment _ _/_ _/ _ _ _ _ (dd/mm/yyyy) Time of assessment _ _/_ _ (24hr clock 00:00)	Date and time should not be before date and time of arrival or admission.	MOSCOW rating = S/C **REMOVE – As above**

Assessment by a multidisciplinary severe asthma service offered	Date of assessment _ _/_ _/ _ _ _ _ (dd/mm/yyyy) Time of assessment _ _/_ _ (24hr clock 00:00) ☐ Not recorded ☐ Not offered		MOSCOW rating = S NICE quality statement 11: Difficult asthma People with difficult asthma are offered an assessment by a multidisciplinary difficult asthma service. NRAD Patients with asthma must be referred to a specialist asthma service if they have required more than two courses of systemic corticosteroids, oral or injected, in the previous 12 months or require management using British Thoracic Society (BTS) stepwise treatment 4 or 5 to achieve goal. BTS guideline Patients with difficult asthma should be systematically evaluated, including: - confirmation of the diagnosis of asthma, and - identification of the mechanism of persisting symptoms and assessment of adherence to therapy. This assessment should be facilitated through a dedicated multidisciplinary difficult asthma service, by a team experienced in the assessment and management of difficult asthma. **REMOVE: Although would be interesting, not a priority for audit due to requirement of refined continuous dataset.**
Best PEF recorded in 24 hours pre-discharge	__L/min __% best ☐ Not recorded	Range 1-100%	MOSCOW rating = S BTS guideline Measure and record PEF 15–30 minutes after starting treatment, and thereafter according to the response. Measure and record PEF before and after nebulised or inhaled β2 agonist. BTS/SIGN 8.4 BTS Adult Asthma Audit Included in dataset No NICE support.

			REMOVE – The BTS guidelines are that PEF should be >75%predicted prior to discharge and using %best will not allow the audit to capture this data. To remove to ensure reduced dataset as only purpose is to ensure patient is discharged correctly.
Lowest PEF recorded in 24 hours pre-discharge	__L/min __% best ☐ Not recorded	Range 1-100%	MOSCOW rating = M **BTS guideline** Measure and record PEF 15–30 minutes after starting treatment, and thereafter according to the response. Measure and record PEF before and after nebulised or inhaled β2 agonist. BTS/SIGN 8.4 **BTS Adult Asthma Audit** Included in dataset No NICE support. **REMOVE – Does not seem to adhere to standard.**
5. Review and discharge			
Type of asthma at discharge from your hospital	☐ Allergic asthma ☐ Late Onset asthma ☐ Brittle asthma ☐ Occupational asthma ☐ Seasonal asthma ☐ Aspirin sensitive asthma ☐ Infective asthma ☐ Eosinophilic asthma ☐ Fungal asthma ☐ Other Please specify_____ ☐ Not recorded	Select all that apply Allergic asthma: where there is specific allergic triggers for the patients asthma Late onset asthma: adult onset asthma with no previous history Brittle asthma: Type 1: wide PEF variability (>40% diurnal variation for >50% of the time over a period of >150 days) despite intense therapy. Type 2: sudden severe attacks on the background of apparently well controlled asthma) Occupational asthma: where substances found in the workplace cause asthma symptoms, attacks and exacerbations Seasonal asthma: asthma only experiences at certain times of year	MOSCOW rating = S **NICE quality statement 2: Diagnosing occupational asthma** Adults with new onset asthma are assessed for occupational cause No BTS or NICE support. Enables us to track if change in diagnosis/type of asthma was made during admission. **REMOVE - Although would be interesting, not a priority for audit due to requirement of refined continuous dataset.**

		Aspirin sensitive asthma: medications such as non-steroidal anti-inflammatory drugs (NSAIDS) or aspirin cause asthma symptoms, attacks and exacerbations Infective asthma: asthma caused by an infection Eosinophilic asthma: Fungal asthma:	
Structured review by a member of the specialist respiratory team prior to discharge?	☐ Yes ☐ No ☐ Self-discharge	Select one only. A team in which the clinical lead is a respiratory consultant (adult or paediatric) or specialist with an interest in respiratory disease (adult or paediatric) or a trained specialist nurse with expertise in managing asthma. The review should include: • An assessment of events leading up to the attack (including exposure to triggers, adherence and inhaler technique • review of written personalised asthma action plan (PAAP) review of regular treatment including considering whether this needs to be changed.	MOSCOW rating = M **NICE quality statement 9:** Specialist review *People admitted to hospital with an acute exacerbation of asthma have a structured review by a member of the specialist respiratory team before discharge* **BTS Adult Asthma Audit** Included in dataset **REMOVE - Considered the same as a discharge bundle being carried out.**
If yes, date and time of review	Date of review _ _/_ _/ _ _ _ _ (dd/mm/yyyy) Time of review _ _/_ _ (24hr clock 00:00)	Date and time should not be before date and time of dates and times entered into sections, 1, 2, 3 or 4.	MOSCOW rating = M Enables investigation into how long reviews take to happen and if there is a delay between this and discharge of the patient (potential issues with social care etc) **REMOVE - Considered the same as a discharge bundle being carried out.**
Asthma medication at discharge from your hospital	☐ Short acting reliever inhaler (SABA) ☐ Inhaled corticosteroid inhalers (ICS) ☐ Inhaled corticosteroid as a combined	Select all that apply.	MOSCOW rating = C Enables us to track if change in medication was required

	ICS/LABA ☐ Long acting bronchodilators (LABA) ☐ Xolair ☐ Methotrexate ☐ Spacer inhaler device ☐ Leukotriene Receptor Antagonist ☐ Home nebuliser ☐ Other Please specify _____ ☐ Not recorded		following admission. **REMOVE: Inclusion of 5.10 enough. Potentially only collected ICS on arrival instead of what was 2.4 so 5.10 would link to this?**
Regular inhaled corticosteroid step-up treatment prescribed at discharge from your hospital?	☐ Yes ☐ No ☐ Not recorded	Select one only	MOSCOW rating = S **REMOVE - Considered part of medication review within discharge bundle.**
Has a review of inhaled corticosteroid treatment before discharge for this patient been documented?	☐ Yes ☐ No	Select one only Evidence within the notes that the patients inhaled corticosteroid treatment was reviewed and/or changed prior to discharge for this admission.	**BTS Adult Asthma Audit** Included in dataset **BTS guideline** Clinicians should be aware that higher doses of inhaled corticosteroids may be needed in patients who are smokers or ex-smokers. Prevention of readmissions = decreases the risk of future exacerbations. **REMOVE - Considered part of medication review within discharge bundle.**
Triggers and exacerbating factors identified upon discharge for this admission	☐ Food allergy ☐ Animal allergy ☐ Hay fever/allergic rhinitis ☐ Virus infection/URTIs ☐ Drugs ☐ Exercise	Select all that apply	MOSCOW rating = C **NICE quality standard 2: Diagnosing occupational asthma** Adults with new onset asthma are assessed for occupational cause

	☐ Other Please specify_____		Enables comparisons with triggers identified prior to attack/exacerbation and acute admission. **REMOVE –Triggers asked within discharge bundle question.**
If current smoker, was the patient prescribed smoking-cessation pharmacotherapy during the current admission? (e.g. NRT, varenicline)	☐ Not recorded ☐ Offered by declined ☐ No ☐ Yes	Select one only	MOSCOW rating = S Consistency with COPD dataset **BTS guideline** Clinicians should be aware that higher doses of inhaled corticosteroids may be needed in patients who are smokers or ex-smokers BTS/SIGN 6.2.4 **REMOVE - Smoking cessation already covered within discharge bundle question.**
6. Transition of care			
Has the patient been recently referred to adult care?	☐ Yes ☐ No ☐ Not recorded	Select one only	MOSCOW rating = S **REMOVE – Deemed unnecessary for clinical dataset. Questions have been incorporated into organisational dataset.**
If yes, is there	☐ evidence that the young person has a full record of their condition? ☐ evidence that the GP had the same record? ☐ evidence that the young person has a transition plan that he/she has worked on with Paed and adult clinicians ☐ evidence that young person has a named case worker to assist in signposting for them and their family. ☐ Not recorded	Select all that apply	MOSCOW rating = S **BTS guideline** In the initial period after transition to adult services in secondary care, adolescents are best seen by one consultant to build their confidence and encourage attendance. (Page 122) **REMOVE – Deemed unnecessary for clinical dataset. Questions have been incorporated into organisational dataset.**
Was a referral letter drafted and sent to community service/specialist performing follow up?	☐ Yes ☐ No		**REMOVE – Deemed unnecessary for clinical dataset. Questions have been incorporated into organisational dataset.**

If yes, what elements were included in the referral letter?	☐ Medications (current and recent changes) ☐ Compliance (asthma control?) ☐ Best PEF ☒ Exacerbation history i.e. dates and prescriptions of steroids ☐ Previous admissions and ED visits ☐ Annual review information ☐ Smoking history ☐ Evidence of variability (how diagnosis was made) ☐ Triggers and exacerbating factors identified ☐ Associated atopy		**REMOVE – Deemed unnecessary for clinical dataset. Questions have been incorporated into organisational dataset.**

Appendix 14: Removed questions: Secondary care audit - paediatric clinical dataset

Question	Response	Helpnotes	Rationale REASON FOR REMOVAL
1. Generic questions			
Height			MOSCOW rating = M Ensures that the correct doses of medication are being given and prescribed for the children height and weight. **REMOVE - Dosages not being asked and only minimal questions on medication. No evidence for inclusion and not asked in other asthma audits.**
Weight			MOSCOW rating = M Ensures that the correct doses of medication are being given and prescribed for the children height and weight. **REMOVE - Dosages not being asked and only minimal questions on medication. No evidence for inclusion and not asked in other asthma audits.**
Date and time of admission at your hospital	Date of admission to unit _ _/_ _/ _ _ _ _ (dd/mm/yyyy) Time of admission to unit _ _/_ _ (24hr clock 00:00)	Cannot be before date and time of arrival.	MOSCOW rating = M Consistency with COPD audit dataset. To ensure that analysis can take place against individual time pressured metrics and enables investigation into length of stay etc. **REMOVE - Time of arrival adequate for analysis of time pressured metrics (steroids).**

Route of referral to your hospital for this admission?	☐ Ambulance ☐ Another hospital ☐ Advised by GP ☐ Advised by NHS 111 ☐ Self/Parental referral ☐ Minor Injury Unit ☐ Walk-in Centre ☐ Other Please specify_____ ☐ Not recorded	Select one only.	MOSCOW rating = C No NICE or BTS to support. **REMOVE - No evidence and not collected by other asthma audits.**
Did this patient have a record of being under Child and Adolescent Mental Health Services (CAMHS)?	☐ Yes ☐ No ☐ Not recorded	Select one only.	MOSCOW rating = S **RCEM dataset** Included in dataset Evidence to consideration given to psychosocial factors in adults prior to discharge. **BTS guideline** Healthcare professionals must be aware that patients with severe asthma and one or more adverse psychosocial factors are at risk of death. BTS/SIGN 8.1.3 **BTS Adult Asthma Audit** Included in dataset. **NRAD** Health professionals must be aware of the factors that increase the risk of asthma attacks and death, including the significance of concurrent psychological and mental health issues. NOTE: Would using a screening tool such as the PHQ-2 which is a two item question which enquires about the degree to which

			an individual has experienced depressed mood and anhedonia over the past two weeks be more appropriate? Would obtaining this information be more time consuming/onerous than the current question? Is this type of tool something that is consistently and reliably used? **REMOVE - Can capture via outcomes data (HES APC – Diagnosis).**
Did this patient have a recorded learning disability?	☐ Yes ☐ No ☐ Not recorded		**RCEM dataset** Included in dataset Evidence to consideration given to psychosocial factors in adults prior to discharge. **BTS guideline** Healthcare professionals must be aware that patients with severe asthma and one or more adverse psychosocial factors are at risk of death. BTS/SIGN 8.1.3 **NRAD** Health professionals must be aware of the factors that increase the risk of asthma attacks and death, including the significance of concurrent psychological and mental health issues. **REMOVE - Can capture via outcomes data (HES APC – Diagnosis).**
Was this child known to social services?	☒ Yes ☐ No ☐ Not recorded	Paediatric only	MOSCOW rating = C 14% of children in NRAD were known to social services. No NICE or BTS to support. Not in RCEM dataset.

			REMOVE - No evidence and not collected by other asthma audits. 14% of children in NRAD known to social services as only relatively small number.
Was this child subject to an existing child protection plan?	☐ Yes ☐ No ☐ Not recorded	Paediatric only	MOSCOW rating = C No NICE or BTS to support. Not in RCEM dataset. **REMOVE – No evidence and not collected by other asthma audits.**
Type of asthma at the time of this admission	☐ Allergic asthma ☐ Brittle asthma ☐ Occupational asthma ☐ Seasonal asthma ☐ Aspirin sensitive asthma ☐ Infective asthma ☐ Eosinophilic asthma ☐ Fungal asthma ☐ Other Please specify_____ ☐ Not recorded	Select all that apply.	MOSCOW rating = S This will enable us to track if a change in diagnosis was made during the admission. No NICE or BTS to support asking this. Not in RCEM dataset. **REMOVE - No evidence and not asked in other audits. Kept in discharge as shows that review and triggers collected and used to make informed (re)diagnosis.**
Had asthma been diagnosed prior to this admission?	☐ Yes ☐ No ☐ Not recorded *If no or Not recorded proceed to section 3.*	Select one only	MOSCOW rating = S **BTS Paediatric Asthma Audit** Included in dataset **REMOVE - Although interesting not a priority for refined continuous dataset.**
Is there a history of atopy?	☐ Yes ☐ No ☐ Not recorded	Tendency to present with allergic diseases such as allergic rhinitis (hay fever), food allergy and atopic dermatitis (eczema). **Atopy** is typically associated with heightened immune responses to common allergens, especially inhaled allergens and food allergens.	No NICE or BTS to support asking this. Not in RCEM dataset. **REMOVE - A lot of mention of atopy throughout the guideline but no specific recommendations, guidance or standards.**

Is there a family history of any of the following?	☐ Diabetes ☐ Obesity ☐ Hypertension ☐ Coronary heart disease ☐ Stroke ☐ Heart failure ☐ Painful conditions (determined by repeat prescribed analgesics) ☐ Lung cancer ☐ COPD ☐ Asthma ☐ Bronchiectasis ☐ Osteoporosis ☐ Other Please specify_____ ☐ None ☐ Not recorded		No NICE or BTS to support asking this. Not in RCEM dataset. **REMOVE – No evidence and not collected in other asthma audits and time consuming to complete.**
Last known ACT score	_ _ (5-25)	A patient self-administered tool for identifying those with poorly controlled **asthma**. The **scores** range from 5 (poor control of **asthma**) to 25 (complete control of **asthma**), with higher **scores** reflecting greater **asthma** control. An **ACT score** >19 indicates well-controlled **asthma**.	No NICE or BTS to support asking this. Not in RCEM dataset. Again, a lot of mention of 'symptom scores' throughout the guideline but no specific recommendations. **REMOVE- No evidence for inclusion and not used in any other asthma audits. Does not appear to be paediatric specific and cannot be used for under 12s? Also, seems to be GSK test and need to be careful with pharma endorsement.**
Did the patient have a Personalised Asthma Action Plan (PAAP) in place at the time of this admission?	☐ Yes ☐ No ☐ Not recorded	Select one only A formal record and effective self-management document which contains information and advice on a specific	MOSCOW rating = S **NICE quality standard 3:** Written personalised action plans People with asthma receive a written personalised action plan.

		patient's asthma. Components of the PAAP are: • Medication and inhaler techniques • Advice on medication and when this should be increased • Triggers and exacerbating factors • Advice on peak flow levels (best and worst) • Advice on how to recognise loss of control and when help should be sought • Actions to take if asthma deteriorates This document should be reviewed and updated at each annual asthma review and following each acute asthma episode.	**BTS guideline** All people with asthma (and/or their parents or carers) should be offered self-management education which should include a written personalised asthma action plan and be supported by regular professional review. 5.2.2 (A) **NRAD** All people with asthma should be provided with written guidance in the form of a personal asthma action plan (PAAP) which details their own triggers and current treatment, and specifies how to prevent relapse and when to seek help in an emergency. **REMOVE - Although interesting not a priority for refined continuous dataset.**
If yes, what information was available within the existing PAAP?	☐ Current medication *(go to Q2.4)* ☐ Triggers and exacerbating factors *(go to Q2.5)* ☐ Advice on taking current medication ☐ Advice on increasing medication (action points) ☐ Advice on calling for help ☐ Peak flow levels at which action should be taken ☐ A record of best personal peak expiratory flow (PEF) ☐ A record of best predicted peak expiratory flow (PEF) ☐ Not recorded	Select all that apply	MOSCOW rating = C NICE quality standard above. Not in BTS or RCEM datasets. **REMOVE - No evidence for asking for content of PAAP, onerous and time consuming for audit participants and not asked by other asthma audits.**

Asthma medication on admission	☐ Short acting reliever inhaler (SABA) ☐ Inhaled corticosteroid inhalers (ICS) ☐ Inhaled corticosteroid as a combined ICS/LABA ☐ Long acting bronchodilators (LABA) ☐ Xolair ☐ Methotrexate ☐ Spacer inhaler device ☐ Leukotriene Receptor Antagonist ☐ Home nebuliser ☐ Not recorded	Select all that apply	MOSCOW rating = C BTS dataset asks about being on inhaled ICS before admission. Enables us to track if a change in medication was necessary as a result of attack/exacerbation and hospital admission. **REMOVE - No evidence for collecting in this detail and not asked by other asthma audits. BTS dataset asks about ICS before admission – we could include this alone.**
How many of the following have been prescribed in the last 12 months?	Courses of steroids _ _ Inhaled corticosteroid inhalers (ICS) _ _ β2 agonist _ _		**NRAD** All asthma patients who have been prescribed more than 12 short-acting reliever inhalers in the previous 12 months should be invited for urgent review of their asthma control, with the aim of improving their asthma through education and change of treatment if required. **REMOVE - Little or no evidence for inclusion. Not included in any other asthma audits. Very time consuming and onerous to collect.**
Triggers and exacerbating factors identified for this patient prior to admission	☐ Food allergy ☐ Animal allergy ☐ Hay fever/allergic rhinitis ☐ Virus infection/URTIs ☐ Drugs ☐ Exercise ☐ Other Please specify_____	Select all that apply	MOSCOW rating = C **NRAD** Health professionals must be aware of the factors that increase the risk of asthma attacks and death, including the significance of concurrent psychological and mental health issues. Not in BTS or RCEM datasets, only that

	☐ Not recorded		should form part of PAAP – not that it should be asked on admission. Enables us to track if a change in triggers was identified during hospital admission. **REMOVE- No evidence specific to including these and not included in other asthma datasets.**
Number of A&E visits and hospital admissions in the last 12 months	_ _ A&E visits _ _ hospital admissions		**BTS Paediatric Asthma Audit** Included in dataset **REMOVE - As continuous audit, hospital admissions will be captured through previous submissions. Can A&E visits be captured via linkage instead?**
Smoking status of patient, as document for the current admission	☐ Not recorded ☐ Never smoked ☐ Ex-smoker ☐ Current smoker	Select one only	MOSCOW rating = S Consistency with COPD dataset **BTS Paediatric Asthma Audit** Included in dataset **BTS guideline** Parents with asthma should be advised about the dangers, to themselves and to their children with asthma, of smoking, and be offered appropriate support to stop smoking. **NRAD** A history of smoking and/or exposure to second-hand smoke should be documented in the medical records of all people with asthma. Current smokers should be offered referral to a smoking-cessation service. **REMOVE - Not deemed appropriate to ask of paediatric patients, but smoking**

			cessation section will remain in discharge bundle for 6-18 year olds. If prescribed, this would provide enough information to suggest a child smoked at time of admission.
If current smoker, was the patient prescribed smoking-cessation pharmacotherapy during the current admission? (e.g. NRT, varenicline)	☐ Not recorded ☐ Offered by declined ☐ No ☐ Yes	Select one only	MOSCOW rating = S Consistency with COPD dataset **BTS guideline** Clinicians should be aware that higher doses of inhaled corticosteroids may be needed in patients who are smokers or ex-smokers BTS/SIGN 6.2.4 **REMOVE - Smoking cessation already covered within discharge bundle question.**
3. Acute presentation and admission			
Level of consciousness on admission	GCS Scale _ _ (1-15) ☐ Not recorded	Glasgow Come Scale (GCS) is a neurological scale which gives a reliable and objective record of conscious state of a person for initial as well as subsequent assessment. A patient is assessed against the criteria of the scale and a score out of 15 is given. Elements of the scale include eyes, verbal and motor responses. Enter a range of 1-15 only.	MOSCOW rating = S **RCEM dataset** Included in audit questions (considered vital sign – I think?) No BTS or NICE support. **REMOVE - Little/no evidence for inclusion. Severity of asthma/attack can be obtained from Peak Flow and Sp02.**
PEWS(R)/Asthma Severity Score	_ _ _ (Range?)		**REMOVE - Little/no evidence for inclusion and not included in any other asthma audits. Equivalent (NEWS/MEWS) not being added to adult form.**
Date and time PEF measurement taken (children 5 and over only)	Date of PEF _ _/_ _/ _ _ _ _ (dd/mm/yyyy) Time of PEF _ _/_ _ (24hr clock 00:00)	Date and time should not be before date and time of arrival or admission.	MOSCOW rating = M **NICE quality statement 7:** Assessing severity *People with asthma who present with an exacerbation of their symptoms receive an*

	☐ Not recorded		*objective measurement of severity at the time of presentation* Peak flow and Sp02 are recommended for doing this. **BTS guideline** Throughout the guideline peak flow is the recommended measurement system reference to for assessing asthma severity. **RCEM dataset** Included in audit questions **BTS Paediatric Asthma Audit** Included in dataset **REMOVE - Record of measurement considered enough to obtain necessary information.**
Date and time Sp02 was taken	Date of Sp02 _ _/_ _/ _ _ _ _ (dd/mm/yyyy) Time of Sp02_ _/_ _ (24hr clock 00:00) ☐ Not recorded	Date and time should not be before date and time of arrival or admission.	MOSCOW rating = M **NICE quality statement 7:** Assessing severity *People with asthma who present with an exacerbation of their symptoms receive an objective measurement of severity at the time of presentation* Peak flow and Sp02 are recommended for doing this. **RCEM dataset** Included in audit questions **BTS Paediatric Asthma Audit** Included in dataset **REMOVE - Record of measurement considered enough information to obtain necessary information.**
Was an objective measurement of asthma severity made on admission?	☐ Yes ☐ No ☐ Not recorded	Select one only	MOSCOW rating = M **NICE quality statement 7:** Assessing severity *People with asthma who present with an exacerbation of their symptoms receive an*

			objective measurement of severity at the time of presentation. Peak flow and Sp02 are recommended for doing this. **BTS guideline** Throughout the guideline peak flow is the recommended measurement system reference to for assessing asthma severity. **RCEM dataset** Included in audit questions. **REMOVE – Although interesting, sufficient to have Peak flow and SpO2 recorded.**
If yes, severity of asthma measured	☐ Mild ☐ Moderate ☐ Severe ☐ Life threatening	Select one only Children 2-5 years Moderate: Sp02 ≥92%, able to talk, heart rate ≤140/minute, respiratory rate ≤40 minute Severe: Sp02 <92%, too breathless to talk, heart rate >140/minute, respiratory rate >40 minute, use of accessory neck muscles Life threatening: Sp02 <92%, silent chest, poor respiratory effort, agitation, confusion, cyanosis Children (older than 5) Moderate: Sp02 ≥92%, PEF ≥50% best or predicted, able to talk, heart rate ≤125/minute, respiratory rate ≤30/minute Severe: Sp02 <92%, PEF 33-50% best or predicted, too breathless to talk, heart rate >125/minute, respiratory rate >30/minute, use of accessory neck muscles	MOSCOW rating = M **NICE quality statement 7:** Assessing severity *People with asthma who present with an exacerbation of their symptoms receive an objective measurement of severity at the time of presentation.* **BTS guideline** Diagrams on management of acute asthma in children in hospital and ED include assessing asthma severity. **REMOVE – Although interesting, sufficient to have Peak flow and SpO2 recorded.**

		Life threatening: Sp02 <92% plus any of: PEF 33% best or predicted, silent chest, poor respiratory effort too, agitation, confusion, cyanosis	
High dose β2 agonist bronchodilator administered	Date of β2 agonist _ _/_ _/ _ _ _ _ (dd/mm/yyyy) Time of β2 agonist _ _/_ _ (24hr clock 00:00) ☐ Not recorded ☐ Not administered	Date and time should not be before date and time of arrival or admission.	MOSCOW rating = M **BTS guidelines** 2.6.1 (A) Use high-dose inhaled B2 agonists as first-line agents in patients with acute asthma and administered as early as possible. 2.6.2 (A) Inhaled B2 agonists are the first line treatment for acute asthma in children. **RCEM dataset** (within 10 minutes) High dose nebulised β2 agonists bronchodilator should be given within 10 minutes of arrival at ED **BTS Paediatric Asthma Audit** Included in dataset Enables timings of administration to be measured. **REMOVE - Combine with nebuliser question.**
Patient admitted to an Paediatric Intensive Care Unit (PICU)	☐ Yes ☐ No ☐ Not recorded	Select one only.	MOSCOW rating = C No BTS guideline or NICE support. **BTS Paediatric Asthma Audit** Included in dataset **REMOVE- No evidence to include, and not used in other asthma audits.**
If yes, patient was ventilated in PICU	☐ Yes ☐ No ☐ Not recorded	Select one only.	MOSCOW rating = C No BTS guideline or NICE support. **BTS Paediatric Asthma Audit** Included in dataset

			REMOVE - No evidence to include, and not used in other asthma audits.
4. Management in hospital			
Assessment by a multidisciplinary severe asthma service offered	Date of assessment _ _/_ _/ _ _ _ _ (dd/mm/yyyy) Time of assessment _ _/_ _ (24hr clock 00:00) ☐ Not recorded ☐ Not offered		MOSCOW rating = S **NICE quality statement 11:** Difficult asthma *People with difficult asthma are offered an assessment by a multidisciplinary difficult asthma service.* NRAD Patients with asthma must be referred to a specialist asthma service if they have required more than two courses of systemic corticosteroids, oral or injected, in the previous 12 months or require management using British Thoracic Society (BTS) stepwise treatment 4 or 5 to achieve goal. **BTS guideline** Patients with difficult asthma should be systematically evaluated, including: - confirmation of the diagnosis of asthma, and - identification of the mechanism of persisting symptoms and assessment of adherence to therapy. This assessment should be facilitated through a dedicated multidisciplinary difficult asthma service, by a team experienced in the assessment and management of difficult asthma. **REMOVE - Not applicable for paediatrics.**
Best PEF recorded in 24 hours pre-discharge (children 5 and over only)	__L/min __% best ☐ Not recorded	Range 1-100% Shuaib – can you add more clinical detail please.	MOSCOW rating = S **BTS guideline** Measure and record PEF 15–30 minutes after starting treatment, and thereafter according to the response. Measure and

			record PEF before and after nebulised or inhaled β2 agonist. BTS/SIGN 8.4 No NICE support. **REMOVE – The BTS guidelines are that PEF should be >75%predicted prior to discharge and using %best will not allow the audit to capture this data. To remove to ensure reduced dataset as only purpose is to ensure patient is discharged correctly.**
Lowest PEF recorded in 24 hours pre-discharge (children 5 and over only)	__L/min __% best ☐ Not recorded	Range 1-100% Shuaib – can you add more clinical detail please.	MOSCOW rating = M **BTS guideline** Measure and record PEF 15–30 minutes after starting treatment, and thereafter according to the response. Measure and record PEF before and after nebulised or inhaled β2 agonist. BTS/SIGN 8.4 No NICE support. **REMOVE – Although interesting, does not seem to adhere to standard.**
5. Review and discharge			
Was a referral to a specialist made following this admission?	☐ Yes ☐ No ☐ Not recorded		**REMOVE - Unsure how this question is different to the element included within the discharge bundle question.**
If yes, what of the following criteria were fulfilled in order to make this referral?	☐ Increased ICS dosage ☐ Decreased number of ICS inhalers ☐ Increased β2 agonist ☐ Increased number of courses of oral steroids ☐ Increased number of A&E visits		**NRAD** Patients with asthma must be referred to a specialist asthma service if they have required more than two courses of systemic corticosteroids, oral or injected, in the previous 12 months. The use of combination inhalers should be encouraged.Where long-acting beta agonist (LABA) bronchodilators are prescribed for

			people with asthma, they should be prescribed with an inhaled corticosteroid in a single combination inhaler. **REMOVE - All patients are given appointment post discharge. No/little evidence for inclusion. Not asked by other asthma audits.**
Type of asthma at discharge from your hospital	☐ Allergic asthma ☐ Brittle asthma ☐ Occupational asthma ☐ Seasonal asthma ☐ Aspirin sensitive asthma ☐ Infective asthma ☐ Eosinophilic asthma ☐ Fungal asthma ☐ Other Please specify_____ ☐ Not recorded	Select all that apply Allergic asthma: where there is specific allergic triggers for the patients asthma Brittle asthma: Type 1: wide PEF variability (>40% diurnal variation for >50% of the time over a period of >150 days) despite intense therapy. Type 2: sudden severe attacks on the background of apparently well controlled asthma) Occupational asthma: where substances found in the workplace cause asthma symptoms, attacks and exacerbations Seasonal asthma: asthma only experiences at certain times of year Aspirin sensitive asthma: medications such as non-steroidal anti-inflammatory drugs (NSAIDS) or aspirin cause asthma symptoms, attacks and exacerbations Infective asthma: asthma caused by an infection Eosinophilic asthma: Fungal asthma:	MOSCOW rating = S **NICE quality standard 2: Diagnosing occupational asthma** Adults with new onset asthma are assessed for occupational cause No BTS or NICE support. Enables us to track if change in diagnosis/type of asthma was made during admission. **REMOVE - Although would be interesting, not a priority for audit due to requirement of refined continuous dataset.**
Structured review by a member of the specialist respiratory team prior to discharge?	☐ Yes ☐ No ☐ Self-discharge	Select one only. A team in which the clinical lead is a respiratory consultant (adult or paediatric) or specialist with an interest in	MOSCOW rating = M **NICE quality statement 9:** Specialist review *People admitted to hospital with an acute exacerbation of asthma have a structured*

		respiratory disease (adult or paediatric) or a trained specialist nurse with expertise in managing asthma. The review should include: • An assessment of events leading up to the attack (including exposure to triggers, adherence and inhaler technique • review of written personalised asthma action plan (PAAP) review of regular treatment including considering whether this needs to be changed.	*review by a member of the specialist respiratory team before discharge* **REMOVE - Considered the same as a discharge bundle being carried out.**
If yes, date and time of review	Date of review _ _/_ _/ _ _ _ _ (dd/mm/yyyy) Time of review _ _/_ _ (24hr clock 00:00)	Date and time should not be before date and time of dates and times entered into sections, 1, 2, 3 or 4.	MOSCOW rating = M Enables investigation into how long reviews take to happen and if there is a delay between this and discharge of the patient (potential issues with social care etc) **REMOVE - Considered the same as a discharge bundle being carried out.**
Was the patient referred for assessment by a multidisciplinary severe asthma service?	Date of assessment _ _/_ _/ _ _ _ _ (dd/mm/yyyy) Time of assessment _ _/_ _ (24hr clock 00:00) ☐ Not recorded ☐ Not offered ☐ Patient was already under the care of severe asthma service		MOSCOW rating = S **NICE quality statement 11:** Difficult asthma *People with difficult asthma are offered an assessment by a multidisciplinary difficult asthma service.* NRAD Patients with asthma must be referred to a specialist asthma service if they have required more than two courses of systemic corticosteroids, oral or injected, in the previous 12 months or require management using British Thoracic Society (BTS) stepwise treatment 4 or 5 to achieve goal. **BTS guideline** Patients with difficult asthma should be

			systematically evaluated, including: - confirmation of the diagnosis of asthma, and - identification of the mechanism of persisting symptoms and assessment of adherence to therapy. This assessment should be facilitated through a dedicated multidisciplinary difficult asthma service, by a team experienced in the assessment and management of difficult asthma. **REMOVE - Not applicable for paediatrics.**
Asthma medication at discharge from your hospital	☐ Short acting reliever inhaler (SABA) ☐ Inhaled steroid inhalers (ICS) ☐ Inhaled steroid as a combined ICS/LABA ☐ Long acting bronchodilators (LABA) ☐ Xolair ☐ Methotrexate ☐ Spacer inhaler device ☐ Leukotriene Receptor Antagonist ☐ Home nebuliser ☐ Other Please specify _____ ☐ Not recorded	Select all that apply.	MOSCOW rating = C Enables us to track if change in medication was required following admission. **REMOVE - Inclusion of 5.10 enough. Potentially only collected ICS on arrival instead of what were 2.4 so 5.10 would link to this?**
Regular inhaled corticosteroid step-up treatment prescribed at discharge from your hospital?	☐ Yes ☐ No ☐ Not recorded	Select one only	MOSCOW rating = S ? **REMOVE - Considered part of medication review within discharge bundle.**

Triggers and exacerbating factors identified upon discharge for this admission	☐ Food allergy ☐ Animal allergy ☐ Hay fever/allergic rhinitis ☐ Virus infection/URTIs ☐ Drugs ☐ Exercise ☐ Other Please specify_____	Select all that apply	MOSCOW rating = C **NICE quality standard 2: Diagnosing occupational asthma** Adults with new onset asthma are assessed for occupational cause Enables comparisons with triggers identified prior to attack/exacerbation and acute admission. **REMOVE - Triggers included within discharge bundle question.**
6. Transition of care			
Has the patient been recently referred to adult care?	☐ Yes ☐ No ☐ Not recorded	Select one only	MOSCOW rating = S **REMOVE - Not necessary for continuous clinical audit.**
If yes, is there	☐ evidence that the young person has a full record of their condition? ☐ evidence that the GP had the same record? ☐ evidence that the young person has a transition plan that he/she has worked on with Paed and adult clinicians ☐ evidence that young person has a named case worker to assist in signposting for them and their family. ☐ Not recorded	Select all that apply	MOSCOW rating = S **BTS guideline** In the initial period after transition to adult services in secondary care, adolescents are best seen by one consultant to build their confidence and encourage attendance. (Page 122) **REMOVE - Not relevant for clinical dataset and to be included in organisational dataset.**
Was a referral letter drafted and sent to community service/specialist performing follow up?	☐ Yes ☐ No		REMOVE: No referral required as mist will be followed up at the same hospital, but should assess these components in a GP referral letter. **REMOVE - No referral required as most will be followed up at same hospital but should**

			assess these components in GP referral letter.
If yes, what elements were included in the referral letter?	☐ Medications (current and recent changes) ☐ Compliance (asthma control?) ☐ Best PEF ☐ Exacerbation history i.e. dates and prescriptions of steroids ☐ Previous admissions and ED visits ☐ Annual review information ☐ Smoking history ☐ Evidence of variability (how diagnosis was made) ☐ Triggers and exacerbating factors identified ☐ Associated atopy		**REMOVE - No referral required as most will be followed up at same hospital but should assess these components in GP referral letter.**

Appendix 15: Removed questions: Secondary care audit - adult org. dataset

Question	Category	Help note
Section 1: Admissions, staffing levels, general organisation of care		
Do any of the consultant acute physicians have an interest in respiratory medicine? • Yes • No • Not know	*COPD and Asthma*	**NOTE - Question will potentially be removed from the next audit due to lack of clarity around what defines interest and what if only 1/20 etc.**
Section 5: Integrating care across primary and secondary sectors		
Are COPD discharge bundles used for COPD patients discharged from your hospital following exacerbation, and if so which elements of care do they cover (tick all that apply)? • No • Smoking cessation advice • Assessment of suitability for pulmonary rehabilitation • Written COPD patient information • Satisfactory use of inhalers demonstrated and understood • Confirmation of follow-up arrangements after discharge • Other (please specify) **OPTION 1: AMENDED QUESTION** **Are discharge bundles used for COPD and asthma patients discharged from your hospital following exacerbation?** • COPD patients	*Asthma and COPD/COPD only*	*An example would include the BTS discharge bundle or similar.* **For asthma** **NICE quality statement 3: Written personalised action plans** **NICE quality statement 4: Inhaler technique** **NICE quality statement 6: Assessing asthma control** **NICE quality statement 10: Follow up on Primary Care** **BTS guideline** Before initiating a new drug therapy practitioners should check adherence with existing therapies, inhaler technique and eliminate trigger factors. Inhaled corticosteroids are the recommended preventer drug for adults and children for achieving overall treatment goals. BTS/SIGN 2.4 Prescribe inhalers only after patients have received training in the use of the device and have demonstrated satisfactory technique. BTS/SIGN 2.5 and 7.1 Adherence to long-term asthma treatment should be routinely and regularly addressed by all healthcare professionals within the context of a comprehensive programme of accessible proactive asthma care. BTS/SIGN 2.2 Before initiating a new drug therapy practitioners should check adherence with existing therapies, inhaler technique and eliminate trigger factors. BTS/SIGN 2.4 Prior to discharge, inpatients should receive written personalised asthma action plans, given by healthcare professionals with expertise in providing asthma education. BTS/SIGN 2.2 Follow up should be arranged prior to discharge with the patient's general practitioner or

• Asthma patients • No **If yes, which elements of care do they cover (tick all that apply)?** [Following list to appear if COPD patients selected] • Smoking cessation advice • Assessment of suitability for pulmonary rehabilitation • Written COPD patient information • Satisfactory use of inhalers demonstrated and understood • Confirmation of follow-up arrangements after discharge • Other (please specify) [Following list to appear if asthma patients selected] • Review of triggers and exacerbating factors • Medication assessment • Review of inhaler technique • Personal (Written) Asthma Action Plan (PAAP) • Smoking cessation advice • Follow up arrangements (with Primary care and specialist if necessary)		asthma nurse within two working days and with a hospital specialist asthma nurse or respiratory physician at about one month after admission. BTS/SIGN 8.6.3 A hospital admission represents a window of opportunity to review self-management skills. No patient should leave hospital without a written personalised asthma action plan. (Page 43) **NRAD – see recommendations on:** Personal asthma action plans (PAAP) which details their own triggers and current treatment, and specifies how to prevent relapse and when to seek help in an emergency. Follow-up arrangements. Factors that trigger or exacerbate asthma must be elicited routinely and documented. An assessment of recent asthma control should be undertaken at every asthma review. Non-adherence to preventer inhaled corticosteroids is associated with increased risk of poor asthma control and should be continually monitored. Patient self-management . Parents and children, and those who care for or teach them, should be educated about managing asthma.. Health professionals must be aware of the factors that increase the risk of asthma attacks and death. *BTS Adult Asthma Audit: Included in dataset* **REMOVED - As questions around using care bundles are asked in both the COPD and asthma clinical datasets this information can be obtained from there.**
OPTION 2: NEW/SEPARATE QUESTION **Are asthma discharge bundles used for asthma patients discharged from your hospital following exacerbation and if so which elements of care do they cover (tick all that apply)?** • No • Review of triggers and exacerbating factors	*Asthma only*	

• Medication assessment • Review of inhaler technique • Personal (Written) Asthma Action Plan • Smoking cessation advice • Follow up arrangements (with Primary care and specialist if necessary)		**REMOVED - As questions around using care bundles are asked in both the COPD and asthma clinical datasets this information can be obtained from there.**
NEW QUESTION **Is there a pulmonary rehabilitation service available to asthma patients discharged following exacerbations?**	Asthma only	BTS guideline for PR includes asthma patients (https://www.brit-thoracic.org.uk/document-library/clinical-information/pulmonary-rehabilitation/bts-guideline-for-pulmonary-rehabilitation/) although routine referral is not recommended as it is for COPD and some information on the BLF website suggests that asthma patients can benefit from this. **REMOVED - Not appropriate for asthma patients.**
NEW QUESTION **If yes, to 5.5 is it available within X weeks of hospital discharge?**	Asthma only	**REMOVED - Not appropriate for asthma patients.**
NEW SECTION/QUESTION **Does your hospital provide dedicated education for COPD and asthma patients?** • **No** • **Printed information** • **Face to face sessions** • **Groups sessions** • **Website information** • **Other (please specify)**	Asthma and COPD	Based on BTS Adult Asthma Audit NRAD Parents and children, and those who care for or teach them, should be educated about managing asthma. This should include emphasis on 'how', 'why' and 'when' they should use their asthma medications, recognising when asthma is not controlled and knowing when and how to seek emergency advice. Patient self-management should be encouraged to reflect their known triggers, eg increasing medication before the start of the hay-fever season, avoiding non-steroidal anti-inflammatory drugs or by the early use of oral corticosteroids with viral- or allergic-induced exacerbations. BTS guideline Computerised decision support systems for patient use can be considered as an approach to supporting self-management.

		REMOVED - Deemed more important to include a patient and carer engagement section.
Is there a regular MDT meeting for patients with severe asthma, and if so which staff attend? *(Tick all that apply)* • ☐ No • ☐ Respiratory consultant • ☐ Specialist trainee • ☐ Other doctor (including GP) • ☐ Asthma nurse specialist • ☐ Nurse consultant/other specialist nurse • ☐ Community based matron/nurse • ☐ Respiratory physiotherapist • ☐ Dietician • ☐ Palliative care specialist • ☐ Thoracic surgeon • ☐ Psychologist • ☐ Radiologist with interest in respiratory • ☐ Respiratory pharmacist • ☐ Other (please specify)		*All hospitals should have access to a severe asthma centre via a regional network and have the ability to discuss severe asthma cases. Please indicate if your centre is the regional NHSE commissioned centre for Severe Asthma, a mini-hub with ability to deliver some aspects of severe asthma care, or a networked centre engaging in MDTs with the Severe Asthma Centre, Some hospitals and/or integrated care services run MDT meetings to discuss complex cases in order to improve communication and care integration. Please tick yes if your hospital runs such a meeting.* *Other doctor includes FY, CT, associate specialist and staff grade.* Consistency with COPD audit. Included based on BTS Audit Asthma Audit: **RCEM dataset** Evidence to consideration given to psychosocial factors in adults prior to discharge. **BTS guideline** Healthcare professionals must be aware that patients with severe asthma and one or more adverse psychosocial factors are at risk of death. BTS/SIGN 8.1.3 **BTS Adult Asthma Audit** Included in dataset. **NRAD** Health professionals must be aware of the factors that increase the risk of asthma attacks and death, including the significance of concurrent psychological and mental health issues. **REMOVE: Only applicable to severe asthma services and as part of the requirements for a severe asthma service was not felt useful to include.**
If yes to 5.5: How frequently does the meeting occur? *(Select one only)*		**REMOVE: Only applicable to severe asthma services and as part of the requirements for a severe asthma service was not felt useful to include.**

• ☐ Weekly • ☐ Fortnightly • ☐ Monthly • ☐ Quarterly • ☐ Other (please specify)		

Appendix 16: Removed questions: Secondary care audit - paediatric org. dataset

All items are compulsory.

Question	Help note
Section 1: Admissions, staffing levels, general organisation of care	
How many dedicated respiratory beds are there in your hospital?	Please enter the total number of respiratory beds. **REMOVE - Not applicable for paediatrics as beds not specified as specifically for paediatrics.**
How many designated Level 2 beds are there on your dedicated respiratory ward(s)? • Zero • One • Two • Three • Four • Five • Five +	*Level 2 beds are those where the sickest cases are nursed outside of HDU/ICU, ie those requiring CPAP, NIV, step-down from HDU/ICU or requiring heightened observation and support:* *Link to the Intensive Care Society Guidelines: https://www.ics.ac.uk/ICS/guidelines-and-standards.aspx* **REMOVE - Not applicable to paediatrics.**
Is there an inpatient dietetic service in the hospital which paediatric asthma patients can be referred to, and if so how many WTEs are allocated to the paediatric medical wards to run the service? • No service available • Less than 0.5 • 0.5 • 1 • 2 • 3	*If applicable, please note the number of WTE dieticians who staff the dietetic service.*

• 4+ • Other	**REMOVE - Not applicable to paediatrics.**
Does your hospital run its own Pulmonary Rehabilitation Service? • Yes • No	**REMOVE – Not applicable to paediatrics.**
Section 2: Organisation of acute respiratory care	
Does your hospital operate a respiratory take separate from the rest of acute medicine? • Yes • No	*Answer yes to this question if respiratory physicians have a dedicated on-call rota.* **REMOVE - Not applicable to paediatrics.**
On which days does your hospital operate a system of specialty triage of cases to respiratory medicine? (tick all that apply) • **None** • **Monday** • **Tuesday** • **Wednesday** • **Thursday** • **Friday** • **Saturday** • **Sunday**	*I.e. are patients directed to particular wards dependent upon their diagnosis?* **REMOVE – Not applicable to paediatrics.**
On which days is there an on-call respiratory	*This is asking about the availability of respiratory SpR opinion.*

SpR/specialty trainee available? (tick all that apply) • No on-call respiratory SpR/specialty trainee available • Monday • Tuesday • Wednesday • Thursday • Friday • Saturday • Sunday	**REMOVE – Not applicable to paediatrics.**
On which days is a physiotherapist(s) available to review COPD patients where necessary? • No physiotherapist available to review patients • Monday • Tuesday • Wednesday • Thursday • Friday • Saturday • Sunday	*Many hospitals use rotational physios (usually Band 5 or 6) to provide on-call respiratory services. Please answer according to the most appropriate for your hospital.* **REMOVE – Not applicable to paediatrics.**
Which patients have access to a respiratory physiotherapist? • None • All asthma patients • Only those admitted under a respiratory physician • Only those under the 'severe asthma service' • Other (please specify)	**REMOVE – Not applicable to paediatrics.**
On which days does a senior decision maker from the paediatric respiratory team (SpR or above) undertake a	*This question refers to whether formal ward rounds are undertaken by these staff, as opposed to 'Board Rounds'.*

ward round of new respiratory patients on the other ward(s)? (tick all that apply) • ☐ None • ☐ Monday • ☐ Tuesday • ☐ Wednesday • ☐ Thursday • ☐ Friday • ☐ Saturday • ☐ Sunday	*If your hospital only has a paediatric ward and paediatric patients would not be admitted to any wards by this please select 'Paediatric patients would only be admitted to a paediatric ward'.* *This these days can vary, select the days this is most likely to or 'usually' happen(s) on.* ***REMOVE:** Now redundant due to changes made to question 2.3 (*On which days does a senior decision maker from the paediatric team (SpR or above) undertake a ward round of new paediatric respiratory patients on the paediatric ward(s)?)
Section 3: Managing respiratory failure – emergency oxygen therapy	
Is there a named lead clinician responsible for the NIV service? • Yes • No	*Please answer 'yes' if there is a specific named lead for the NIV service. This person may also lead the COPD or asthma service, and if that is the case, please also answer 'yes.'* **REMOVE - Different service and different context in children as no COPD. Consider removing unless discussing LTV service – optiflow is delivered by generalists on most wards. Not applicable to paediatrics.**
In which setting(s) is non-invasive ventilation (NIV) given? • NIV not available • MAU/admissions ward • A&E/ED • Respiratory ward • General ward • HDU • ICU • Other	*Please tick all sites where NIV is given* **REMOVE - Different service and different context in children as no COPD. Consider removing unless discussing LTV service – optiflow is delivered by generalists on most wards. Not applicable to paediatrics.**

Is there an NIV monitoring chart? • No NIV monitoring chart • Initial blood gases • Subsequent blood gases • Time of application • Initial NIV pressures • Subsequent NIV pressures	*If so select all that it records.* **REMOVE – Different service and different context in children as no COPD. Consider removing unless discussing LTV service – optiflow is delivered by generalists on most wards. Not applicable to paediatrics.**
Is there a training programme for staff providing NIV, if so what does it cover? • No training programme for staff providing NIV • Not known • Indications for NIV • Initiation of NIV • Nursing patients on NIV	*Examples would include an online e-learning module, or formal teaching sessions around this topic* **REMOVE – Not applicable to paediatrics**
Has your hospital participated in the BTS NIV audit? ***Please select all the options applicable.*** • Not participated • 2013 • 2012 • 2011 • 2010	**REMOVE –Not applicable to paediatrics**
Sub-question to 'Does your hospital have an oxygen training programme in place? **If yes, what does it cover?** ***(Tick all that apply)*** • ☐ Prescription of emergency oxygen for doctors • ☐ Monitoring of emergency oxygen for nurses and other health professionals • ☐ Not known	**REMOVE –Not applicable to paediatric services**
Section 4: Integrating care across primary and secondary sectors	
Are asthma discharge bundles used for paediatric asthma patients discharged from your hospital following	*An example would include the BTS discharge bundle or similar. BTS discharge bundle should apply to all patients over the age of 2.*

exacerbation and if so which elements of care do they cover (tick all that apply)? • No • Review of triggers and exacerbating factors • Medication assessment • Review of inhaler technique • Personal (Written) Asthma Action Plan • Smoking cessation advice • Follow up arrangements (with Primary care and specialist if necessary)	**NICE quality statements** **NICE quality statement 3: Written personalised action plans** **NICE quality statement 4: Inhaler technique** **NICE quality statement 6: Assessing asthma control** **NICE quality statement 10: Follow up on Primary Care** **BTS guideline** Before initiating a new drug therapy practitioners should check adherence with existing therapies, inhaler technique and eliminate trigger factors. Inhaled corticosteroids are the recommended preventer drug for adults and children for achieving overall treatment goals. BTS/SIGN 2.4 Prescribe inhalers only after patients have received training in the use of the device and have demonstrated satisfactory technique. BTS/SIGN 2.5 and 7.1 Adherence to long-term asthma treatment should be routinely and regularly addressed by all healthcare professionals within the context of a comprehensive programme of accessible proactive asthma care. BTS/SIGN 2.2 Before initiating a new drug therapy practitioners should check adherence with existing therapies, inhaler technique and eliminate trigger factors. BTS/SIGN 2.4 Prior to discharge, inpatients should receive written personalised asthma action plans, given by healthcare professionals with expertise in providing asthma education. BTS/SIGN 2.2 Follow up should be arranged prior to discharge with the patient's general practitioner or asthma nurse within two working days and with a hospital specialist asthma nurse or respiratory physician at about one month after admission. BTS/SIGN 8.6.3 A hospital admission represents a window of opportunity to review self-management skills. No patient should leave hospital without a written personalised asthma action plan. (Page 43) **NRAD – see recommendations on:** Personal asthma action plans (PAAP) which details their own triggers and current treatment, and specifies how to prevent relapse and when to seek help in an emergency. Follow-up arrangements. Factors that trigger or exacerbate asthma must be elicited routinely and documented. An assessment of recent asthma control should be undertaken at every asthma review. Non-adherence to preventer inhaled corticosteroids is associated with increased risk of poor asthma control and should be continually monitored. Patient self-management .

	Parents and children, and those who care for or teach them, should be educated about managing asthma. Health professionals must be aware of the factors that increase the risk of asthma attacks and death. **REMOVE - Clinical datasets asks this for every paediatric patient – will be captured there and therefore not needed here.**
Does your hospital have access to a team that undertakes integrated care of patients with COPD (tick all that apply)? • No – no access to team undertaking integrated care of patients with COPD • Yes - hospital based team • Yes – community based team • Yes – single team that works across the primary/secondary care interface • Not known	*Examples would include an early/assisted discharge service, supported discharge service, admissions avoidance service, hospital at home service and so on* *We are asking these questions to understand the extent of integrated care that is now taking place across the NHS in England and Wales* **REMOVE – Not applicable to paediatrics.**
How many days a week does it operate (tick all that apply)? • Monday • Tuesday • Wednesday • Thursday • Friday • Saturday Sunday	**REMOVE – Not applicable to paediatrics.**
What services are provided and by whom (tick all that apply)?	I think we need to decide about the severe asthma service vs integrated care team above before I can say if COPD only or both.

• Not known
• Other (please specify)
• Out-reach Early/Supported discharge
  ○ Service not provided
  ○ Hospital based team
  ○ Community based team
  ▪ If yes, what is the name of the team?
  ○ Single team that works across the primary/secondary care interface
  ▪ If yes, what is the name of the team?
• In-reach Early/Supported discharge,
  ○ Service not provided
  ○ Hospital based team
  ○ Community based team
  ▪ If yes, what is the name of the team?
  ○ Single team that works across the primary/secondary care interface
  ▪ If yes, what is the name of the team?
• Admissions avoidance,
  ○ Service not provided
  ○ Hospital based team
  ○ Community based team
  ▪ If yes, what is the name of the team?
  ○ Single team that works across the primary/secondary care interface
  ▪ If yes, what is the name of the team?
• Pulmonary rehabilitation,
  ○ Service not provided
  ○ Hospital based team
  ○ Community based team	

▪ If yes, what is the name of the team? ○ Single team that works across the primary/secondary care interface ▪ If yes, what is the name of the team? • Oxygen assessment service, ○ Service not provided ○ Hospital based team ○ Community based team ▪ If yes, what is the name of the team? ○ Single team that works across the primary/secondary care interface ▪ If yes, what is the name of the team? • Medicines/chronic disease management, ○ Service not provided ○ Hospital based team ○ Community based team ▪ If yes, what is the name of the team? ○ Single team that works across the primary/secondary care interface ▪ If yes, what is the name of the team? • Nebuliser service, ○ Service not provided ○ Hospital based team ○ Community based team ▪ If yes, what is the name of the team? ○ Single team that works across the primary/secondary care interface ▪ If yes, what is the name of the team?	

• Smoking cessation advice,
  ○ Service not provided
  ○ Hospital based team
  ○ Community based team
  ▪ If yes, what is the name of the team?
  ○ Single team that works across the primary/secondary care interface
If yes, what is the name of the team?	

	REMOVE – Not applicable to paediatrics
Is there a pulmonary rehabilitation service available to COPD patients discharged following exacerbation? • Yes • No • Not known	*This refers to any pulmonary rehabilitation service that is available to patients discharged following an admission.* **REMOVE – Not applicable for paediatrics.**
If yes to 5.4: is it available within 4 weeks of hospital discharge? • Yes • No • Not known	**REMOVE – Not applicable for paediatrics.**
Please select the option that provides the patient with their NIV, even if they receive their NIV treatment at home: • No • Not known • Provided via our own hospital • Provided via the regional centre only • Provided via other provider	*If the patient is provided with NIV by the hospital, regional centre or other provider, but actually receives the NIV treatment at home, then please select the option that has provided the patient with NIV.* **REMOVE – Not applicable to paediatrics. Consider something similar for LTV?**
Is there specifically funded sessional time devoted to developing integrated respiratory services in your area, and if so what is the designation of the individual(s) responsible for developing these services? (tick all that apply)	

• No • Integrated care respiratory physician • Respiratory physician • Respiratory nurse specialist • Nurse consultant • Respiratory physiotherapist Other (please specify)	**REMOVE – Not applicable to paediatrics.**
Is there an integrated care pathway for managing COPD locally? • Yes • No Not known	**REMOVE - Not applicable to paediatrics.**
Is there a regular MDT meeting for paediatric patients with asthma, and if so which staff attend? ***(Tick all that apply)*** • ☐ No • ☐ Respiratory paediatric consultant • ☐ Paediatric consultant • ☐ Specialist trainee • ☐ Other doctor (including GP) • ☐ Asthma nurse specialist • ☐ Nurse consultant/other specialist nurse • ☐ Community based matron/nurse • ☐ Respiratory/paediatric physiotherapist • ☐ Dietician • ☐ Psychologist	*Some hospitals run MDT meetings to discuss complex cases in order to improve communication and care integration. Please tick yes if your hospital runs such a meeting.* *Other doctor includes FY, CT, associate specialist and staff grade.* **BTS guideline** Healthcare professionals must be aware that patients with severe asthma and one or more adverse psychosocial factors are at risk of death. BTS/SIGN 8.1.3 **NRAD** Health professionals must be aware of the factors that increase the risk of asthma attacks and death, including the significance of concurrent psychological and mental health issues. **REMOVE: Applicable to severe asthma services only and as part of their requirements not considered useful to include.**

• ☐ Radiologist with interest in respiratory • ☐ Respiratory pharmacist • ☐ Other (please specify)	
If yes to 4.2: How frequently does the meeting occur? ***(Select one only)*** • ☐ Weekly • ☐ Fortnightly • ☐ Monthly • ☐ Quarterly • ☐ Other (please specify)	**REMOVE: Applicable to severe asthma services only and as part of their requirements not considered useful to include.**
Section 5: Patient and carer engagement	
NEW SECTION/QUESTION **Does your hospital provide dedicated education for asthma patients?** • No • Printed information • Face to face sessions • Groups sessions • Website information • Other (please specify)	Based on BTS Adult Asthma Audit NRAD Parents and children, and those who care for or teach them, should be educated about managing asthma. This should include emphasis on 'how', 'why' and 'when' they should use their asthma medications, recognising when asthma is not controlled and knowing when and how to seek emergency advice. Patient self-management should be encouraged to reflect their known triggers, eg increasing medication before the start of the hay-fever season, avoiding non-steroidal anti-inflammatory drugs or by the early use of oral corticosteroids with viral- or allergic-induced exacerbations. BTS guideline Computerised decision support systems for patient use can be considered as an approach to supporting self-management. **REMOVE - Additional question in BTS audit but felt that falls under discharge bundle umbrella.**

Appendix 17: Case study 1 – Queen Elizabeth Hospital, Birmingham

Hospital details

Pilot hospital/site name:	Queen Elizabeth Hospital, Birmingham
Service case study from :	Adult
Region :	West Midlands
Hospital type:	Acute
Clinical and audit lead names:	Clinical lead: Col Duncan Wilson Author: Sharon Rees Audit contact: Stephen Rosser
Number of asthma patients admitted a year (2016):	*397*

Case study

How the AADP pilot process and data collection system were introduced and maintained at your hospital: *For example:* • *How were patients identified* • *How was the organisational information obtained* • *Who collected the data* • *Who entered the data* • *Were cases entered prospectively (i.e. as the patients were admitted) or retrospectively, in batches)* • *What communication pathways were set up between staff, departments, units etc.*	All sixteen patients where identified via an automated alert system, which enters patients details and location into the Respiratory Support Teams email inbox. Alerts are generated by patients being admitted into medicine and Prednisolone >30mg OD along with nebulised bronchodilators being prescribed. This level of IT support reduces respiratory clinician time to patient's bed side, enhancing respiratory care. Organisational data was collated by the trust informatics department having been requested by audit lead, Col Wilson. AADP paper data sheets were completed by asthma clinical nurse specialists (CNS) in addition to completing electronic Asthma Care Bundle by the bedside as part of admission review. Some data sets being completed retrospectively, depending on service demands for that day. 10/16 data sets partially completed, pending discharge date, whilst the remainder sets completed retrospectively in full, following discharge. Having fully completed 16 paper data sets the nursing team uploaded onto electronic audit spreadsheet. With audit lead submitting both organisational and clinical data once completed. A pre-audit asthma service meeting was held. Prior to this meeting a CNS had highlight where information could be obtained from, possible difficulties and IT support required. Audit lead liaised with critical care colleagues asking them to inform the asthma team if any patients were admitted to level 3 care straight from the A + E department. A laminated AADP patient information poster was displayed in our Difficult to Treat Asthma clinic.

What worked well: *For example:* • *Patient identification* • *Organisational data retrieval* • *Acquisition of patient notes* • *Data collection and entry* • *Communication pathways* • *Service processes* • *Patient pathway*	As a trust we are very fortunate to have IT systems which are labour saving by reducing manual information finding via paper notes. Although, some elements of the data set relies on effective documentation and uploading front door contacts on to electronic systems. Having had an electronic Asthma Care Bundle in place for some time, a large amount of audit data is already being collected, reducing additional workloads. Revision of the service Asthma Action Plan (AAP) coincided prior to audit launch. Although smoking status, occupational triggers and inhaler technique review date was included in the electronic Asthma Care Bundle, we did not display any evidence on the AAP that these elements had been discussed/reviewed. All point included now. As a service we were keen to ensure both the AAP and Asthma Care Bundle are fit for purpose, and as much data can be either 'pulled' or 'push' onto patients discharge letter, improving transition of care. As a trust and respiratory team we have already achieved this with our COPD service. Prior to audit launch communications between Clinical, Managerial, Compliance and Informatics' teams was initiated to ensure IT systems/pathways would be in place for audit launch. Developing long-term strategies allowing future sustainability of data collection demonstrating evidence based care. Currently achieving Best Practice Tariffs within COPD care, all involved are keen for this to be achievable in Asthma care; if/when tariffs are introduced. Audit experience demonstrated effective team working, especially between medical and nursing components.
What issues were encountered and how these were overcome (or will be in the future): *For example:* • *As above*	As a team we are reliant on A + E administration staff to upload front door documentation, not all 16 patients had theirs available electronically. Which did resort in having to access paper notes. Data point 1.3, 1.4 and 1.7 were not always documented. The need to refresh colleagues knowledge of the significance of these elements is something as a team we need to take forward. Since audit completion A + E prescribing is now carried out on an electronic system known as Patient Information Communication System (PICS). Prior to this paper scripts had

	been used until the decision to admit was made, transferring prescriptions to PICS. Revision of the Asthma Bundle is required; hopefully once pilot audit data is published we can use this to escalate those discussions as a priority.
Examples of learning, service adaptation and improvements made as a result of participating in the AADP pilot: *For example:* • *Asthma care pathway/treatment* • *Service processes* • *Communication pathways* • *Patient identification and/or audit data acquisition* • *Data collection and entry* • *Quality Improvement project/s initiated*	Adapting and including additional points to AAP not only provides evidence of discussions had to other colleagues, it will hopefully empower our patients to adjust their own plans, plus request health professionals review their inhaler technique for intense, if not observed recently, in turn giving our patients insight into what they should expect from an asthma review in acute or stable state. Further education to colleagues on not just acute presentations of asthma but to think about, once discharged, are our patients linked into the right service for follow up? And to consider the impact of psychosocial elements.
Other recommendations on how other respiratory/paediatric services can incorporate the new asthma audit into their day to day working life):	Having IT systems to support data collection is a huge advantage. How viable this is for other trusts to develop and sustain obviously comes with a cost attached. Although if targets are attached to evidence based care these costs need to be factored in, and in the long term hopefully become cost neutral. Effective team working with early communication and planning is key to developing services long term ensuring consistent care and information gathering.

Appendix 18: Case study 2 – Royal Derby Hospital

Hospital details

Pilot hospital/site name:	Royal Derby Hospital
Service case study from :	Paediatric
Region:	East Midlands
Hospital type:	District general
Clinical and audit lead names:	Clinical leads: Dr Simon Chitnis, Dr Nigel Ruggins, Dr Helen Riches Audit contacts: Sarah Stevenson, June Bettson- Green, Stuart Benney
Number of asthma patients admitted a year (2016):	*Information not available.*

Case study

How the AADP pilot process and data collection system were introduced and maintained at your hospital: *For example:* • *How were patients identified* • *How was the organisational information obtained* • *Who collected the data* • *Who entered the data* • *Were cases entered prospectively (i.e. as the patients were admitted) or retrospectively, in batches)* • *What communication pathways were set up between staff, departments, units etc.*	Patients were identified by keeping an eye on the patients admitted with wheeze/asthma by the juniors on the ward, or asking other doctors to alert the juniors involved in the audit if they were not on the ward when a patient with wheeze or asthma was admitted. Info was obtained from patient notes, usually after completed discharge. Ideally patient notes were collected prior to being sent for coding, but often had to be found after coding. Junior doctors collected the data and entered it. Info was entered retrospectively. Due to only a small number of patients required and a small team in the hospital, patients were either identified by those doing the audit when on the ward, or asking colleagues to let them know if a suitable patient had been admitted. If more patients were needed, a suitable option would be to alert all staff of the need for wheeze or asthma patients and to have a central document accessible by all staff to upload patient details. Then once patient details were uploaded, those involved in the audit would be able to collect data at a convenient time.
What worked well: *For example:* • *Patient identification* • *Organisational data retrieval* • *Acquisition of patient notes* • *Data collection and entry* • *Communication pathways* • *Service processes* • *Patient pathway*	Patient identification was not very efficient, however could be streamlined so that suitable patients were not missed. Data retrieval was simple. Notes contained all relevant information and information was easily found. Patient notes acquisition was the most time-consuming part of the process. Junior doctors were left to retrieve notes if they were not caught before being sent to coding. This involved several phone calls and trips to the coding department to retrieve them which would have been problematic had the wards been busier.

	Because of the need for patient data to be in as soon as the 4 weeks ended, it was not possible to keep track of patient details, and then source all notes for the patients in one session and then input the data. The simplest way was to keep on top of it as you went along, however with busier wards and if one was not able to find the notes before they were sent for coding then this would have been tricky. Perhaps a week window at the end of the 4 week period would allow all notes to be sourced and entered in one afternoon to ensure no patients were missed.
What issues were encountered and how these were overcome (or will be in the future): *For example:* • *As above*	The main issues were tracking patient notes and getting to them before they were sent for coding, as once they were sent, it became more time consuming to gather the information afterwards. Identifying patients was not particularly efficient as mentioned but can be improved on for next time.
Examples of learning, service adaptation and improvements made as a result of participating in the AADP pilot: *For example:* • *Asthma care pathway/treatment* • *Service processes* • *Communication pathways* • *Patient identification and/or audit data acquisition* • *Data collection and entry* • *Quality Improvement project/s initiated*	Need for more use of BTS bundles. Need for improved documentation in all aspects of patient care. Setting up the audit again for more patients would be much easier next time having learnt how to do it for this pilot. If a departmental audit was being carried out in the future, it would be easier to fit the audit into daily working life having carried out the pilot. Achieved a better understanding of patient notes acquisition.
Other recommendations on how other respiratory/paediatric services can incorporate the new asthma audit into their day to day working life):	FY1's generally discharge most of the patients/organise discharges. If they filled in the data sheet with patient information after discharging a patient, no patients would be missed and it would save a lot of time as they would already know most of the information and be able to find it easily. If the person discharging the patient filled in the information, then that would save lots of time. If it was also only one patient at a time, then the workload would seem reduced. Plus lessons learnt from doing the audit (eg. Noticing that bundles were not being used regularly) may improve patient care.

Appendix 19: Case study 3 – Royal United Hospital, Bath

Hospital details

Pilot hospital/site name:	Royal United Hospitals Bath NHS Foundation Trust (Royal United Hospital)
Service case study from :	Adult
Region:	South West
Hospital type:	District general
AADP clinical and audit lead names:	Clinical lead: Dr Sharon Sturney Audit contact: Mr Robert Eliot
Number of asthma patients admitted a year:	*234*

Case study

How the AADP pilot process and data collection system were introduced and maintained at your hospital: *For example:* • *How were patients identified* • *How was the organisational information obtained* • *Who collected the data* • *Who entered the data* • *Were cases entered prospectively (i.e. as the patients were admitted) or retrospectively, in batches)* • *What communication pathways were set up between staff, departments, units etc.*	The Royal United Hospital Bath is a District General Hospital with a relatively low number of acute asthma admissions. All adults admitted with an acute exacerbation of asthma, whether referred by their GP or from the Emergency Department (ED), should be seen on the Medical Assessment Unit (MAU) and then either discharged or moved to an inpatient ward. Fewer than 20% of patients with a coded emergency admission due to asthma are cared for on the respiratory ward, therefore it was important to devise several mechanisms by which we were alerted when they presented to hospital. 1) A GP specialist trainee is currently responsible for reviewing the electronic admission record each weekday morning to locate patients admitted with COPD exacerbations for the on-going national COPD audit, and her role was expanded to include highlighting patients with acute exacerbations of asthma. 2) Respiratory consultants provide a weekday morning review of a number of patients with respiratory conditions on MAU, thereby assessing a number of patients with asthma. 3) Once asthmatic patients were admitted to a medical ward, we relied on our colleagues to contact the RNSs to ask for them to be reviewed. We prepared for the introduction of the Asthma Audit Development Project (AADP) by updating our acute asthma discharge care bundle and temporary asthma action plan, then used several different modalities of communication (face-to-face, email, electronic staff bulletin, presentation at the weekly respiratory department teaching meeting) to make staff on the

	medical wards aware that the audit was taking place. Ward teams were asked to contact our Respiratory Nurse Specialists (RNSs) with any appropriate patients so that they could review them on the ward prior to discharge, perform inhaler checks as necessary, fill in the discharge bundle and collect the necessary data for the audit. The asthma discharge bundle was relatively recently introduced within the hospital, so we used the audit as a driver to increase its profile and improve patient care. Once datasets were completed on paper, information was inputted onto the spreadsheet by the asthma lead consultant. Some organisational information was obtained by the asthma lead consultant from the business intelligence unit/coding department.
What worked well: *For example:* • *Patient identification* • *Organisational data retrieval* • *Acquisition of patient notes* • *Data collection and entry* • *Communication pathways* • *Service processes* • *Patient pathway*	Organisational data was relatively easy to obtain, although we needed to be careful not to include elective admissions for omalizumab treatment or acute admissions for patients with asthma where an exacerbation was not the main diagnosis. Data collection worked well for patients who spent more than 24 hours in the hospital, with the RNS team retrieving important information when completing discharge bundles. Once the data was collected in paper format it was then inputted onto the spreadsheet held on a departmental drive. This was efficient for the purposes of a four week audit, however in future this task could be performed by another member of the respiratory team; in our case an RNS, admin support worker or COPD audit nurse in a combined role. From next month the number of ward computers will increase, which would enable the direct inputting of data onto the spreadsheet at the time the discharge bundle is completed, saving time.
What issues were encountered and how these were overcome (or will be in the future): *For example:* • *As above*	We encountered some difficulty in identifying suitable patients for the audit prior to their discharge, and this also had implications for patient review by a member of the respiratory team and completion of a discharge bundle. Firstly, a GP specialist trainee reviewed the electronic admission record each weekday morning to locate patients admitted with asthma exacerbations, but often the diagnosis was inaccurate and this caused extra work in looking through patient notes. We are examining ways in which the accuracy of clinical information, including working diagnoses, on that database can be improved to make the process more efficient. Secondly, once asthmatic patients were admitted to a medical ward, we relied on our colleagues to contact the RNSs to ask for

	them to be reviewed, which was a slight change to previous practice and meant that at times they heard about patients when it was difficult for them to be reviewed before discharge. Prior to the AADP launch, the RNS team had been educating ward nurses on MAU and the respiratory ward about the discharge bundle and this information was disseminated further to include all of the medical wards at morning safety briefings and via the electronic staff bulletin. Ward managers, medical nurse practitioners, and doctors working in acute medicine were contacted via personal email. This education will need to continue. During the AADP, several patients were admitted over a weekend when specialist respiratory staff were not present to identify patients or collect data, and others were discharged from the post-take ward round meaning we were unaware of their admission until after they had gone home. In those cases, our secretaries were able to obtain the notes so that data could be submitted for the audit, but because the RNSs had not seen the patients no discharge bundle was completed and, therefore, patient care was not optimal. The roll out of an on-going national audit means that we need to address this issue, and one solution is to provide a lot of the information that our RNSs deliver face-to-face in an information leaflet which we are currently developing. This could be done in conjunction with educating ward nurses to complete the discharge bundle. This would be particularly useful on the respiratory ward, MAU and medical short stay ward where the majority of patients are discharged. Next month, a new ED electronic patient record will be launched and we will investigate whether this could be used to flag asthma admissions automatically. The audit data for patients still in the hospital was collected at same time as the discharge bundle was completed. One problem we encountered was that information was stored in three folders located in different places and within several documents: medical clerking/notes, ED nursing notes, observation chart, peak flow chart, drug chart, discharge bundle paperwork and electronic patient record. The introduction of a new ED electronic patient record and e-prescribing next month, and e-observation charts later in the year, as well as scanning the discharge bundle into the electronic patient record, should lead to increased efficiency in data collection when the on-going

	audit commences. It may mean that a non-clinical member of the team can collect and input data remotely, particularly in cases where the RNSs did not meet the patient.
Examples of learning, service adaptation and improvements made as a result of participating in the AADP pilot: *For example:* • *Asthma care pathway/treatment* • *Service processes* • *Communication pathways* • *Patient identification and/or audit data acquisition* • *Data collection and entry* • *Quality Improvement project/s initiated*	Our involvement in the AADP has had a positive impact on the awareness of acute asthma within our department and the wider medical division and has enabled us to make improvements in patient management, most notably the use of the discharge care bundle. Education and awareness of staff are key to identifying the correct patients, as well as utilising information technology (IT) to make the process more efficient. In our case, planned changes to IT should lead to improved incorporation of the national on-going audit process into daily clinical practice when it is launched in the New Year. The audit process will increase our workload and this will need to be shared by several members of the respiratory clinical and administrative team so that absences etc. do not affect our ability to fulfil requirements. Some of this work may be taken on by members of the team responsible for the national COPD audit. Our focus now needs to be on patients who present and are then discharged out-of-hours and how we can improve their care. Initially we will try to do this by producing an information leaflet, including signposts to useful online material.
Other recommendations on how other respiratory/paediatric services can incorporate the new asthma audit into their day to day working life:	One of the most important things when incorporating the audit into day to day working was to involve several members of the team, as this will enable the data to be collected when individuals are away from work for whatever reason. Depending on your set-up for the ongoing national COPD audit, it may be possible to use the same staff members to identify patients, collect and input the data.

Appendix 20: Case study 4 – Watford General Hospital

Hospital details

Pilot hospital/site name:	West Hertfordshire NHS Trust Watford General Hospital
Service case study from:	Adult
Region:	East of England
Hospital type:	District General Hospital
Clinical and audit lead names:	Clinical lead: Dr Kay Roy Audit contact: Henah Tabassam, Nariman Feituri
Number of asthma patients admitted a year (2016):	345

Case study

How the AADP pilot process and data collection system were introduced and maintained at your hospital: *For example:* • *How were patients* • *identified* • *How was the organisational* • *information obtained* • *Who collected the data* • *Who entered the data* • *Were cases entered* • *prospectively (i.e. as the* • *patients were admitted) or* • *retrospectively, in batches)* • *What communication* • *pathways were set up* • *between staff,* • *departments, units etc.*	An audit proforma was created which also served as an admissions tool for acute asthma in adults. This simple single page document covered all parameters required for the audit as well as others required by the acute admitting teams. It also covered an algorithm for management of asthma as per BTS guidelines as well as the asthma discharge bundle with all the essential components. Patients admitted with acute asthma were identified by the respiratory team (consultant covering acute respiratory admissions) and the community respiratory nurses who provide a daily in-reach service to the hospital and review patients at all stages of their pathway from ED to the acute admissions unit for medicine, the specialised respiratory ward as well as other hospital wards. The community nurses were also largely involved in collecting the data and completing the proforma before data was entered by our audit department although overseen and checked by the secondary care respiratory consultant.Data was collected and entered prospectively. The organisational information was obtained from the coding department. Clear communication pathways have been set up and established between the acute services (AAU and ED),who can use the asthma proforma as an admissions tool before referring to the specialist respiratory services compromising of both the hospital and community teams. This interface between 3 teams and staff members ensures a streamlined patient journey from acute admission to discharge and very importantly continued care and follow up thereafter once back in the community.

What worked well: *For example:* • *Patient identification* • *Organisational data retrieval* • *Acquisition of patient notes* • *Data collection and entry* • *Communication pathways* • *Service processes* • *Patient pathway*	This audit demonstrated that clear working relationships between departments and staff involved in different aspects of patient journey as described above can be effectively achieved through good communication. We developed a proforma led pathway for acute adult asthma which not only incorporated all the essential elements of the audit but also assessment metrics which the ED consultant lead perceived as important to the initial evaluation of the patient. The pathway was hence conceived with input from the acute services which helped maintain engagement with the audit process and ensured early referral to the respiratory services and allows improved integration of all services as well. Data was always collected prospectively by the same respiratory nurse from start to end of the patients admission and at the same time for all 100% of patients, the discharge bundle was provided with in depth counselling around careful management of their asthma as well as follow up arrangements. A copy of the proforma was kept in the patient notes in both secondary care and entered onto the community respiratory service database.
What issues were encountered and how these were overcome (or will be in the future): *For example:* *As above*	Continuing education is an essential part of the asthma service and through talks and discussions with the acute services we aim to ensure a smooth patient journey is achieved. Due to staff turnover amongst doctors especially in all departments we must ensure that a regular rolling teaching programme is embedded in the service programme to familiarise all involved in the care of adult asthma with the pathway, management and referral mechanisms to both the respiratory team in secondary care as well as the community respiratory team. There are contact numbers (fax and telephone) at the end of the asthma proforma to ensure that anyone discharged outside normal working hours by ED or AAU has their discharge summary faxed straight away to ensure the patient is then followed up by phone call or home visit the next working day by the community respiratory team.
Examples of learning, service adaptation and improvements made	This audit has allowed us to look closely at the asthma pathway and its effective uptake and implementation in

as a result of participating in the AADP pilot: *For example:* • *Asthma care pathway/ treatment* • *Service processes* • *Communication pathways* • *Patient identification and/ or audit data acquisition* • *Data collection and entry* • *Quality Improvement project/s initiated*	all hospital departments and settings through better communication links and education and training. There is now improved scope to refer to the specialist respiratory services. We have worked closely with ED to develop this pathway and ensure services are more integrated and also have improved our management of patients who have not been seen by a respiratory specialist but discharged by acute medicine. The discharge summary can be faxed to the community respiratory team as described above and we have also now ensured through close working with the pharmacy team in the hospital, that a steroid inhaler can be issued and dispensed from ED to any adult asthmatic (Step 1 BTS not on any steroid inhaler previously) discharged without the patient needing to pick the prescription up from pharmacy. As the audit was completed prospectively and continuity of care maintained by the same community nurse following up the patient, we ensured that 100% patients had a complete discharge bundle assessed and delivered as well as follow up organised and this was all stated on the proforma in detail. We work closely with our audit department who provide regular staffing to maintain data entry from the completed proformas for all our ongoing respiratory audits. Aside from the quality improvement projects initiated above, we will be looking at re auditing in 6 months to review in more detail the impact that the service improvements above have had on asthma care in hospital and admission and readmission rates. In particular we will also be looking at smart health initiatives for personalised and self-directed asthma care and how this influences upon adherence and compliance with personal asthma action plans as well as exacerbation rates.
Other recommendations on how other respiratory/ paediatric services can incorporate the new asthma audit into their day to day working life):	Our service described above is unique in some ways but essentially delivers an integrated respiratory service which includes secondary care and the community working together to provide the respiratory care pathways including asthma. The strength of this model is that the community respiratory nurse specialists in reach into the acute hospital and are then able to follow patients in the

	community and the Respiratory Consultant provide the community specialist clinics. The shared clinical governance structure allows for integration of clinical audit across organisations and breaks down barriers for patients. The asthma audit is an example where there has been partnership working so that the development of the asthma proforma enhances the care as well as allows audit to occur prospectively.

Appendix 21: Primary care audit: Primary care queries

Primary Care: Asthma Audit Development Project

Audit Queries

(Version – 1.1 Final 31 January 2018

No	Question	Rationale
Section 1: Demographics and Co-morbidities		
Number of patients with asthma NOTE: Date of diagnosis to be included.		
The following patient demographics will be extracted and reported on: • Ethnicity • Gender • Age • Deprivation score: WIMD/IMD		For analysis of equity of access.
The presence of the following co-morbidities will be assessed: • Diabetes • Hypertension • COPD • Bronchiectasis • Depression • Anxiety • Schizophrenia, Bipolar and other psychotic illness • CAMHS referral • Learning disability • Osteoporosis • Eczema • Atopy • Nasal polyps • Reflux • Hay fever • Family history of asthma • Allergic rhinitis • Obesity (BMI) NOTES: SMI codes will also be used for analysis of parity of esteem. The first round of audit should be used to explore if this		To allow assessment of the percentage of asthma patients with co-morbidities (to better categorise the audited cohort). BTS/SIGN guideline Healthcare professionals must be aware that patients with severe asthma and one or more adverse psychosocial factors are at risk of death. BTS/SIGN 8.1.3 NRAD Health professionals must be aware of the factors that increase the risk of asthma attacks and death, including the significance of concurrent psychological and mental health issues. NICE quality statements (QS25) Quality Statement 5: Review Assessment of comorbidities is included in the recommended content for annual reviews for both adults and children.

list can be amended and/or reduce as there are currently a lot of data point.		
Section 2: Asthma exacerbations		
1a	The proportion of patients who have a record of an asthma exacerbation treated within primary care in the last 15 months *NOTES:* *Coded exacerbations will be compared with the number of exacerbations calculated from use of validated combinations of the following codes:* • *≤300 mg oral corticosteroids (OCS) (not prescribed during an annual review)* *A cut-off of ≤150 mg will be used for children < 5 years old* • *Lower respiratory tract infections treated with same day prescription of appropriate antibiotics (Ax-LRTI)* *There must be at least 14 days between each event for them to be considered separate events.* *Obtain date of exacerbation.*	Enables exploration of exacerbations per demographic, if frequent exacerbations are more likely in certain patient groups. To investigate if issues around adherence and control are being addressed. Where patients are continuing to have repeated asthma attacks may show that assessments and reviews may not be taking place appropriately. **NICE Quality Statements (QS25)** **NICE quality statement 6: Assessing asthma control** People with asthma who present with respiratory symptoms receive an assessment of their asthma control.
1b	The proportion of patients with asthma who have had ≥3 courses of prednisolone for asthma exacerbations AND referred for specialist care in the last 15 months	**NRAD** Patients with asthma must be referred to a specialist asthma service if they have required more than two courses of systemic corticosteroids, oral or injected, in the previous 12 months or require management using British Thoracic Society (BTS) stepwise treatment 4 or 5 to achieve control.
Section 3: Getting the diagnosis right		
Spirometry		
2a	**Spirometry** The proportion of patients with asthma who have a record (ever recorded) of spirometry (+ reversibility) test NOTE: Result of test to be included in this query. Last recorded measurement with result to be used. Definitions of reversibility testing include: • Spirometry evidence or trial of treatment with OCS, OR • ICS with medcodes for "positive" reversibility testing OR	**BTS/SIGN guideline** Undertake a structured clinical assessment to assess the initial probability of asthma. This should be based on: • a history of recurrent episodes (attacks) of symptoms, ideally corroborated by variable peak flow when symptomatic and asymptomatic • symptoms of wheeze, cough, breathlessness and chest tightness that vary over time • recorded observation of wheeze heard by a healthcare professional • personal/family history of other atopic conditions (in particular, atopic eczema/dermatitis, allergic rhinitis) • no symptoms/signs to suggest alternative diagnoses.

	• evidence of variable PEFR Will include all relevant spirometry codes. FEV[1], FVC etc Children under 6 to be excluded from denominator as not commonly used in this cohort.	Compare the results of diagnostic tests undertaken whilst a patient is asymptomatic with those undertaken when a patient is symptomatic to detect variation over time. Carry out quality-assured spirometry using the lower limit of normal to demonstrate airway obstruction, provide a baseline for assessing response to initiation of treatment and exclude alternative diagnoses. • Obstructive spirometry with positive bronchodilator reversibility increases the probability of asthma. Normal spirometry in an asymptomatic patient does not rule out the diagnosis of asthma.
2b	The proportion of patients with asthma who have had a spirometry (+ reversibility) test in the last 15 months NOTE: Result of test to be included in this query. Last recorded measurement and result to be used. Definitions of reversibility testing include: • Spirometry evidence or trial of treatment with OCS, OR • ICS with medcodes for "positive" reversibility testing OR • evidence of variable PEFR Will include all relevant spirometry codes. FEV[1], FVC etc	**As above**
Peak flow		
3a	**Peak flow** The proportion of patients with asthma who have a record (ever recorded) of a peak flow test (reading and/or diary records) NOTE: Result of test to be included in this query if available (coding of test does not always have result). Last recorded measurement with result to be used.	**BTS/SIGN guideline** In adults with no evidence of airflow obstruction on initial assessment, and in whom other objective tests are inconclusive but asthma remains a possibility, consider referral for challenge tests.
3b	The proportion of patients with asthma who have a record of a peak flow test (reading and/or diary records) in the last 15 months NOTE: Result of test to be included in this query if available (coding of test does not always have result). Last recorded measurement with result to be used.	**As above**

Fractional exhaled nitric oxide (FeNO)		
4a	The proportion of patients with asthma who have a record (ever recorded) of a fractional exhaled nitric oxide FeNO test NOTE: Result of test to be included in this query.	**BTS/SIGN Guideline** Fractional exhaled nitric oxide (FeNO) Use measurement of FeNO (if available) to find evidence of eosinophilic inflammation. A positive test increases the probability of asthma but a negative test does not exclude asthma.
4b	The proportion of patients with asthma who have a record of a fractional exhaled nitric oxide FeNO test in the last 15 months NOTE: Result of test to be included in this query.	**As above**
Record of ANY objective measurement		
5	The proportion of patients with asthma who have a (ever recorded) record of <u>any</u> objective measurement • Spirometry (+reversibility) • Peak Flow • Fractional exhaled nitric oxide FeNO	**As above for spirometry, peak flow and FeNO test.**
Section 4: Personalised Asthma Action Plans		
6	The proportion of people with asthma who have had a Personalised Asthma Action Plan (PAAP) anytime in the last 15 months**.** NOTE: Look at results for 1-5 and 6-18 year olds.	**NICE Quality Statements (QS25)** **NICE quality standard 3: Written personalised action plans** People with asthma receive a written personalised action plan. **BTS/SIGN guideline** All people with asthma (and/or their parents or carers) should be offered self-management education which should include a written personalised asthma action plan and be supported by regular professional review. In adults, written personalised asthma action plans may be based on symptoms and/or peak flows: symptom-based plans are generally preferable for children. Written PAAPs (for example, those for adults and children from Asthma UK, available at www.asthma.org.uk/resources/#action plans) are crucial components of effective self-management education. One systematic review identified the features of PAAPs associated with beneficial outcomes. These include: • specific advice about recognising loss of asthma control, assessed by symptoms or peak flows or both.91,150,151 In children, symptom-based written plans are effective in reducing emergency consultations for asthma, although (in older children) peak flow-based plans may be as effective for other outcomes. • actions, summarised as two or three action points, to take if

		asthma deteriorates, including seeking emergency help, starting oral steroids (which may include provision of an emergency course of steroid tablets), restarting or temporarily increasing (as opposed to just doubling) ICS, as appropriate to clinical severity. Summary of table 8 from guideline • Current medication and adherence • Triggers and exacerbating factors • Advice on taking current medication • Advice on increasing medication (action points) • Advice on calling for help • Peak flow levels at which action should be taken • A record of best personal peak expiratory flow (PEF) • A record of best predicted peak expiratory flow (PEF) **NRAD** All people with asthma should be provided with written guidance in the form of a personal asthma action plan (PAAP) which details their own triggers and current treatment, and specifies how to prevent relapse and when to seek help in an emergency.
Section 5: Providing the right care		
7	The proportion of people with asthma who have had an annual review in the last 15 months. NOTE: This query will just establish the number of patients who have had an annual appointment to review their asthma. Due to the fact that this does not necessarily mean that all annual review elements will be reviewed together (at this appointment), but still reviewed annually this query has been separated from the next.	**NICE Quality Statements (QS25)** **NICE quality statement 4: Inhaler technique** People with asthma are given specific training and assessment in inhaler technique before starting any new inhaler treatment **NICE quality statement 5: Review** People with asthma receive a structured review at least annually. **NRAD** People with asthma should have a structured review by a healthcare professional with specialist training in asthma, at least annually. People at high risk of severe asthma attacks should be monitored more closely, ensuring that their personal asthma action plan (PAAPs) are reviewed and updated at each review. An assessment of inhaler technique to ensure effectiveness should be routinely undertaken and formally documented at annual review, and also checked by the pharmacist when a new device is dispensed. An assessment of recent asthma control should be undertaken at every asthma review. Where loss of control is identified, immediate action is required, including escalation of responsibility, treatment change and arrangements for follow-up. **BTS/SIGN guideline** In primary care, people with asthma should be reviewed regularly by a nurse or doctor with appropriate training in asthma management. Review should incorporate a written action plan. Before initiating a new drug therapy practitioners should check adherence with existing therapies, inhaler technique and eliminate

		trigger factors. BTS/SIGN 2.4 **Monitoring children in primary care** Asthma is best monitored in primary care by routine clinical review on at least an annual basis (see section 14.3). The factors that should be monitored and recorded include: • symptom score, eg Children's Asthma Control Test, Asthma Control Questionnaire • asthma attacks, oral corticosteroid use and time off school/nursery due to asthma since last assessment • inhaler technique • adherence, which can be assessed by reviewing prescription refill frequency • possession of and use of a self-management plan/written personalised asthma action plan • exposure to tobacco smoke • growth (height and weight centile). **Monitoring adults in primary care** In adults the following factors should be monitored and recorded in primary care: • symptomatic asthma control • lung function assessed by spirometry or by PEF • asthma attacks, • oral corticosteroid use and time off work since last assessment • inhaler technique • adherence • bronchodilator reliance • possession of and use of a self-management plan/personal action plan **QOF and NICE Quality Statements (QS25)** Paediatrics • Assessment of symptomatic asthma control using recognised tool *(RCP 3 questions, asthma control questionnaire, children's asthma control test, paediatric asthma quality of life questionnaire)* • Review of exacerbations, oral corticosteroid use and time off school or nursery since last assessment • Inhaler technique • Assessing adherence (review of prescriptions) • Adjustment of treatment • Possession and review of PAAP • Exposure to tobacco smoke • Measurement of growth centile (height and weight) • Assessment of comorbidities • Review of diagnosis Adults • Assessment of symptomatic asthma control using recognised tool

		(RCP 3 questions, asthma control questionnaire, asthma control test, asthma quality of life questionnaire) • Measurement of lung function, assessment by spirometry or by peak expiratory flow • Review of exacerbations, oral corticosteroid use and time off work or study since last assessment • Checking inhaler technique • Assessing adherence (review of prescriptions) • Adjustment of treatment • Bronchodilator reliance (review of prescriptions) • Possession and review of PAAP • Smoking status • Assessment of comorbidities • Review of diagnosis
8	The proportion of patients with asthma who have a record of the RCP 3 questions being asked in the last 15 months NOTE: Only if the RCP 3 questions were asked can be captured, not the responses to them.	**BTS/SIGN guideline** In adults the following factors should be monitored and recorded in primary care: • symptomatic asthma control *(Symptomatic asthma control is best assessed using directive questions such as the Royal College of Physicians' '3 questions',129 or the Asthma Control Questionnaire or Asthma Control Test (see Table 7), since broad non-specific questions may underestimate symptoms)* Also see annual review rationale.
9	The proportion of people with asthma who have received an inhaler check within the last 15 months.	**NICE Quality Statements (QS25)** **NICE quality statement 4: Inhaler technique** *People with asthma are given specific training and assessment in inhaler technique before starting any new inhaler treatment* **BTS/SIGN guideline** Before initiating a new drug therapy practitioners should check adherence with existing therapies, inhaler technique and eliminate trigger factors. BTS/SIGN 2.4 **NRAD** An assessment of inhaler technique to ensure effectiveness should be routinely undertaken and formally documented at annual review, and also checked by the pharmacist when a new device is dispensed. **Monitoring children in primary care** Asthma is best monitored in primary care by routine clinical review on at least an annual basis (see section 14.3). The factors that should be monitored and recorded include: • symptom score, eg Children's Asthma Control Test, Asthma Control Questionnaire • asthma attacks, oral corticosteroid use and time off school/nursery due to asthma since last assessment • **inhaler technique**

		• adherence, which can be assessed by reviewing prescription refill frequency • possession of and use of a self-management plan/written personalised asthma action plan • exposure to tobacco smoke • growth (height and weight centile). **Monitoring adults in primary care** In adults the following factors should be monitored and recorded in primary care: • symptomatic asthma control • lung function assessed by spirometry or by PEF • asthma attacks, • oral corticosteroid use and time off work since last assessment • **inhaler technique** • adherence • bronchodilator reliance • possession of and use of a self-management plan/personal action plan
10a	The proportion of people with asthma who were recorded as being exposed to second hand smoke in the last 15 months.	**BTS/SIGN guideline** Parents with asthma should be advised about the dangers, to themselves and to their children with asthma, of smoking, and be offered appropriate support to stop smoking. Clinicians should be aware that higher doses of inhaled corticosteroids may be needed in patients who are smokers or ex-smokers. **NRAD** A history of smoking and/or exposure to second-hand smoke should be documented in the medical records of all people with asthma. Current smokers should be offered referral to a smoking-cessation service.
10b	The proportion of people with asthma who were recorded as a current smoker at any time in the last 15 months and have received or been 'sign-posted to' to a behavioral change intervention.	**As above**
10c	The proportion of people with asthma who were recorded as a current smoker at any time in the last 15 months and had a stop-smoking drug prescribed.	**As above**
11	The proportion of people with asthma who have been prescribed more than 12 short-acting reliever inhalers in the last 12 months *[Time between the 12 SABA alert and the next asthma review code (query 12) will be calculated]*	**BTS/SIGN guideline** Anyone prescribed more than one short-acting bronchodilator inhaler device a month should be identified and have their asthma assessed urgently and measures taken to improve asthma control if this is poor. **NRAD**

		All asthma patients who have been prescribed more than 12 short-acting reliever inhalers in the previous 12 months should be invited for urgent review of their asthma control, with the aim of improving their asthma through education and change of treatment.
12	The proportion of people with asthma who have been prescribed the following in the last 6 months: • a single component long-acting beta agonists (LABA) • a single component inhaled corticosteroid (ICS) • a single component LTRA • a combined LABA and ICS or MART inhaler • a combined ICS and LTRA	**BTS/SIGN guideline** Long-acting inhaled β2 agonists should only be started in patients who are already on inhaled corticosteroids, and the inhaled corticosteroid should be continued. Combination inhalers are recommended to: • guarantee that the long-acting β2 agonist is not taken without inhaled corticosteroid • improve inhaler adherence **NRAD** The use of combined inhalers should be encouraged. Where long-acting beta agonist (LABA) bronchodilators are prescribed for people with asthma, they should be prescribed with an inhaled corticosteroid in a single combination inhaler.
13	The proportion of patients with asthma who have been prescribed fewer than 4 ICS devices in the last year.	**NRAD** Non-adherence to preventer inhaled corticosteroids is associated with increased risk of poor asthma control and should be continually monitored. **BTS/SIGN Guideline** Inhaled corticosteroids are the recommended preventer drug for adults and children for achieving overall treatment goals. Inhaled corticosteroids should be considered for patients with any of the following asthma-related features: • asthma attack in the last two years • using inhaled β2 agonists three times a week or more • symptomatic three times a week or more • waking one night a week Give inhaled corticosteroids initially twice daily (except ciclesonide which is given once daily). Once a day inhaled corticosteroids at the same total daily dose can be considered if good control is established. Before initiating a new drug therapy practitioners should check adherence with existing therapies, check inhaler technique, and eliminate trigger factors. Adherence to long-term asthma treatment should be routinely and regularly addressed by all healthcare professionals within the context of a comprehensive programme of accessible proactive asthma care. BTS/SIGN 2.2

Appendix 22: Removed queries: Primary care audit: Primary care queries

Query	Original rationale REASON FOR REMOVAL
Asthma exacerbations	
The proportion of patients who had an asthma exacerbation in the last 15 months, who were treat with any of the following for their exacerbation • Oral steroids • Antibiotics • Spacers (+ nebuliser) • Inhaler	Enables exploration of how exacerbations of asthma are being treatment and which, if any, are more effective in preventing future attacks. **RCEM dataset** Included in dataset Discharged patients should have oral prednisolone prescribed. **BTS/SIGN guideline** Give Steroids in adequate doses for all acute attacks. BTS/SIGN 2.6.1 Continue prednisolone 40–50mg daily for at least 5 days or until recovery. BTS/SIGN 8.3.3 **REASON FOR REMOVAL: This information would be very poorly coded.**
The proportion of patients with asthma who have attended an emergency department with an exacerbation of asthma in the last 15 months.	Enables exploration of exacerbations per demographic, if frequent exacerbations are more likely in certain patient groups. Also investigation into if issues around adherence and control are being addressed. Where patients are continuing to have repeated asthma attacks may show that assessments and follow ups are not taking place. **NICE Quality Statements (QS25)** **NICE quality statement 6: Assessing asthma control** People with asthma who present with respiratory symptoms receive an assessment of their asthma control. **NICE quality statement 10: Follow up in Primary Care** People who received treatment in hospital or through out-of-hours services for an acute exacerbation of asthma are followed up by their own GP practice within 2 working days of treatment. **BTS/SIGN guideline** Follow up should be arranged prior to discharge with the patient's general practitioner or asthma nurse within two working days and with a hospital specialist asthma nurse or respiratory physician at about one month after admission. BTS/SIGN 8.6.3

	NRAD Follow-up arrangements for patients who have attended ED or out of hours services. **REASON FOR REMOVAL: This is only possible with linked data to establish that the coded exacerbation was actually treated in ED, rather than primary care.**
The proportion of patients with asthma who have been admitted to hospital with an exacerbation of asthma in the last 15 months.	Enables exploration of exacerbations per demographic, if frequent exacerbations are more likely in certain patient groups. Also investigation into if issues around adherence and control are being addressed. Where patients are continuing to have repeated asthma attacks may show that assessments and follow ups are not taking place. **NICE Quality Statements (QS25)** **NICE quality statement 6: Assessing asthma control** People with asthma who present with respiratory symptoms receive an assessment of their asthma control. **NICE quality statement 10: Follow up in Primary Care** People who received treatment in hospital or through out-of-hours services for an acute exacerbation of asthma are followed up by their own GP practice within 2 working days of treatment. **BTS/SIGN guideline** Follow up should be arranged prior to discharge with the patient's general practitioner or asthma nurse within two working days and with a hospital specialist asthma nurse or respiratory physician at about one month after admission. BTS/SIGN 8.6.3 **NRAD** Follow-up arrangements for patients who have attended ED or out of hours services. **REASON FOR REMOVAL: This is only possible with linked data to establish that the coded exacerbation was actually treated in ED, rather than primary care.**
The proportion of patients with asthma who have attended out of hours (OOH)/walk-in/urgent care centres with an exacerbation of asthma in the last <time period>	As for hospital/emergency department rationale. **REASON FOR REMOVAL: Aspirational at the moment, as not coded and would need to approach/recruit individual OOH/walk-in services for information.** *Option: Aspirational, consider again at later date when coding has improved?*

The proportion of patients with asthma who received a review within 2 days of discharge from hospital or emergency department for an exacerbation of asthma	Enables exploration of follow up per demographic, if less likely in certain patient groups. Also investigation into if issues around adherence and control are being addressed. Where patients are continuing to have repeated asthma attacks may show that assessments and follow ups are not taking place. **NICE Quality Statements (QS25)** **NICE quality statement 6: Assessing asthma control** People with asthma who present with respiratory symptoms receive an assessment of their asthma control. **NICE quality statement 10: Follow up on Primary Care** People who receive treatment in hospital or through out-of-hours services for an acute exacerbation of asthma are followed up by their own GP practice within 2 working dates of treatment. **BTS/SIGN guideline** Follow up should be arranged prior to discharge with the patient's general practitioner or asthma nurse within two working days and with a hospital specialist asthma nurse or respiratory physician at about one month after admission. BTS/SIGN 8.6.3 **NRAD** Follow-up arrangements must be made after every attendance at an emergency department or out-of-hours service for an asthma attack. Secondary care follow-up should be arranged after every hospital admission for asthma, and for patients who have attended the emergency department two or more times with an asthma attack in the previous 12 months. **REASON FOR REMOVAL: This is not possible as exacerbations treated in emergency departments and hospitals cannot be captured without linked data.**
Getting the diagnosis right	
The proportion of patients with asthma who have a (ever recorded) record of <u>any</u> objective measurement • Objective response recorded on a symptom score (following a trial of treatment) • RCP 3 questions	**BTS/SIGN guideline** Adults and children with airways obstruction Asthma is the by far the commonest cause of airways obstruction identified through spirometry in children. Obstruction due to other disorders is much more common in adults than in children. Patients may have more than one cause of airflow obstruction, which complicates the interpretation of any test. In particular, asthma and COPD commonly coexist in adults. A bronchodilator reversibility test and/or a monitored initiation of treatment (typically six weeks of inhaled corticosteroids (ICS) can establish whether or not the airflow obstruction reverses to normal with treatment. Evidence of a symptomatic response, ideally using objective measures of

	asthma control and lung function, should be sought at a follow-up visit. If there is significant reversibility or improvement in symptom scores, confirm the diagnosis of asthma and record the basis on which the diagnosis was made. Continue to treat as asthma, but aim to find the minimum effective dose of therapy. If the patient remains asymptomatic consider a trial of reduction or withdrawal of treatment. This is particularly important in children in whom natural resolution of symptoms is more common than in adults. In adults and children with an intermediate probability of asthma and airways obstruction identified through spirometry, undertake reversibility tests and/ or a monitored initiation of treatment assessing the response to treatment by repeating lung function tests and objective measures of asthma control. **REASON FOR REMOVAL: Symptom score and RCP 3 not considered objective measurements.**
The proportion of patients with asthma who have been diagnosed with asthma as per NICE guidelines (2017)	Rationale note included as not published at point of removal. **REASON FOR REMOVAL: Will be captured via other diagnosis queries.**
Addition of 'consistent with a diagnosis of asthma' was considered for diagnosis queries.	**REASON FOR NON-INCLUSION: No diagnostic test is 100% for asthma. A patient could have a normal spirometry but diagnosis is made via another test.**
Personalised Asthma Action Plans (PAAPs)	
The proportion of people with asthma who have had triggers and exacerbating factors identified and recorded within the last 15 months Triggers and exacerbating factors identified and recorded: • Food allergy • Animal allergy • Virus infection/URTIs • Drugs (e.g. NSAIDs) • Exercise • Tobacco • Occupational factor	**NRAD** Health professionals must be aware of the factors that increase the risk of asthma attacks and death, including the significance of concurrent psychological and mental health issues. Patient self-management should be encouraged to reflect their known triggers, eg increasing medication before the start of the hay-fever season, avoiding non-steroidal anti-inflammatory drugs or by the early use of oral corticosteroids with viral- or allergic-induced exacerbations. **BTS/SIGN guideline** Every asthma consultation is an opportunity to review, reinforce and extend both the patient's knowledge and skills. This is true whether the patient is seen in primary care, the ED or the outpatient clinic. It is important to recognise that education is a process and not a single event. A hospital admission represents a window of opportunity to review self-management skills. No patient should leave hospital without a written personalised asthma action plan. An acute consultation offers the opportunity to determine

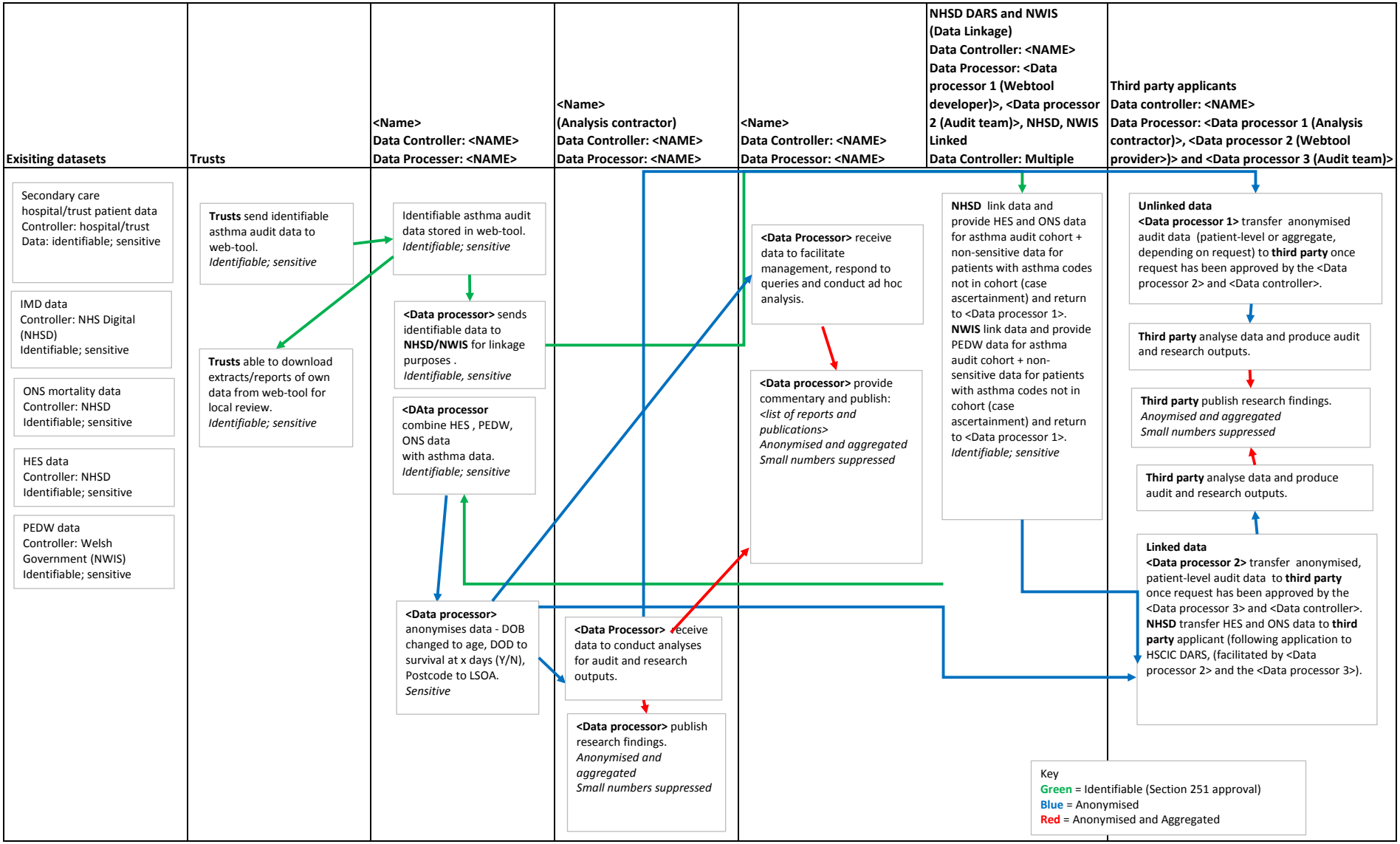
	what action the patient has already taken to deal with the asthma attack. Their self-management strategy may be reinforced or refined and the need for consolidation at a routine follow up considered. A consultation for an upper respiratory tract infection or other known trigger is an opportunity to rehearse with the patient their self- management in the event of their asthma deteriorating. Education should include personalised discussion of issues such as trigger avoidance and achieving a smoke-free environment to support people and their families living with asthma. Brief simple education linked to patient goals is most likely to be acceptable to patients. **REASON FOR REMOVAL: This will be under estimated as existence of triggers is only noted initially, with individual triggers then mainly captured in free text (which is not analysable). Those which can be captured as co-morbidities have be moved to the co-morbidities query.**
Annual review	
The proportion of people with asthma who have received an annual review of each of the following in the last 15 months: Paediatrics • Assessment of symptomatic asthma control using recognised tool *(RCP 3 questions, asthma control questionnaire, children's asthma control test, paediatric asthma quality of life questionnaire)* • Review of exacerbations, oral corticosteroid use and time off school or nursery since last assessment • Inhaler technique • Assessing adherence (review of prescriptions) • Adjustment of treatment • Possession and review of PAAP • Exposure to tobacco smoke • Measurement of growth centile (height and weight) • Assessment of comorbidities • Review of diagnosis Adults • Assessment of symptomatic asthma control using recognised tool *(RCP 3 questions, asthma control questionnaire, asthma control test, asthma quality of life questionnaire)* • Measurement of lung function, assessment by spirometry or by peak expiratory flow	**NICE Quality Statements (QS25)** **NICE quality statement 4: Inhaler technique** People with asthma are given specific training and assessment in inhaler technique before starting any new inhaler treatment **NICE quality statement 5: Review** People with asthma receive a structured review at least annually. **NRAD** People with asthma should have a structured review by a healthcare professional with specialist training in asthma, at least annually. People at high risk of severe asthma attacks should be monitored more closely, ensuring that their personal asthma action plan (PAAPs) are reviewed and updated at each review. **An assessment of inhaler technique to ensure effectiveness should be routinely undertaken and formally documented at annual review, and also checked by the pharmacist when a new device is dispensed.** **BTS/SIGN guideline** In primary care, people with asthma should be reviewed regularly by a nurse or doctor with appropriate training in asthma management. Review should incorporate a written action plan. Before initiating a new drug therapy practitioners should check adherence with existing therapies, inhaler technique

• Review of exacerbations, oral corticosteroid use and time off work or study since last assessment • Checking inhaler technique • Assessing adherence (review of prescriptions) • Adjustment of treatment • Bronchodilator reliance (review of prescriptions) • Possession and review of PAAP • Smoking status • Assessment of comorbidities Review of diagnosis	and eliminate trigger factors. BTS/SIGN 2.4 **Monitoring children in primary care** Asthma is best monitored in primary care by routine clinical review on at least an annual basis (see section 14.3). The factors that should be monitored and recorded include: • symptom score, eg Children's Asthma Control Test, Asthma Control Questionnaire • asthma attacks, oral corticosteroid use and time off school/nursery due to asthma since last assessment • inhaler technique • adherence, which can be assessed by reviewing prescription refill frequency • possession of and use of a self-management plan/written personalised asthma action plan • exposure to tobacco smoke • growth (height and weight centile). **Monitoring adults in primary care** In adults the following factors should be monitored and recorded in primary care: • symptomatic asthma control • lung function assessed by spirometry or by PEF • asthma attacks, • oral corticosteroid use and time off work since last assessment • inhaler technique • adherence • bronchodilator reliance • possession of and use of a self-management plan/personal action plan **QOF and NICE Quality Statements (QS25)** Paediatrics • Assessment of symptomatic asthma control using recognised tool *(RCP 3 questions, asthma control questionnaire, children's asthma control test, paediatric asthma quality of life questionnaire)* • Review of exacerbations, oral corticosteroid use and time off school or nursery since last assessment • Inhaler technique • Assessing adherence (review of prescriptions) • Adjustment of treatment • Possession and review of PAAP • Exposure to tobacco smoke • Measurement of growth centile (height and weight) • Assessment of comorbidities • Review of diagnosis

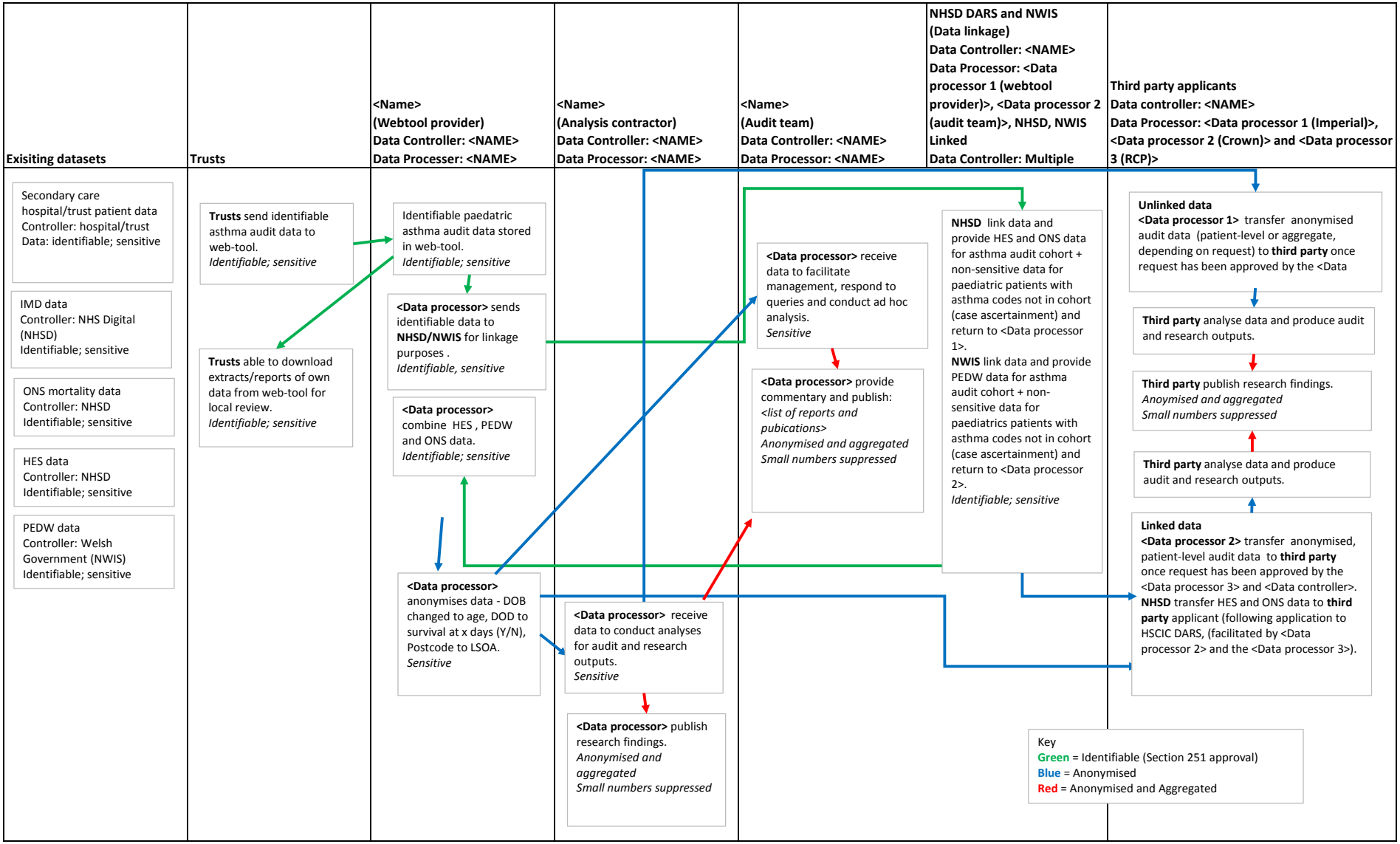
	Adults • Assessment of symptomatic asthma control using recognised tool *(RCP 3 questions, asthma control questionnaire, asthma control test, asthma quality of life questionnaire)* • Measurement of lung function, assessment by spirometry or by peak expiratory flow • Review of exacerbations, oral corticosteroid use and time off work or study since last assessment • Checking inhaler technique • Assessing adherence (review of prescriptions) • Adjustment of treatment • Bronchodilator reliance (review of prescriptions) • Possession and review of PAAP • Smoking status • Assessment of comorbidities • Review of diagnosis **REASON FOR REMOVAL: Individual annual review elements are not coded, only the fact that an annual review has taken place.**
The proportion of people who have had their current medication and adherence assessed at their year review	See rationale under annual review. **REASON FOR REMOVAL: As per reason for removal of individual annual review elements, this is not coded. Only that an annual review as taken place.**
Providing the right care	
The proportion of people with asthma who have been referred to secondary/tertiary care.	**NRAD** Patients with asthma must be referred to a specialist asthma service if they have required more than two courses of systemic corticosteroids, oral or injected, in the previous 12 months or require management using British Thoracic Society (BTS) stepwise treatment 4 or 5 to achieve control. **REASON FOR REMOVAL: There will be some practices who use generic referral codes and some who don't use any. Data would therefore be too unreliable.** *Option:* 1. *Aspirational, consider again at later date once coding has improved?* 2. *Pull in initial round and report confirmation that reporting is too bad to use.*
The proportion of patients with asthma who have had the influenza immunisation in the preceding **<DATE>.**	**BTS/SIGN guideline** Immunisations should be administered independent of any considerations related to asthma. Responses to vaccines may be attenuated by high-dose inhaled corticosteroids.

	People with chronic respiratory illness who are infected with the influenza virus have more serious illness and are at higher risk of mortality. The vaccine has variable effectiveness according to season and current health status when given. It is safe and the highest value intervention for the treatment of COPD but is used less than some other COPD interventions that have less value. **REASON FOR REMOVAL: Evidence not strong for asthma as a heterogenous condition with varying severity.**
Proportion of patients with asthma who have been screened for depression and anxiety or who have been diagnosed with these conditions within the last 2 years.	**BTS/SIGN guideline** Healthcare professionals must be aware that patients with severe asthma and one or more adverse psychosocial factors are at risk of death. BTS/SIGN 8.1.3 **NRAD** Health professionals must be aware of the factors that increase the risk of asthma attacks and death, including the significance of concurrent psychological and mental health issues. **REASON FOR REMOVAL: Being captured within co-morbidities section**
Proportion of people with asthma who have been prescribed more than 12 short acting reliever inhalers in the last 12 months and been invited to an urgent review of their asthma control.	**REASON FOR REMOVAL: Majority of query keep but *'invitation to urgent review'* removed as this is not coded.**
Proportion of patients with asthma who have received >2 courses of oral corticosteroids in the last year.	**REASON FOR REMOVAL: No evidence for inclusion**
Proportion of children with asthma who have a record of mental health service access, self-harm or overdose.	**BTS/SIGN guideline** Healthcare professionals must be aware that patients with severe asthma and one or more adverse psychosocial factors are at risk of death. BTS/SIGN 8.1.3 **NRAD** Health professionals must be aware of the factors that increase the risk of asthma attacks and death, including the significance of concurrent psychological and mental health issues. **REASON FOR REMOVAL: Captured within co-morbidities query. If reinstated, must align with wording used in secondary care datasets.**
The proportion of patients with asthma who have a recorded learning disability.	**BTS/SIGN guideline** Healthcare professionals must be aware that patients with severe asthma and one or more adverse psychosocial factors are at risk of death. BTS/SIGN 8.1.3

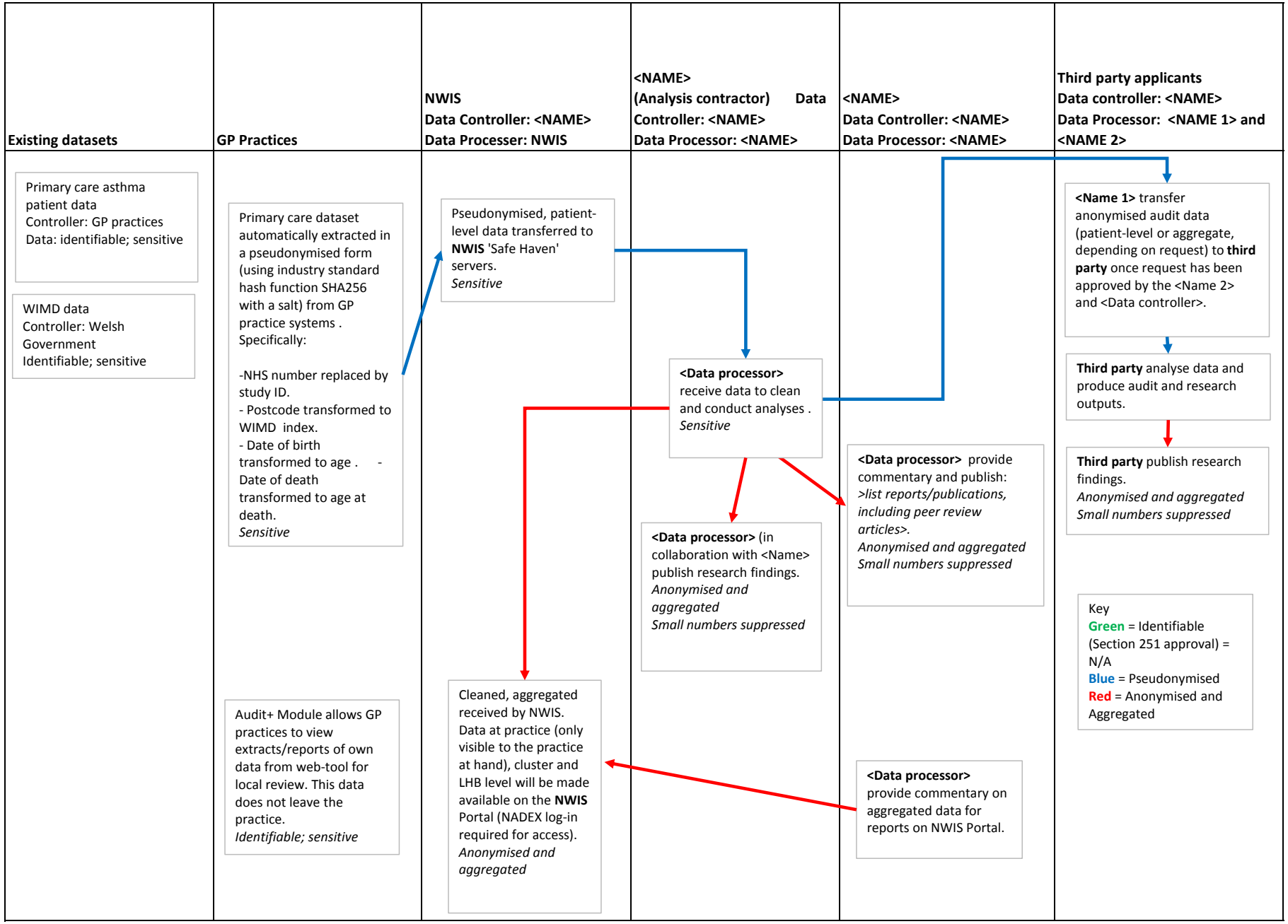
	NRAD Health professionals must be aware of the factors that increase the risk of asthma attacks and death, including the significance of concurrent psychological and mental health issues. **REASON FOR REMOVAL: Added to co-morbidities**
Proportion of children with asthma whose height has been recorded in the last year.	**REASON FOR REMOVAL: Component of annual review. No evidence for including individually.**
Proportion of children with asthma how are exposed to smoke at home	**REASON FOR REMOVAL: Will be captured via smoking/exposure to smoke query, not need individually.**
Transitional care (additional analysis) Look at frequency of exacerbations in teenage to 25 year age group compared to rest of population Look at smoking status and advice given to teenage to 25 year age group compared with rest of population (already measured in QOF)	**REASON FOR REMOVAL: Research, rather than audit.**
Organisational information	
Staffing levels Asthma diplomas Frequency of asthma clinics Average time of asthma reviews Content of referral letters	**REASON FOR REMOVAL: Not coded, would need to approach each individual GP practice for this information.**


Exisiting datasets
Trusts
<Name>
Data Controller: <NAME>
Data Processer: <NAME>
<Name>
(Analysis contractor)
Data Controller: <NAME>
Data Processor: <NAME>
<Name>
Data Controller: <NAME>
Data Processor: <NAME>
NHSD DARS and NWIS (Data Linkage)
Data Controller: <NAME>
Data Processor: <Data processor 1 (Webtool developer)>, <Data processor 2 (Audit team)>, NHSD, NWIS Linked
Data Controller: Multiple
Third party applicants
Data controller: <NAME>
Data Processor: <Data processor 1 (Analysis contractor)>, <Data processor 2 (Webtool provider)> and <Data processor 3 (Audit team)>
Secondary care hospital/trust patient data
Controller: hospital/trust
Data: identifiable; sensitive
IMD data
Controller: NHS Digital (NHSD)
Identifiable; sensitive
ONS mortality data
Controller: NHSD
Identifiable; sensitive
HES data
Controller: NHSD
Identifiable; sensitive
PEDW data
Controller: Welsh Government (NWIS)
Identifiable; sensitive
Trusts send identifiable asthma audit data to web-tool.
Identifiable; sensitive
Trusts able to download extracts/reports of own data from web-tool for local review.
Identifiable; sensitive
Identifiable asthma audit data stored in web-tool.
Identifiable; sensitive
<Data processor> sends identifiable data to NHSD/NWIS for linkage purposes .
Identifiable, sensitive
<DAta processor combine HES , PEDW, ONS data with asthma data.
Identifiable; sensitive
<Data processor> anonymises data - DOB changed to age, DOD to survival at x days (Y/N), Postcode to LSOA.
Sensitive
<Data Processor> receive data to facilitate management, respond to queries and conduct ad hoc analysis.
<Data processor> provide commentary and publish:
<list of reports and publications>
Anonymised and aggregated
Small numbers suppressed
<Data Processor> receive data to conduct analyses for audit and research outputs.
<Data processor> publish research findings.
Anonymised and aggregated
Small numbers suppressed
NHSD link data and provide HES and ONS data for asthma audit cohort + non-sensitive data for patients with asthma codes not in cohort (case ascertainment) and return to <Data processor 1>.
NWIS link data and provide PEDW data for asthma audit cohort + non-sensitive data for patients with asthma codes not in cohort (case ascertainment) and return to <Data processor 1>.
Identifiable; sensitive
Unlinked data
<Data processor 1> transfer anonymised audit data (patient-level or aggregate, depending on request) to third party once request has been approved by the <Data processor 2> and <Data controller>.
Third party analyse data and produce audit and research outputs.
Third party publish research findings.
Anoymised and aggregated
Small numbers suppressed
Third party analyse data and produce audit and research outputs.
Linked data
<Data processor 2> transfer anonymised, patient-level audit data to third party once request has been approved by the <Data processor 3> and <Data controller>.
NHSD transfer HES and ONS data to third party applicant (following application to HSCIC DARS, (facilitated by <Data processor 2> and the <Data processor 3>).
Key
Green = Identifiable (Section 251 approval)
Blue = Anonymised
Red = Anonymised and Aggregated

Appendix 24: Secondary care audit - paediatric data flow chart



Appendix 25. Primary care audit - data flow chart



Asthma Audit Development Project
Focus group summary report: 21st October 2017

Contents

1. Background to Research

The Royal College of Physicians (RCP) have been commissioned by the Healthcare Quality Improvement Partnership (HQIP) to deliver the Asthma Audit Development Project (AADP). The AADP will inform the specification of, and carry out some of the work required for, a National Asthma Audit which will start in 2018. The National Asthma Audit will collect information on every asthma patient who is admitted to hospital with an asthma attack in England and Wales, and ensure that their care matches existing asthma standards and guidelines. It has recently been confirmed that the National Asthma Audit will also cover Scotland. The National Asthma Audit will also develop a set of primary care queries for the purposes of direct data extraction from primary care practices in Wales, to provide insight into primary care practice and treatment of asthma patients. Exploration on how this can also be done in England and Scotland will be carried out. To ensure that asthma patients were able to contribute their views on how a National Asthma Audit should be conducted, RCP commissioned Asthma UK to undertake a focus group with a group of their Research and Policy volunteers.

2. Research Aims

To explore and understand:

- What people with asthma think is important to them about their asthma care
- What people with asthma think is important to record in an asthma audit
- Why a national asthma audit is important to people with asthma
- How people with asthma would like the draft patient level report and infographic to be

3. Method: Focus group

A focus group was carried out because it offers an interactive method to explore the views of people with asthma to meet the above research aims. The participants were given a brief written overview of the AADP prior to attending, and the example of the primary care section of the patient level report and COPD infographic were shared with the group when this point of the discussion was reached on the day. Although it is difficult to make firm conclusions based on just one focus group, it is sufficient to provide indicative answers to the aims and explore the thoughts and ideas of people with asthma in-depth.

3.1. Recruitment

- The focus group had 9 participants recruited using Asthma UK's network of Research and Policy volunteers. A recruitment specification was used to ensure a suitable mix of participants. The group contained representation from:
    - Both men and women
    - A range of ages from teens to 70's
    - A range of geographical locations across England and Wales
    - White British and Non-White British ethnicities
    - A carer of someone with asthma
    - A range of contact time with emergency hospital care
    - People diagnosed with asthma as both a child and adult

3.2. Facilitation

- The focus group took place on Saturday 21st October 2017 at Asthma UK's office in London.
- RCP's AADP Project Manager attended the focus group to observe the feedback first hand, and had the chance to ask questions at the end.

3.3. Analysis

- The focus group discussions were audio-recorded and transcribed professionally. Thematic analysis of the transcript was conducted in relation to the research aims.
- The report contains quotes to help bring life and evidence to the findings. The quotes have been chosen to best demonstrate a point.
- Due to the qualitative nature of the work, the level of opinion is presented textually rather than quantitatively.

4. Findings

4.1. Important attributes of routine asthma care

A number of logistical points were considered important for routine care:

- Most participants raised the importance of the consistency with who you see for routine care.

- Some participants raised the experience that when they see an asthma specialist (e.g. asthma nurse) rather than a general nurse/GP they are more knowledgeable about asthma.

- Most participants expressed the importance of getting an appointment when required.

The group highlighted the content of routine care appointments that is important to them:

- The importance of the asthma action plan was strongly expressed by the majority of participants:

"The creation of a plan. It all comes down to, for us, if we let it slip it will go. And it can spiral out of control and I'll be in hospital for a week."

(Participant 9)

- There were mixed views about asthma reviews, with most participants considering them to be important if done properly. There was concern that not much action or change came from some reviews:

"On the other hand, the six monthly check up with the nurse, I slightly feel is a complete waste of time. And I took, trying to trigger a little bit more action, I took the Asthma UK's printed out from the internet action plan to fill in with her. And she looked at it and said, oh well I don't know how to fill that in, I mean, after all everybody's different. Which I thought was the point of it. But I just said, okay, fine, I'm an intelligent educated woman, I can work it out love, don't worry."

(Participant 2)

- Triggers were raised as an important discussion point for a routine appointment by most participants.

- Most participants raised the importance of an inhaler technique check:

"But in reality nobody has ever in the last 20 years asked to see me using an inhaler and check that I am using it correctly. So, I think although it's a box ticking exercise, there is something about asking your GP practice are you sure that this person knows, have you actually checked while they've been with you."

(Participant 2)

And there's another massive gap as in I believe, we weren't told properly how to use your inhaler until about last year.

(Participant 9)

- The majority of the group stressed the importance of receiving the correct medication and dose for their asthma and symptoms:

"And it was only by accident in '91, when I went to a well man clinic, the person that was doing it was an asthma Nurse Specialist. And that made a huge difference because she then concentrated for the next 12 months on getting a preventer right, etc. etc."

(Participant 2)

"And you know, I was told when I moved out of London that I was on a children's dose of preventer and I shouldn't have never have been on it. I was on it for like 10 years living in London."

(Participant 1)

- Most the group mentioned the importance of specialist diagnosis to ensure that they are on the correct treatment path. The nitric oxide test was discussed as being experienced by a couple of participants, some discussed the trial and error of treatments as a first port of call in a negative way:

"And so, we were referred to a consultant at X who said, I'm gonna deal with your allergies and your asthma because they're connected. And the first thing he did was do the nitric oxide testing and actually did a very proper diagnosis to his asthma"

…

"That's the diagnosis, that's the proper diagnosis. Not just a here have an inhaler and see if it gets any better [laughs], you know. Cos, somebody may have taken the flowers that was causing your problem out of the house or, there's all sorts of things that can trigger these."

(Participant 8)

- The assessment of comorbidities like allergies was considered important to some members of the group, and one participant raised this as an important part of diagnosis.

- Some participants discussed importance of a referral to a specialist consultant for a full asthma review and/or access to severe asthma treatments where necessary.

- The participants highlighted the importance of a review of any emergency hospital care with their GP/nurse.

- One of the participants mentioned the need for doctors to speak to the school of a child with severe asthma to discuss their needs.

Further to GP surgeries providing routine care, the availability of nebulisers at surgeries particularly in rural areas was considered important by the group.

4.2. Important attributes of emergency hospital care

On arrival and during stay

- Most respondents raised the correct asthma severity assessment and consequential treatment to be of high importance:

"…But at the hospital, quite often we've gone, been made because their standard operating kind of practices are that you've got to do 10 puffs on your inhaler, then wait and then do that another nine times before they then say, oh no it's quite bad actually. And then, like I say, he's gone on to have five, sixfold … nebulisers. And they're going, do you know what we can't stabilise this and he's been in and then admitted for a week, a week after that. That was crazy."

(Participant 8)

…

"So, for me that's … I mean it's challenging. It's almost like it's a near miss really. So, they have been applying an incorrect treatment package for an emergency situation and they've not been quick enough to respond to those challenges…"

(Participant 8)

- One participant discussed the importance of their assessment and treatment by the paramedics before arrival at hospital.

- One participant strongly expressed the importance of allergy assessment on admission to hospital:

"Allergies as well. Honestly, it's the most dangerous place we've ever found for eating is in a hospital. The number of times I've been there and then tried to get something to eat and then she's basically just pulled the spoon out of the macaroni and cheese and just stuck it in the chips to try and give me some food. Just stuff like that"

(Participant 9)

Review and discharge

- There was discussion in the group of the following being important to be included in the review at discharge:
    - Why the patient ended up in hospital
    - Medication review
    - Inhaler technique check
    - Referral to a specialist consultant and access to correct treatment

- One participant mentioned the importance of not discharging a patient prematurely and putting them at risk and potentially causing readmission.

- One participant discussed the length of hospital stay as a reflection of how appropriate the treatment received was.

4.3. Important to know about patient to assess care received

- The importance of the age of patient was strongly expressed throughout the group, particularly in relation to children being different and looked at in isolation. Older patients with dementia were also discussed by some of the group as being important to look at in isolation:

"And I'd be intrigued to know how in those situations where we've got elderly care, that there's an asthma care plan in place and how those people have responded to that. And whether or not they're being monitored and how they are being monitored. Are they being monitored on the basis that they're going to express their own difficulty of breathing, or is somebody trained to spot it. And I think I know what the answer to that question is."

(Participant 8)

"Totally. And I think the same applies for young children."

(Participant 7)

- A couple of participants raised the difficulty of dealing with late onset asthma, raising the importance of age and date of diagnosis to identify this group:

"So, I think it's more difficult for people with late onset asthma because I don't know any … I really don't know any different."

(Participant 7)

- Triggers were raised as important by the majority of participants.

"Triggers. I think it would be nice if they're collecting information about people with asthma and their triggers, it would be good to have that nationally to find out you know is it pollution. Is pollution a trigger. Is smoking kind of thing. Is it dust like"

(Participant 1)

- Some participants mentioned the importance of comorbidities and the symptoms and side effects from the various treatments.

"Relationships to comorbidities. If they've got other things which have developed in their life, it's quite important."

(Participant 8)

- One participant raised the importance of family history.

- Some participants discussed the importance of identifying whether a person with asthma has mental health conditions, dementia and/or learning difficulties.

"…But also at the other end of the scale, if you are moving in to an area where you've got patients who are suffering from dementia or any … it's a hugely risky area for people. So, if you are under the care of the somebody and you're not necessarily able to control or express the same kind of warning signs that maybe everyone on the table would consider obvious today, wind the clock forward a few years. You're in a care home, okay, and you're starting to struggle with your breathing. Would somebody else spot that? How does somebody else baseline that?"

(Participant 8)

- Lifestyle issues in general were mentioned by one participant, diet was mentioned by another participant, and most the participants discussed smoking as being important to asthma, and discussed the likely underreporting of smoking levels to health care professionals.

4.4. What they would like to come out of the National Asthma Audit and how would they use the data

The importance of breakdown of the results by various patient characteristics was a common theme

- One participant strongly expressed the need for a breakdown of people with mild, moderate and severe asthma and to give a comparison with measures such as peak flow, hospital admissions and elements of care received.

"I would be really interested in seeing kind of a breakdown of the different categories, so mild, moderate and severe. And to see the variation that occurs within that. And then see well based on this is there anything we can break it down to better assist. And even if it's number based. So, a wider range of things and then maybe for your base level asthma. So how bad your asthma is in terms of how bad it can get and then how bad you are at the moment."

...

"But to make that kind of point and to change it, you need to have a look at the discrepancies within that scale itself. So, just looking at say, well these are the people who have said mild, here's their peak flows, sometimes they've been in hospital and then look at the variation across that. And it's gonna be massive I reckon. And then basically kind of have to providence or you know, lack thereof, for change in that system."

(Participant 9)

- Most the group discussed the importance of the audit showing the geographical variation with provision of "gold standard" care package down to county level and individual GP surgeries.

- Many of the respondents discussed the importance of separate reporting for underrepresented groups like children and older people with dementia.

"I think there's a huge amount of detail that can't possibly be included in a small leaflet to be given to patients. And if you are very involved then you're going to want to drill down a lot more. But actually national things give a really wide overview. And my feeling was that perhaps on this edition you'd drill down in to people ... they'd drill down to people with mental health or learning difficulties and that maybe the next one will drill down in to a different area."

(Participant 2)

Some of the participants highlighted areas that an overview would be useful in relation to statistics at a GP practice level. These areas are:

- Number/Percentage of patients who:
    - Have asthma
    - Have asthma and have been seen by their GP/Nurse
    - Have asthma and have received each of the basic elements of care
    - Have asthma and have attended A&E and/or been admitted to hospital
    - Have asthma and have been admitted to hospital for asthma within a month of attending their GP surgery to discuss their asthma
- How many languages
    - Can asthma reviews be accommodated in/translated to?
    - Do they have asthma action plans available in?

"I don't know how ... what detail the audit's gonna go in to. But you'd want to know how many patients have got asthma, have they seen those patients, have they done reviews, have they got plans in place for all of those patients. Cos, they may have lots of asthma patients that they've never actually seen in like five or six years. So, I don't know if you want to collect basic baseline information that would basically give you some idea of what's going on in that practice with regards to asthma care. And then the next level is, okay, when you see those patients what are you doing with them in the time that you see them."

(Participant 8)

"…And how many people go to their GP cos they're worried about their asthma, so have a doctor's appointment. But within a month are admitted to hospital for their asthma. That's gonna give us a fairly clear picture as well as to whether or not the GPs are being effective. And you could break that, then drill that kind of basic data down in to really localised areas. You can start with counties and then you can almost go down to practice level can't you. Surely that's got to be the way that we're actually identifying whether or not what we're doing is working. Cos I don't know that we know yet."

(Participant 2)

One participant strongly expressed the importance of routine care and asthma to save the NHS money:

"… Cos, if we were getting what we needed from our day to day practitioners we wouldn't even go to hospital."

(Participant 4)

Other topics identified as useful to come out of the National Asthma Audit

- One participant strongly expressed the view that the audit will give evidence on the importance of each element of care which may change thinking on what the "gold standard" package of care is:

"So, surely the national audit's actually going to be identifying some of that, or it should be. So, does it make an impact if people do actually attend their six monthly reviews or don't. I mean, we assume it's a good thing. But actually is the evidence there that it is…"

(Participant 2)

- Some participants suggested the idea of showing the relevant asthma triggers by geographical location.

- One participant identified the importance of quantifying the gap between preventer inhaler usage and stated adherence particularly for teenagers.

- Some participants discussed a quantification of how far people with asthma are away from hospitals and where the nearest GP surgery with a nebuliser is.

How people with asthma will use the output from the audit

- Some of the group raised the use for informed patient choice between GP practices on where delivers the better asthma care.

- A few of the group discussed the ability to improve patient understanding on what to expect**,** including carers of people with mental health or learning conditions to ensure that they receive the care they need:

"If you've got a choice of GPs practice to have influence about how one handles it better than the other. I mean that's informed patient choice isn't it. Where you live in the country, how well they respond to asthma is informed patient choice. And so that if you are in the circumstances where you've only got one GPs practice within the locale, you know, then … and if you can see that they're not particularly great at handling this then when you go for a visit, you are in a position to maybe ask them some questions about, am I not also, not gonna have, let's take that you know the seven things, and they're only giving you four. You can say, where are the other three things please to help me manage my condition."

(Participant 8)

- A small number of participants mentioned the use of the audit output to campaign to improve the local area like the inclusion of nebulisers in local GP surgeries. This included campaigns on behalf of

groups who are not receiving a high standard of care who are not able to campaign for themselves (including people with mental health or learning difficulties, or where English is not their first language):

"Yeah, we're assuming the data is going to start to give us information about what works and what doesn't work. So, then you can look at this place seems to have the gold standard and be most effective, what do we need to do here to get it up to that level. But some of it we do need to actually be quite sure whether it works or not."

(Participant 2)

- A small number of respondents also raised the use of the audit results to raise awareness of the seriousness of asthma in schools.

4.5. Patient level report

The example of the primary care section of a patient level report shown in Appendix 2 was shared with the group. This report section was produced by the AADP as a mockup of what the patient level report could include and look like, and was used to encourage feedback. Feedback was received in a number of areas:

Layout

- The participants found the draft report messy and difficult to follow.
    - The switch between two and one columns amplified the difficulty to follow.
- One participant highlighted the difficulty to read black text on dark colours (referring to the pie chart).
- One participant expressed their like of the increased font size and emboldening of key points, but was less complementary of the colour changing:

"I think actually the size of the font and actually emboldening key points is really, really important just as your eye moves down the page. But then it's kind of like, I'm not sure about the colour changing…"

(Participant 4)

Charts

- The group were generally positive about the inclusion of charts in the report.
- The majority of participants favoured the bar charts due to their ease of understanding and accessibility.
- Some participants raised the importance of a consistent chart style and colour.
- One participant highlighted the need for the chart scale to go down to zero.
- One participant mentioned that progress overtime should be shown so that an assessment can be made as to whether this is a good or bad result.
- One participant suggested the inclusion of a Venn diagram to show the breakdown of respondent age.

Guidelines

- The inclusion of the guidelines was questioned by many of the participants, showing that the reason of including these needs to me made clear. It was suggested that the report following the guidelines should show whether the guidelines are being met or not, and whether there are any regional and socio-demographic disparities.
- Some members of the group questioned whether the guidelines go far enough (e.g. Annual review too far apart especially with the seasonality of asthma). One participant raised that it is important to explain that these are the current guidelines and unless we meet these there is less chance of increasing them.
- Some of the group questioned the meaning of the National Review of Asthma Deaths (NRAD) line stating that "People at high risk of severe asthma attacks should be monitored more closely, ensuring that their personal asthma action plan (PAAPs) are reviewed and updated at each review". The general consensus was that this is too vague and needs to be more specific to allow monitoring.
  "More closely, what does that mean? It should be more specific. It should be monitored whenever this happens or monitored at least quarterly or something like that."

  (Participant 1)

Recommendations box

- Some of the participants raised that the recommendations box should include what you are going to do about the results and what you're going to look into next.
- One participant mentioned that this could be branded as an action rather than recommendation as this encourages the patient to go and do it.

Pictures

- The participants had mixed views on the pictures, with positive comments in relation to breaking up the text and negative comments in relation to being unnecessary and looking childish. Their use as bullet points in a poster was raised as an idea and also as different visual representations for groups to help identify the relevant bits (e.g. children, people with mental health conditions):

"I think the little logos are nice. Cos, if you use them consistently they will sort of help break up the stats and sort of take your … people who don't want to read the stats can just read these sort of conclusions."

(Participant 1)

"That clipart thing there, I just don't think so. So, maybe if you use a series of other, kind of these ones like this, perhaps just like in poster bullet points perhaps. Just kind of bringing that up somewhere else. But simply putting in that one there to perhaps just show a review when it's just a check list just seems unnecessary and it seems just sort of childish and cartoonish…"

(Participant 9)

The group put forward a number of suggestions in relation to the report:

- The general consensus in the group was that the report needs to tell a story, starting by expressing the purpose of the report and what you want the patients to do with this information.

"I would have liked it to start off saying, people with asthma should have no symptoms and they should not be experiencing any symptoms because their medication is appropriate for them. And then these standards will achieve that. And then the measure of health whatever data it is you want to put up that measures whether or not you know those standards are leading … being adhered to and leading to the fact that people with asthma are on the right medication and they're experiencing no symptoms and they're leading a full life."

(Participant 1)

"But the purpose of the audit is not only just to improve your guidelines but also to measure and improve GP practice, yes?"

(Participant 1)

- The need for a glossary of the terminology used like comorbidity, exacerbation, healthcare professional and any acronyms was discussed by some of the participants.

- One participant strongly expressed the need for the inclusion of the number of people the data represents, and another participant mentioned that the larger the number the stronger the campaigning power. When clarified, it was confirmed that the inclusion of the number at the start would be sufficient unless the numbers in each of the sections changed throughout.

- Some of the participants expressed the importance of demonstrating the representativeness of the sample by factors such as geography, ethnicity and age.

- There was consensus among the group that there should be specific sections for children, teenagers and elderly. One participant suggested that this be in the form of one page of infographics highlighting the areas of concern:

"Yeah, cos you'd want to know. So, 75% of the asthma patients had an annual review. Well who are those 75%? Is it elderly and children? Who's the 25%? Are they all teenagers?"

(Participant 1)

"Make sure to separate children and teenagers for difference because they're equally different"

(Participant 9)

- A few participants discussed the release of different report editions, each with a different focus, for example mental health.

- Some of the group expressed the importance of the inclusion of breakdown by socio-economic group, ethnicity and first language to ensure engagement with different communities:

"Yeah, how good are they engaging with the different communities. Is there a gap? When you lump all of this data together, they say, yeah we engage with 80% of people. Okay, is that 80% of all people or is that 100% of the white middle class insistent English speaking community and only 40% of the Bangladeshi East End of London community and clearly then there's a gap. And that's unfortunately, that's where unmet need lies isn't it. You know when we merge these data sets together and we go, yeah 80% of us, it's not as bad as 75, is it. Whereas actually there's a whole bunch of people out there"

(Participant 8)

- One participant suggested that up and down arrows could be used to show what measures were positive and negative respectively.

4.6. COPD Infographic

The COPD infographic shown in Appendix 3 was shared with the group. This infographic was intended for a wider audience than asthma patients specifically, and was being shown to the group as an example of what could be produced from the National COPD Audit and could therefore be replicated for the National Asthma Audit. Feedback was received in a number of areas:

Positive comments

- The general opinion in the room was that the COPD infographic is attractive and that they would be drawn to read it.
- Some participants commented that they like how it tells a story.
- One participant mentioned that they like the lungs with the magnifying glass at the top.
- The general consensus in the group was that the four graphs at the top contained important information, and they liked how they were presented, particularly the use of the up and down arrows:

"The things I like to see are the four things up there which are all kind of the immediate things you're drawn to. You know, the infant mortality and stuff these are the biggest kind of selling points I think…"

(Participant 9)

Negative comments

- Other than the top four graphs the majority of participants expressed that the information included was not relevant to them as a patient:

"To be honest, the only thing that I'm interested in this top bit. The rest I kind of not that bothered to know about."

(Participant 1)

- One participant expressed concern that the most important points at the top are smaller than the less important points further down.

- A small number of participants raised the opinion that grey on grey doesn't work well.

The group put forward a number of suggestions in relation to the infographic:

- A small number of participants raised the importance of colour usage and how it could be used to link topics across the infographic thematically. Concern was raised by one participant that red is a danger colour and should be used sparingly to highlight important points; in this example people would be immediately drawn to the "reports" section due to the red colour.

- One participant mentioned that circular representation of the infographic could work.

- One participant mentioned that they would like to know how many practices were audited, but that no further methodological information was needed.

- Similarly as with the report, one participant raised the need for the infographic to tell a story, summarising what has and hasn't improved and what you want the patients to do with this information.

- The general consensus in the group was that the infographic pages should take two forms, one for patients which can be displayed in waiting rooms and one for doctors areas displaying information relevant to them:

"You need to have specific literature targeted at the patient cos then you could send it to every GP practice and the patient participation groups can then give it out to the patients. And make sure it's put out in the GP surgery."

(Participant 1)

- One participant expressed the need for child and teenager specific infographic pages for use on children's wards:

"Then even with targeting the patients as well, it's good to have a split maybe in general and then if you're going to have one in terms of areas, like the children's wards in hospitals. It's good to have one aimed at children and teenagers then. Cos that way if they go in and they see it there, it's a lot easier for the parents to make out, that actually this is the stuff that affects my child. And is probably likely to read it than just a general one with all this information down at the bottom or maybe a bit here, put a bit of children's stuff."

(Participant 9)

- When prompted, most the group said that they would like the same infographics to be used in both the patient level report and infographic page.

4.7. Gathering views and experiences of people with asthma

Although this section of the topic guide was not asked explicitly due to time constraints, the group raised suggestions for a number of questions which could be asked to people with asthma directly to assess if they were receiving good care:

To assess the quality of emergency care the following two questions were mentioned:

- Have you had an emergency episode where your initial treatment has not responded?
- How quickly were you progressed to the next stage of treatment?

To assess the quality of the asthma patients life the following two questions were raised:

- Have you taken antibiotics?
- Have you had a cold?

To assess the persons asthma and their resultant well-being, these three questions were mentioned:

- How is your asthma? On a 10 point scale instead of severe, moderate and mild.
- How is your asthma making you feel?
- How limiting is your asthma?

5. Summary and Conclusions

In summary and conclusion, the following eight key issues stand out:

1. **The importance of looking at different groups in the population separately, particularly for children**
   This was a common theme throughout the group and almost all participants mentioned it's importance in some way. Groups mentioned as important to look at in isolation were children, teenagers, older people with dementia, people with mental health conditions and/or learning difficulties and people for whom English is not their first language.

2. **The level of asthma care received in routine appointments is important**
   Most respondents raised the importance of their routine asthma care. Many respondents strongly expressed the importance of this care being done properly, particularly the asthma review and inhaler technique check.

3. **The significance of GP level statistics for patients**
   This was mentioned by many participants as giving them informed patient choice and a basis to campaign for better care.

4. **When receiving emergency care the correct asthma severity assessment and consequential treatment is of high importance**
   The participants discussed their stories of emergency care where experienced, which resulted in most participants highlighting the importance of correct severity assessment and consequentially the appropriate treatment.

5. **The importance of trigger identification for people with asthma**
   Most participants raised the importance of trigger identification and its role within a routine appointment. Some participants suggested that triggers should be reported at a national level by geographic location.

6. **Results of a future National Asthma Audit are useful for people with asthma**
   A variety of uses of the audit output were mentioned by a range of participants. Potential uses by people with asthma include informing patient choice, ensuring patients know what care they should receive and also to aid campaigning for better care.

7. **Positive opinions on a patient focussed report with a clear purpose and meaningful breakdowns**
   The majority of participants expressed positivity towards a patient focussed report but stressed the need for it to have a clear purpose, with meaningful sections or editions for underrepresented groups like children and people with mental health conditions. Many of the respondents raised concern with some aspects of the design, emphasising the need for a good consistent design throughout.

8. **Positive opinions on an infographic page relevant to the patient audience**
   Almost all participants gave a positive response to the COPD infographic page, but the importance of all information being relevant to the audience was strongly expressed.

Appendix 1: Topic guide

Asthma Audit Development Project

Focus group topic guide: 21st October 2017

Research Aims

To explore and understand:

- What people with asthma think is important to them about their asthma care
- What people with asthma think is important to record in an asthma audit
- Why a national asthma audit is important to people with asthma
- How people with asthma would like the draft patient level report to be
- Where to look to understand the views and experiences of people with asthma (time dependent)

Introduction

- Thank you for agreeing to take part
- Housekeeping: Fire exits and toilets
- Introduce Cat (Senior Insight Analyst) and Andrew (Policy Analyst)
- Introduction to Asthma UK (keep brief as all AUK volunteers)
- Explanation of research
    - Royal College of Physicians
    - Introduce Rachael (Project manager)
    - Asthma Audit
- Details of participation
    - Voluntary
    - Confidential
    - Recording and data protection
    - Quotes in report: permission form at the end (if not completed at the start)
    - No right or wrong answers
    - May move topics on as have a lot to cover
    - Length of group – up to 1.5 hours
    - Travel expenses will be processed at the end
    - £30 thank you payment voucher to be provided at the end
- Questions?
- Start recording now

Participant background

- Ask each participant to introduce themselves, including:
    - Their name
    - Where they live
    - How long they (or their child if applicable) have had asthma
    - Were they diagnosed with asthma as a child or adult
    - How they would describe their asthma severity: Severe, Moderate, Mild
    - Where do they receive their day to day asthma care (e.g. GP surgery, specialist centre)

What is important to them about their asthma care/ What do they think is important to be recorded in an asthma audit

Views on what is important to them to be included in their routine care (doctors surgery or specialist centre)

- Annual review
  - Date of review
  - What the review included (items in blue below could be discussed in relation to the annual review or generally about their routine care)
- Medication
  - Inhaler
    - Type of inhaler(s)
    - How many reliever inhalers
    - How many preventer inhalers
    - Inhaler technique check
    - Inhaler dose
    - Preference for a metered dose inhaler
      - Spacer
  - Oral steroid tablets
    - Number of prescriptions
    - Doses
  - Co-morbidities
    - How medications work together
    - Side effects
- Asthma attacks
  - Number/frequency of asthma attacks
  - Hospital attendance due to asthma attack
    - GP follow up (within 2 days)
- Diagnosis
  - Correct
  - Up to date tools/guidance
- Clinical measures
- Other factors
  - Personalised asthma action plan
  - Triggers discussion
  - Referrals to secondary and tertiary care
  - Smoking cessation/medication

- **Views on what is important to them in relation to emergency care when admitted to hospital**
  - Arrival
    - Arrival time at hospital
    - Treatment administered
    - Physical condition/Asthma severity
    - Pre-hospital treatment
    - Pre-hospital condition
  - During their stay
    - Treatment administered
    - Physical condition
    - Anything else important to their experience
  - Review and discharge
    - Time discharged from hospital (length of stay)
    - Inhaler technique check
    - Assessment of medication

        - Assessment of adherence
        - Personalised Asthma Action plan
        - Triggers and exacerbating factors
        - Smoking cessation
        - Follow up appointments
        - Prescription (e.g. Prednisolone)

What do they think is important for the doctor or nurse to know about the asthma patient to be able to assess the most appropriate care/
What do they think is important to be recorded in the asthma audit about the asthma patient to be able to assess the most appropriate care (*Emergency care or routine care*)

- Demographics
    - Age
        - Are they transitioning from paediatric to adult services
    - Gender
- Other health conditions or disabilities
    - Mental Health
    - Learning disability
- Smoking status
    - Exposure to second hand smoke
- Asthma details
    - History
    - Medication

Why a national asthma audit is important to them

What does a national asthma audit mean to them

- What information would they like to come out of the audit
- How would they use the asthma audit output/information
    - Their care
    - Campaign for service improvement/development

What do they think of this patient level report

- Secondary care (hospital) section
    - Give them a quick minute to look through: If anything jumps out to them feel free to shout out
    - Layout
        - What do they think about the visualisations
            - Type
                - Stacked bar chart
                - Donut
                - Pie chart
                - People size
            - Do they understand the data shown?
                - Is explanation needed to help understand the charts
            - Would they prefer all the same or a mix of charts?
            - Would they prefer the data to be shown in other ways
        - What do they think about the pictures (e.g. Smoking, Brain)
        - What do you think about the text size and variations throughout?
    - Content
        - What do they like

        - What do they dislike
        - Most important topic(s) to be included (doesn't have to be included in this example)
        - How would you feel about including a section showing how many asthma patients admitted to hospital died from their asthma
        - What do they think of the recommendation(s) box
        - What do they think of the mental health/learning disabilities section
        - Do they think an introduction is needed to the National Asthma Audit and terms used?
        - How do they find the language it is written in
            - How could the language be improved
- Primary care (local doctor) section
    - Layout
    - Give them a quick minute to look through: If anything jumps out to them feel free to shout out
        - What do they think about the visualisations
            - Type
                - 3d pie chart
                - Bar chart
                - Line chart
            - Do they understand the data shown
                - Is explanation needed to help understand the charts
            - Would they prefer all the same or a mix of charts
            - Would they prefer the data to be shown in other ways
        - What do they think about the pictures (e.g. Brain, Upward arrow, Clipboard)
        - What do you think about the text size and variations throughout?
    - Content
        - What do they like
        - What do they dislike
        - Most important topic(s) to be included (doesn't have to be included in this example)
        - What do they think of the recommendation(s) box
        - What do they think of the standards/guidelines
        - What do they think of the mental health/learning disabilities section
        - Do they think an introduction is needed to the National Asthma Audit and terms used?
        - How do they find the language it is written in
            - How could the language be improved
- Infographic
    - Give them a quick minute to look through: If anything jumps out to them feel free to shout out
    - Would they find a similar thing useful
    - What do they like
    - What do they dislike
    - Most important topic(s) to be included

Where else to look to understand views and experiences of people with asthma (Time dependent)

- How do they feel about online surveys
    - How would they like to find out about a survey
    - How do they think is a good way to get people with asthma to complete a survey
- Do they think that mental health conditions are important in an audit?
    - How can we encourage people with mental health conditions to tell us about their care

- We want to ensure that we capture the views and experiences of people from different backgrounds
    - What organisations/community groups can we work with to help reach a diverse range of people

Rachael to ask any questions

Close

- Any other thoughts?
- Turn recording off
- Thank participants for their contributions
- Reaffirm confidentiality and anonymity
- Next steps for project
- How to contact research team (Cat Broadbent) in case of any queries or concerns
- Expenses and thank you payments

Appendix 2: Example of the primary care (local doctor) section which was reviewed in the focus group

Example of the primary care (local doctor) section

Annual asthma reviews by a local doctor

Asthma standard or guideline

NICE quality (QS 25) - statement 5: Review
People with asthma receive a structured review at least annually.

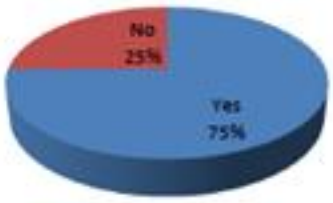
National Review of Asthma Deaths (NRAD
People with asthma should have a structured review by a healthcare professional with specialist training in asthma, at least annually. People at high risk of severe asthma attacks should be monitored more closely, ensuring that their personal asthma action plan (PAAPs) are reviewed and updated at each review.

BTS/SIGN (153): British guideline on the management of asthma
In primary care, people with asthma should be reviewed regularly by a nurse or doctor with appropriate training in asthma management. Review should incorporate a written action plan.

Asthma standards and guidelines state that people with asthma should be have their asthma reviewed by their local doctor at least once a year.

Of the asthma patients the National Asthma Audit received information on from local doctors in Wales 75% had had an annual review of their asthma in the last 18 months.

Asthma patients who received an annual asthma review by their local doctor

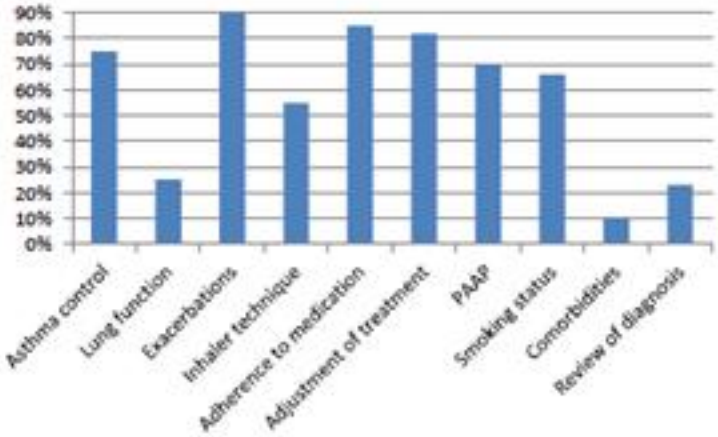


75% of asthma patients had a review of their asthma by a local doctor

Annual asthma reviews should include ten key components.

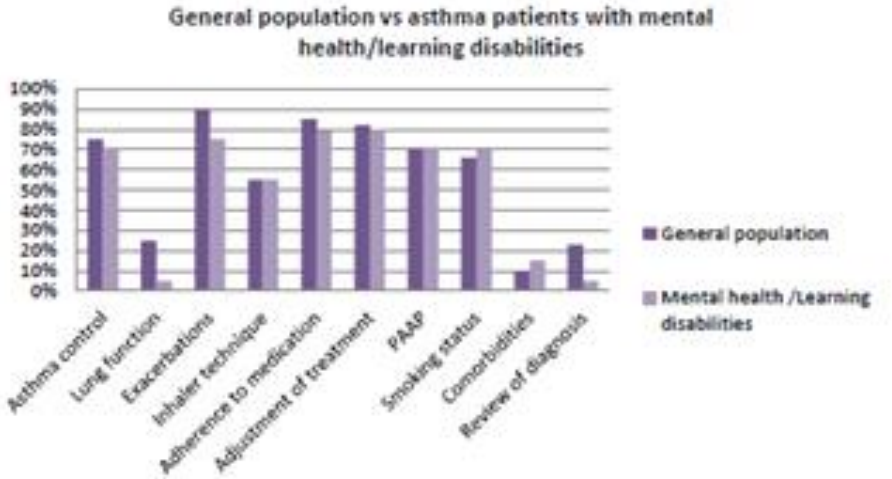
The chart below shows you out of the 75% who had an annual review, what components were included in those reviews.

Annual review components



Does care differ for people with mental health or learning disabilities?

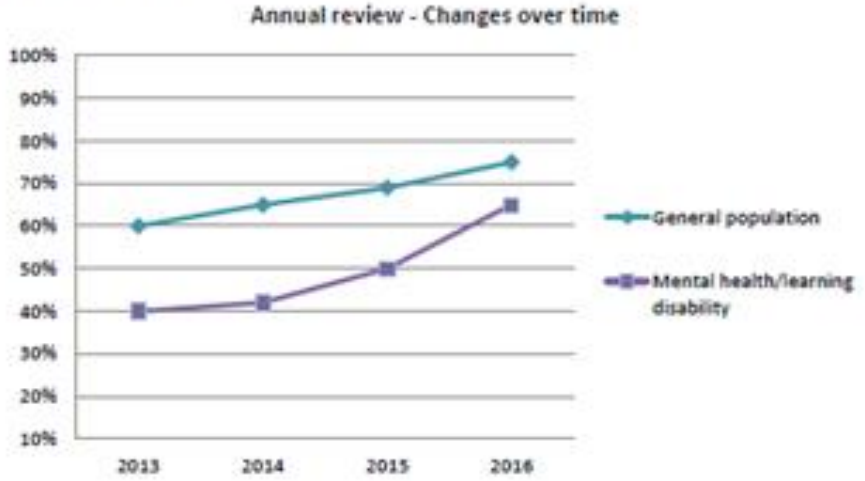
The graph below shows the difference in the number of annual review components received by the general asthma population compared with those with a recorded mental health or learning disability.



Asthma patients with a mental health or learning disability are less likely to receive a lung function test, a review of their exacerbations or an assessment of their adherence to asthma medication. They are more likely to have a review of their smoking status and comorbidities.

Changes over time

The number of annual asthma reviews, and individual review components being delivered within those reviews, have both increased since 2015.

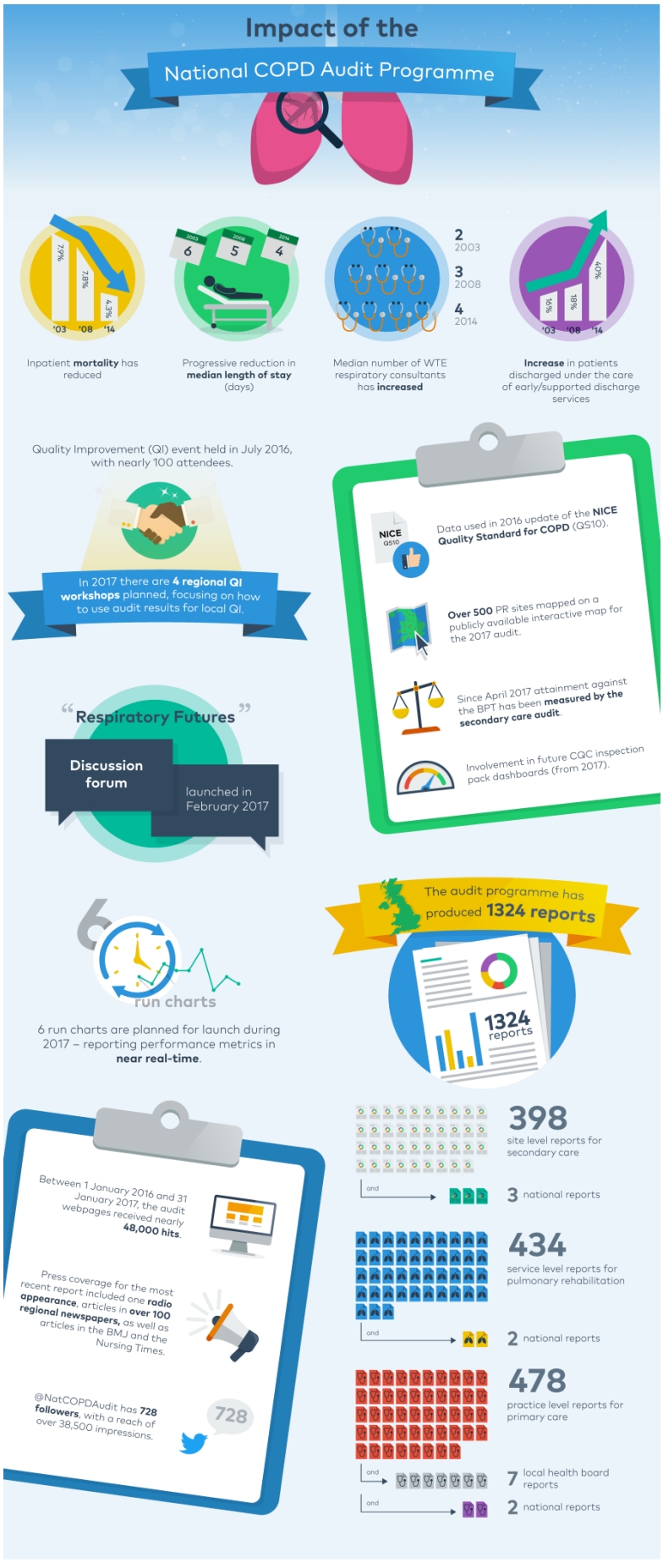


Annual reviews have increased by 6% in the general population since 2015

Recommendation(s)

This box will tell you what recommendation(s) the National Asthma Audit has produced specifically for local doctors and annual asthma reviews.

Appendix 3: National COPD Audit Programme Infographics



Section	Generic Questions					
Variable name	Age_Number	Age_Mean	Age_Stand deviation	Age_Median	Age_Lower Quartile	Age_Upper Quartile
Question number	Q1.1	Q1.1	Q1.1	Q1.1	Q1.1	Q1.1
Variable	*age_N*	*age_mean*	*age_sd*	*age_median*	*age_lq*	*age_uq*
National results	292	42.8	17.7	41.0	28.0	54.0

Gender_Male_ Number	Gender_Male_%	Gender_Female_ Number	Gender_Female_%	Gender_Total	Recorded Mental Health_Number	Recorded Mental Health_%	Recorded Mental Health_Total	Recorded Learning Dis._Number	Recorded Learning Dis._%	Recorded Learning Dis._Total
Q1.2	Q1.2	Q1.2	Q1.2	Q1.2	Q1.4	Q1.4	Q1.4	Q1.5	Q1.5	Q1.5
gendernumerator1	*gendernumpc1*	*gendernumerator2*	*gendernumpc2*	*genderdenominator*	*q14numerator*	*q14numpc*	*q14denominator*	*q15numerator*	*q15numpc*	*q15denominator*
74	25.3	218	74.7	292	61	20.9	292	4	1.4	292

Smoking status_Never_ Number	Smoking status_Never_%	Smoking status_Ex_ Number	Smoking status_Ex_%	Smoking status_Current_ Number	Smoking status_Current_%	Smoking status_ Current_Vaping_ Number	Smoking status_ Current_Vaping_%	Smoking status_Not recorded_Number	Smoking status_Not recorded_%	Smoking status_Total	Exposure SHS_No_Number	Exposure SHS_No_%	Exposure SHS_Yes_Number	Exposure SHS_Yes_%	Exposure SHS_Not recorded_Number
Q1.6	Q1.6	Q1.6	Q1.6	Q1.6	Q1.6	Q1.6	Q1.6	Q1.6	Q1.6	Q1.6	Q1.7	Q1.7	Q1.7	Q1.7	Q1.7
q16numerator1	*q16numpc1*	*q16numerator2*	*q16numpc2*	*q16numerator3*	*q16numpc3*	*q16numerator4*	*q16numpc4*	*q16numerator5*	*q16numpc5*	*q16denominator*	*q17numerator0*	*q17numpc0*	*q17numerator1*	*q17numpc1*	*q17numerator2*
134	46.5	54	18.8	81	28.1	1	0.3	18	6.3	288	88	30.4	61	21.1	140

		Pre-hospital care		
Exposure SHS_Not recorded_%	Exposure SHS_Total	Pre-hosp_steroids_Yes_ Number	Pre-hosp_steroids_ Yes_%	Pre-hosp_steroids_ Yes_Total
Q1.7	Q1.7	Q2.1	Q2.1	Q2.1
q17numpc2	*q17denominator*	*q21anumerator*	*q21anumpc*	*q21adenominator*
48.4	289	102	36.3	281

						Acute presentation and admission					
Pre-hosp_β2 agonist_Yes_Number	Pre-hosp_β2 agonist_Yes_%	Pre-hosp_β2 agonist_Total	Pre-hosp_Oxygen_Yes_ Number	Pre-hosp_Oxygen_Yes_%	Pre-hosp_Oxygen_Total	Heart rate_Number	Heart rate_Mean	Heart rate_Standard deviation	Heart rate_Median	Heart rate_Lower quartile	Heart rate_Upper quartile
Q2.1	Q2.1	Q2.1	Q2.1	Q2.1	Q2.1	Q3.1	Q3.1	Q3.1	Q3.1	Q3.1	Q3.1
q21bnumerator	*q21bnumpc*	*q21bdenominator*	*q21cnumerator*	*q21cnumpc*	*q21cdenominator*	*q31_N*	*q31_mean*	*q31_sd*	*q31_median*	*q31_lq*	*q31_uq*
192	67.4	285	80	29.3	273	287	104.7	18.4	104.0	93.0	118.0

Resp rate_Number	Resp rate_Mean	Resp rate_Standard deviation	Resp rate_Median	Resp rate_Lower quartile	Resp rate_Upper quartile	PEF arrival_Number	PEF arrival_Mean	PEF arrival_Standard deviation	PEF arrival_Median	PEF arrival_Lower quartile	PEF arrival_Upper quartile	PEF predicted_Number	PEF predicted_Mean	PEF predicted_ Standard deviation	PEF predicted_Median
Q3.2	Q3.2	Q3.2	Q3.2	Q3.2	Q3.2	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3
g32_N	*g32_mean*	*g32_sd*	*g32_median*	*g32_lq*	*g32_uq*	*g33a_N*	*g33a_mean*	*g33a_sd*	*g33a_median*	*g33a_lq*	*g33a_uq*	*g33b_N*	*g33b_mean*	*g33b_sd*	*g33b_median*
288	24.4	6.6	23.0	20.0	27.5	215	224.5	90.8	210.0	160.0	280.0	87	431.1	92.2	430.0

PEF predicted_Lower quartile	PEF predicted_Upper quartile	PEF Prev.B_Number	PEF Prev.B_Mean	PEF Prev.B_Standard deviation	PEF Prev.B_Median	PEF Prev.B_Lower quartile	PEF Prev.B_Upper quartile	PEF Not recorded_Number	PEF Not recorded_%	PEF Not recorded_Total	Sp02_Number	Sp02_Mean	Sp02_Standard deviation	Sp02_Median	Sp02_Lower quartile
Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.4	Q3.4	Q3.4	Q3.4	Q3.4
q33b_lq	*q33b_uq*	*q33c_N*	*q33c_mean*	*q33c_sd*	*q33c_median*	*q33c_lq*	*q33c_uq*	*q33dnumerator*	*q33dnumpc*	*q33ddenominator*	*q34a_N*	*q34a_mean*	*q34a_sd*	*q34a_median*	*q34a_lq*
360.0	450.0	89	365.4	104.6	370.0	300.0	420.0	67	22.9	292	288	95.4	4.0	96.0	94.0

Sp02_Upper quartile	Sp02_Not recorded_Number	Sp02_Not recorded_%	Sp02_Not recorded_Total	Supp.Oxy_No, room air_Number	Supp.Oxy_No, room air_%	Supp.Oxy_Yes_ Number	Supp.Oxy_Yes_%	Supp.Oxy_Not recorded_Number	Supp.Oxy_Not recorded_%	Supp.Oxy_Total	Supp.Oxy_Flow rate_Yes	Supp.Oxy_Flow rate_Mean	Supp.Oxy_Flow rate_ Standard deviation	Supp.Oxy_Flow rate_Median	Supp.Oxy_Flow rate_Lower quartile
Q3.4	Q3.4	Q3.4	Q3.4	Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1
g34a_uq	*g34bnumerator*	*g34bnumpc*	*g34bdenominator*	*g341anumerator0*	*g341anumpc0*	*g341anumerator1*	*g341anumpc1*	*g341anumerator2*	*g341anumpc2*	*g341adenominator*	*g341b_N*	*g341b_mean*	*g341b_sd*	*g341b_median*	*g341b_lq*
98.0	4	1.4	292	206	71.5	69	24.0	13	4.5	288	50	4.5	2.6	4.0	2.0

Supp.Oxy_Flow rate_Upper quartile	Supp.Oxy_FiO2_Yes	Supp.Oxy_FiO2_ Mean	Supp.Oxy_FiO2_ Standard deviation	Supp.Oxy_FiO2_ Median	Supp.Oxy_FiO2_ Lower quartile	Supp.Oxy_FiO2_ Upper quartile	Oxygen pres._Yes, admin_Number	Oxygen pres._Yes, admin_%	Oxygen pres._Yes, admin_Total	Oxygen pres._Yes, not admin_Number	Oxygen pres._Yes, not admin_%	Oxygen pres._Yes, not admin_Total	Oxygen pres._No, admin_Number	Oxygen pres._No, admin_%	Oxygen pres._No, admin_Total
Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1	Q3.5	Q3.5	Q3.5	Q3.5	Q3.5	Q3.5	Q3.5	Q3.5	Q3.5
q341b_uq	*q341c_N*	*q341c_mean*	*q341c_sd*	*q341c_median*	*q341c_lq*	*q341c_uq*	*q35anumerator*	*q35anumpc*	*q35adenominator*	*q35bnumerator*	*q35bnumpc*	*q35bdenominator*	*q35cnumerator*	*q35cnumpc*	*q35cdenominator*
6.0	16	60.0	36.8	37.5	26.0	100.0	95	32.5	292	45	15.4	292	22	7.5	292

Oxygen pres._No, not admin_Number	Oxygen pres._No, not admin_%	Oxygen pres._No, not admin_Total	Time from arrival to first administration of steroids_Number	Time from arrival to first administration of steroids *(Hours)* _Mean	Time from arrival to first administration of steroids *(Hours)* _ Standard deviation	Time from arrival to first administration of steroids *(Hours)*_ Median	Time from arrival to first administration of steroids *(Hours)* _Lower quartile	Time from arrival to first administration of steroids *(Hours)* _Upper quartile	First admin steroids_Not administered_Number	First admin steroids_Not administered_%	First admin steroids_Not recorded_Number	First admin steroids_ Not recorded_%	First admin steroids_Total	Time from arrival to First admin β2 agonist _Number	Time from arrival to First admin β2 agonist *(Hours)* _Mean
Q3.5	Q3.5	Q3.5	Q3.6	Q3.6	Q3.6	Q3.6	Q3.6	Q3.6	Q3.6	Q3.6	Q3.6	Q3.6	Q3.6	Q3.7	Q3.7
q35dnumerator	*q35dnumpc*	*q35ddenominator*	*timtoster_N*	*timtoster_mean*	*timtoster_sd*	*timtoster_median*	*timtoster_lq*	*timtoster_uq*	*q36cnumerator1*	*q36cnumpc1*	*q36cnumerator2*	*q36cnumpc2*	*q36cdenominator*	*timtobeta_N*	*timtobeta_mean*
88	30.1	292	205	3.8	10.7	1.5	0.5	3.6	8	3.4	23	9.7	237	190	1.6

									Length of stay						Discharge and revie
Time from arrival to First admin β2 agonist *(Hours)* _ Standard deviation	Time from arrival to First admin β2 agonist *(Hours)* _Median	Time from arrival to First admin β2 agonist *(Hours)* _Lower quartile	Time from arrival to First admin β2 agonist *(Hours)* _Upper quartile	First admin β2 agonist_Not administered_Number	First admin β2 agonist_Not administered_%	First admin β2 agonist_Not recorded_Number	First admin β2 agonist_ Not recorded_%	First admin β2 agonist_Total	Length of stay_Number	Length of stay_Mean	Length of stay_ Standard deviation	Length of stay_Median	Length of stay_Lower quartile	Length of stay_Upper quartile	Date & Time discharge_ Not yet disc._Number
Q3.7	Q3.7	Q3.7	Q3.7	Q3.7	Q3.7	Q3.7	Q3.7	Q3.7	Q1.3, Q4.1	Q1.3, Q4.1	Q1.3, Q4.1	Q1.3, Q4.1	Q1.3, Q4.1	Q1.3, Q4.1	Q4.1
timtobeta_sd	*timtobeta_median*	*timtobeta_lq*	*timtobeta_uq*	*q37cnumerator1*	*q37cnumpc1*	*q37cnumerator2*	*q37cnumpc2*	*q37cdenominator*	*los_N*	*los_mean*	*los_sd*	*los_median*	*los_lq*	*los_uq*	*q41cnumerator*
21.1	0.7	0.3	2.0	3	1.5	10	4.9	204	244	75.6	55.8	67.5	33.0	108.0	20

Date & Time discharge_ Not yet disc._%	Date & Time discharge_ Not yet disc._Total	Discharge bundle_No_Number	Discharge bundle_No_%	Discharge bundle_Yes, BTS_Number	Discharge bundle_Yes, BTS_%	Discharge bundle_Yes, non-BTS_Number	Discharge bundle_ Yes, non-BTS_%	Discharge bundle_Self-dis._Number	Discharge bundle_Self-dis._%	Discharge bundle_Total	DB_Inhaler_Number	DB_Inhaler_%	DB_Inhaler_Total	DB_Med.classes_ Number	DB_Med.classes_%
Q4.1	Q4.1	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1
q41cnumpc	*q41cdenominator*	*q42numerator0*	*q42numpc0*	*q42numerator1*	*q42numpc1*	*q42numerator2*	*q42numpc2*	*q42numerator3*	*q42numpc3*	*q42denominator*	*q421anumerator*	*q421anumpc*	*q421adenominator*	*q421bnumerator*	*q421bnumpc*
6.9	290	108	37.5	75	26.0	98	34.0	7	2.4	288	188	71.5	263	184	70.5

DB_Med.classes_ Total	DB_Doses_Number	DB_Doses_%	DB_Doses_Total	DB_Import.Ad_ Number	DB_Import.Ad_%	DB_Import.Ad_Total	DB_PAAP_Modified_N umber	DB_PAAP_Modified_%	DB_PAAP_Modified_To tal	DB_ PAAP_Issued new_Number	DB_PAAP_Issued new_%	DB_PAAP_Issued new_Total	DB_Triggers_Number	DB_Triggers_%	DB_Triggers_Total
Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1
q421bdenominator	*q421cnumerator*	*q421cnumpc*	*q421cdenominator*	*q421dnumerator*	*q421dnumpc*	*q421ddenominator*	*q421enumerator*	*q421enumpc*	*q421edenominator*	*q421fnumerator*	*q421fnumpc*	*q421fdenominator*	*q421gnumerator*	*q421gnumpc*	*q421gdenominator*
261	178	68.5	260	179	69.6	257	55	28.2	195	137	59.3	231	178	69.5	256

DB_Smoking cessation_Number	DB_Smoking cessation_%	DB_Smoking cessation_Total	DB_Follow-up_ Community_2 days_Number	DB_Follow-up_ Community_2 days_%	DB_Follow-up_ Community_2 days_Total	DB_Follow-up_ Specialist_4 weeks_Number	DB_Follow-up_ Specialist_4 weeks_%	DB_Follow-up_ Specialist_4 weeks_Total	DB_Other_Number	DB_Other_%	DB_Other_Total	Pred._Mgs/day_ Number	Pred._Mgs/day_ Mean	Pred._Mgs/day_ Standard Deviation
Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.3	Q4.3	Q4.3
q421hnumerator	*q421hnumpc*	*q421hdenominator*	*q421inumerator*	*q421inumpc*	*q421idenominator*	*q421jnumerator*	*q421jnumpc*	*q421jdenominator*	*q421knumerator*	*q421knumpc*	*q421kdenominator*	*q43a_N*	*q43a_mean*	*q43a_sd*
79	45.7	173	146	57.3	255	195	73.0	267	42	19.2	219	234	37.4	5.8

Pred._Mgs/day_ Median	Pred._Mgs/day_ Lower quartile	Pred._Mgs/day_ Upper quartile	Pred._No.Days_ Number	Pred._No.Days_ Mean	Pred._No.Days_ Standard Deviation	Pred._No.Days_ Median	Pred._No.Days_ Lower quartile	Pred._No.Days_ Upper quartile	Pred._No, completed during hosp_Number	Pred._No, completed during hosp_%	Pred._No, completed during hosp_Total	Pred._No_Number	Pred._No_%	Pred._No_Total
Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3
q43a_median	*q43a_lq*	*q43a_uq*	*q43b_N*	*q43b_mean*	*q43b_sd*	*q43b_median*	*q43b_lq*	*q43b_uq*	*q43cnumerator*	*q43cnumpc*	*q43cdenominator*	*q43dnumerator*	*q43dnumpc*	*q43ddenominator*
40.0	40.0	40.0	225	6.2	5.0	5.0	4.0	7.0	21	8.2	256	21	8.2	256

Section	Admissions, staffing levels and general organisation of care					
Variable name	Emergency coded asthma admissions_2016_ Number	Emergency coded asthma admissions_2016_ Mean	Emergency coded asthma admissions_2016_ Standard Deviation	Emergency coded asthma admissions_2016_ Median	Emergency coded asthma admissions_2016_ Lower quartile	Emergency coded asthma admissions_2016_ Upper quartile
Question number	Q1.3	Q1.3	Q1.3	Q1.3	Q1.3	Q1.3
Variable	*q13_N*	*q13_mean*	*q13_sd*	*q13_median*	*q13_lq*	*q13_uq*
National results	27	376.1	373.5	326	201	397

Emergency coded asthma admissions_discharged from resp. ward_Number	Emergency coded asthma admissions_ discharged from resp. ward_Mean	Emergency coded asthma admissions_discharged from resp. ward_ Standard deviation	Emergency coded asthma admissions_ discharged from resp. ward_Median	Emergency coded asthma admissions_ discharged from resp. ward_Lower quartile	Emergency coded asthma admissions_ discharged from resp. ward_Upper quartile
Q1.4	Q1.4	Q1.4	Q1.4	Q1.4	Q1.4
q14_N	*q14_mean*	*q14_sd*	*q14_median*	*q14_lq*	*q14_uq*
25	89.1	58.1	81	43	111

Organisation of acute respiratory care

Resp. Nurse available_No_ Number	Resp. Nurse available)_No_%	Resp. Nurse available)_No_Total	Resp. Nurse available)_Monday_Number	Resp. Nurse available)_Monday_%	Resp. Nurse available)_Monday_ Total	Resp. Nurse available)_Tuesday_Number	Resp. Nurse available)_Tuesday_%	Resp. Nurse available)_Tuesday_Total	Resp. Nurse available)_ Wednesday_Number	Resp. Nurse available)_ Wednesday_%	Resp. Nurse available)_ Wednesday_Total	Resp. Nurse available)_Thursday_Number	Resp. Nurse available)_Thursday_%
Q2.8	Q2.8	Q2.8	Q2.8	Q2.8	Q2.8	Q2.8	Q2.8	Q2.8	Q2.8	Q2.8	Q2.8	Q2.8	Q2.8
q28anumerator	*q28anumpc*	*q28adenominator*	*q28bnumerator*	*q28bnumpc*	*q28bdenominator*	*q28cnumerator*	*q28cnumpc*	*q28cdenominator*	*q28dnumerator*	*q28dnumpc*	*q28ddenominator*	*q28enumerator*	*q28enumpc*
0	0	29	29	100	29	28	96.6	29	29	100	29	29	100

Resp. Nurse available)_Thursday_Total	Resp. Nurse available)_Friday_Number	Resp. Nurse available)_Friday_%	Resp. Nurse available)_Friday_Total	Resp. Nurse available)_Saturday_Number	Resp. Nurse available)_Saturday_%	Resp. Nurse available)_Saturday_Total	Resp. Nurse available)_Sunday_Number	Resp. Nurse available)_Sunday_%	Resp. Nurse available)_Sunday_Total	Asthma lead_Number	Asthma lead_%	Asthma lead_Total	If yes, responsible for training_Number
Q2.8	Q2.8	Q2.8	Q2.8	Q2.8	Q2.8	Q2.8	Q2.8	Q2.8	Q2.8	Q2.10	Q2.10	Q2.10	Q2.10.1
q28edenominator	*q28fnumerator*	*q28fnumpc*	*q28fdenominator*	*q28gnumerator*	*q28gnumpc*	*q28gdenominator*	*q28hnumerator*	*q28hnumpc*	*q28hdenominator*	*q210numerator*	*q210numpc*	*q210denominator*	*q2101numerator*
29	28	96.6	29	9	31.0	29	7	24.1	29	24	82.8	29	14

		Integrating care across primary and secondary sectors											
If yes, responsible for training_%	If yes, responsible for training_Total	Specialist Resp. Service_Severe Asthma_Not provided_Number	Specialist Resp. Service_Severe Asthma_Not provided_%	Specialist Resp. Service_Severe Asthma_Hosp. based_Number	Specialist Resp. Service_Severe Asthma_Hosp. based_%	Specialist Resp. Service_Severe Asthma_Comm.based_Number	Specialist Resp. Service_Severe Asthma_Comm.based_%	Specialist Resp. Service_Severe Asthma_Single team_Number	Specialist Resp. Service_Severe Asthma_Single team_%	Specialist Resp. Service_Severe Asthma_Total	MDT meetings_No_ Number	MDT meetings_No_%	MDT meetings_No_Total
Q2.10.1	Q2.10.1	Q5.2	Q5.2	Q5.2	Q5.2	Q5.2	Q5.2	Q5.2	Q5.2	Q5.2	Q5.5	Q5.5	Q5.5
q2101numpc	*q2101denominator*	*q52anumerator0*	*q52anumpc0*	*q52anumerator1*	*q52anumpc1*	*q52anumerator2*	*q52anumpc2*	*q52anumerator3*	*q52anumpc3*	*q52adenominator*	*q55anumerator*	*q55anumpc*	*q55adenominator*
58.3	24	3	10.3	23	79.3	1	3.4	2	6.9	29	10	34.5	29

MDT meetings_Resp. Cons._Number	MDT meetings_Resp. Cons._%
Q5.5	Q5.5
q55bnumerator	*q55bnumpc*
21	100

MDT meetings_Resp. Cons._Total	MDT meetings_Spec. Trainee_Number	MDT meetings_Spec. Trainee_%	MDT meetings_Spec. Trainee_Total	MDT meetings_GP_ Number	MDT meetings_GP_%	MDT meetings_GP_Total	MDT meetings_Hosp. nurse_Number	MDT meetings_Hosp. nurse_%	MDT meetings_Hosp. nurse_Total
Q5.5	Q5.5	Q5.5	Q5.5	Q5.5	Q5.5	Q5.5	Q5.5	Q5.5	Q5.5
q55bdenominator	*q55cnumerator*	*q55cnumpc*	*q55cdenominator*	*q55dnumerator*	*q55dnumpc*	*q55ddenominator*	*q55enumerator*	*q55enumpc*	*q55edenominator*
21	7	33.3	21	1	5	20	18	90	20

MDT meetings_Comm. Nurse_Number	MDT meetings_Comm. nurse_%	MDT meetings_Comm. nurse_Total	MDT meetings_Physio_ Number	MDT meetings_Physio_%	MDT meetings_Physio_ Total	MDT meetings_Dietician_Number	MDT meetings_Dietician_%	MDT meetings_Dietician_Total	MDT meetings_Matron_ Number	MDT meetings_Matron_%	MDT meetings_Matron_Total
Q5.5	Q5.5	Q5.5	Q5.5	Q5.5	Q5.5	Q5.5	Q5.5	Q5.5	Q5.5	Q5.5	Q5.5
q55fnumerator	*q55fnumpc*	*q55fdenominator*	*q55gnumerator*	*q55gnumpc*	*q55gdenominator*	*q55hnumerator*	*q55hnumpc*	*q55hdenominator*	*q55inumerator*	*q55inumpc*	*q55idenominator*
3	15	20	9	45	20	2	10	20	1	5	20

MDT meetings_Palliative care_Number	MDT meetings_Palliative care_%	MDT meetings_Palliative care_Total	MDT meetings_Thoracic surgeon_Number	MDT meetings_Thoracic surgeon_%	MDT meetings_Thoracic surgeon_Total	MDT meetings_Psychologist_Number	MDT meetings_Psychologist_%	MDT meetings_Psychologist_Total	MDT meetings_Radiologist_Number	MDT meetings_Radiologist_%	MDT meetings_Radiologist_Total
Q5.5	Q5.5	Q5.5	Q5.5	Q5.5	Q5.5	Q5.5	Q5.5	Q5.5	Q5.5	Q5.5	Q5.5
q55jnumerator	*q55jnumpc*	*q55jdenominator*	*q55knumerator*	*q55knumpc*	*q55kdenominator*	*q55lnumerator*	*q55lnumpc*	*q55ldenominator*	*q55mnumerator*	*q55mnumpc*	*q55mdenominator*
1	5	20	0	0	20	3	15	20	2	10	20

MDT meetings_Pharmacist_Number	MDT meetings_Pharmacist_%	MDT meetings_Pharmacist_Total	MDT meetings_Other_Number	MDT meetings_Other_%	MDT meetings_Other_Total	MDT frequency_Weekly_Number	MDT frequency_Weekly_%	MDT frequency_Fortnightly_Number	MDT frequency_Fortnightly_%	MDT frequency_Monthly_Number	MDT frequency_Monthly_%	MDT frequency_Quarterly_Number
Q5.5	Q5.5	Q5.5	Q5.5	Q5.5	Q5.5	Q5.5.1	Q5.5.1	Q5.5.1	Q5.5.1	Q5.5.1	Q5.5.1	Q5.5.1
q55nnumerator	*q55nnumpc*	*q55ndenominator*	*q55onumerator*	*q55onumpc*	*q55odenominator*	*q551anumerator1*	*q551anumpc1*	*q551anumerator2*	*q551anumpc2*	*q551anumerator3*	*q551anumpc3*	*q551anumerator4*
3	15	20	6	33.3	18	7	33.3	1	4.8	9	42.9	1

				Patient and carer engagement					
MDT frequency_Quarterly_%	MDT frequency_Other_ Number	MDT frequency_Other_%	MDT frequency_Total	Formal survey seeking patient/carer views_ Continuous_Number	Formal survey seeking patient/carer views_ Continuous_%	Formal survey seeking patient/carer views_ >4 times a year_Number	Formal survey seeking patient/carer views_ >4 times a years_%	Formal survey seeking patient/carer views_ 3-4 times a year_Number	Formal survey seeking patient/carer views_ 3-4 times a year_%
Q5.5.1	Q5.5.1	Q5.5.1	Q5.5.1	Q6.1	Q6.1	Q6.1	Q6.1	Q6.1	Q6.1
q551anumpc4	*q551anumerator5*	*q551anumpc5*	*q551adenominator*	*q61numerator1*	*q61numpc1*	*q61numerator2*	*q61numpc2*	*q61numerator3*	*q61numpc3*
4.8	3	14.3	21	0	0	1	3.5	1	3.5

Formal survey seeking patient/carer views_ 1-2 times a year_Number	Formal survey seeking patient/carer views_ 1-2 times a year_%	Formal survey seeking patient/carer views_ Less than once a year_Number	Formal survey seeking patient/carer views_ Less than once a year_%	Formal survey seeking patient/carer views_ Never_Number	Formal survey seeking patient/carer views_ Never_%	Formal survey seeking patient/carer views_ Total	Strategic group for resp. services_No_Number	Strategic group for resp. services_No_%	Strategic group for resp. services_Yes_Number	Strategic group for resp. services_Yes_%	Strategic group for resp. services_Not known_Number	Strategic group for resp. services_Not known_%	Strategic group for resp. services_Total
Q6.1	Q6.1	Q6.1	Q6.1	Q6.1	Q6.1	Q6.1	Q6.2	Q6.2	Q6.2	Q6.2	Q6.2	Q6.2	Q6.2
q61numerator4	*q61numpc4*	*q61numerator5*	*q61numpc5*	*q61numerator6*	*q61numpc6*	*q61denominator*	*q62numerator0*	*q62numpc0*	*q62numerator1*	*q62numpc1*	*q62numerator2*	*q62numpc2*	*q62denominator*
3	10.3	9	31.0	15	51.7	29	5	17.2	21	72.4	3	10.3	29

Patient rep. on strategic group_No_Number	Patient rep. on strategic group_No_%	Patient rep. on strategic group_Yes_Number	Patient rep. on strategic group_Yes_%	Patient rep. on strategic group_Not known_Number	Patient rep. on strategic group_Not known_%	Patient rep. on strategic group_Total	Patient access to healthcare records_No_Number	Patient access to healthcare records_No_%	Patient access to healthcare records_Yes_Number	Patient access to healthcare records_Yes_%	Patient access to healthcare records_Not known_Number	Patient access to healthcare records_Not known_%	Patient access to healthcare records_Total
Q6.2.1	Q6.2.1	Q6.2.1	Q6.2.1	Q6.2.1	Q6.2.1	Q6.2.1	Q6.3	Q6.3	Q6.3	Q6.3	Q6.3	Q6.3	Q6.3
q621numerator0	*q621numpc0*	*q621numerator1*	*q621numpc1*	*q621numerator2*	*q621numpc2*	*q621denominator*	*q63numerator0*	*q63numpc0*	*q63numerator1*	*q63numpc1*	*q63numerator2*	*q63numpc2*	*q63denominator*
13	61.9	6	28.6	2	9.5	21	10	34.5	18	62.1	1	3.5	29

							Transitional care		
Link with patient support/engagement group_No_Number	Link with patient support/engagement group_No_%	Link with patient support/engagement group_Yes_Number	Link with patient support/engagement group_Yes_%	Link with patient support/engagement group_Not known_Number	Link with patient support/engagement group_Not known_%	Link with patient support/engagement group_Total	Transitional care_YP has full record_Number	Transitional care_YP has full record_%	Transitional care_YP has full record_Total
Q6.4	Q6.4	Q6.4	Q6.4	Q6.4	Q6.4	Q6.4	Q7.1	Q7.1	Q7.1
q64numerator0	*q64numpc0*	*q64numerator1*	*q64numpc1*	*q64numerator2*	*q64numpc2*	*q64denominator*	*q71anumerator*	*q71anumpc*	*q71adenominator*
11	37.9	18	62.1	0	0	29	14	50	28

Transitional care_GP has same record as YP_Number	Transitional care_GP has same record as YP_%	Transitional care_GP has same record as YP_Total	Transitional care_YP has transitional care plan_Number	Transitional care_YP has transitional care plan_%	Transitional care_YP has transitional care plan_Total	Transitional care_YP has named case worker_Number	Transitional care_YP has named case worker_%	Transitional care_YP has named case worker_Total
Q7.1	Q7.1	Q7.1	Q7.1	Q7.1	Q7.1	Q7.1	Q7.1	Q7.1
q71bnumerator	*q71bnumpc*	*q71bdenominator*	*q71cnumerator*	*q71cnumpc*	*q71cdenominator*	*q71dnumerator*	*q71dnumpc*	*q71ddenominator*
14	53.8	26	11	42.3	26	6	24	25

Section	Generic questions					
Variable name	Age_Number	Age_Mean	Age_Stand deviation	Age_Median	Age_Lower Quartile	Age_Upper Quartile
Question number	Q1.1	Q1.1	Q1.1	Q1.1	Q1.1	Q1.1
Variable	*age_N*	*age_mean*	*age_sd*	*age_median*	*age_lq*	*age_uq*
National results	263	2.7	1.3	3	2	4

Gender_Male_ Number	Gender_Male_%	Gender_Female_ Number	Gender_Female_%	Gender_Total	Recorded Learning Dis._Number	Recorded Learning Dis._%	Recorded Learning Dis._Total
Q1.2	Q1.2	Q1.2	Q1.2	Q1.2	Q1.4	Q1.4	Q1.4
gendernumerator1	*gendernumpc1*	*gendernumerator2*	*gendernumpc2*	*genderdenominator*	*q14numerator*	*q14numpc*	*q14denominator*
191	72.6	72	27.4	263	5	1.9	264

Exposure SHS_No_Number	Exposure SHS_No_%	Exposure SHS_Yes_Number	Exposure SHS_Yes_%	Exposure SHS_Not recorded_Number	Exposure SHS_Not recorded_%	Exposure SHS_Total
Q1.5	Q1.5	Q1.5	Q1.5	Q1.5	Q1.5	Q1.5
q15numerator0	*q15numpc0*	*q15numerator1*	*q15numpc1*	*q15numerator2*	*q15numpc2*	*q15denominator*
123	46.6	37	14.0	104	39.4	264

Pre-hospital care								
Pre-hosp_steroids_Yes_Number	Pre-hosp_steroids_Yes_%	Pre-hosp_steroids_Yes Total	Pre-hosp_β2 agonist_Yes_Number	Pre-hosp_β2 agonist_Yes_%	Pre-hosp_β2 agonist_Total	Pre-hosp_Oxygen_Yes_Number	Pre-hosp_Oxygen_Yes_%	Pre-hosp_Oxygen_Total
Q2.1	Q2.1	Q2.1	Q2.1	Q2.1	Q2.1	Q2.1	Q2.1	Q2.1
q21anumerator	*q21anumpc*	*q21adenominator*	*q21bnumerator*	*q21bnumpc*	*q21bdenominator*	*q21cnumerator*	*q21cnumpc*	*q21cdenominator*
39	15.6	250	181	69.3	261	23	9.3	248

Acute presentation and admission

Heart rate_Number	Heart rate_Mean	Heart rate_Standard deviation	Heart rate_Median	Heart rate_Lower quartile	Heart rate_Upper quartile	Resp rate_Number	Resp rate_Mean	Resp rate_Standard deviation
Q3.1	Q3.1	Q3.1	Q3.1	Q3.1	Q3.1	Q3.2	Q3.2	Q3.2
q31_N	*q31_mean*	*q31_sd*	*q31_median*	*q31_lq*	*q31_uq*	*q32_N*	*q32_mean*	*q32_sd*
263	145.9	19.4	146	134	154	264	42.5	9.5

Resp rate_Median	Resp rate_Lower quartile	Resp rate_Upper quartile	Sp02_Number	Sp02_Mean	Sp02_Standard deviation	Sp02_Median	Sp02_Lower quartile	Sp02_Upper quartile	Sp02_Not recorded_Number	Sp02_Not recorded_%	Sp02_Not recorded_Total
Q3.2	Q3.2	Q3.2	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3
q32_median	*q32_lq*	*q32_uq*	*q33a_N*	*q33a_mean*	*q33a_sd*	*q33a_median*	*q33a_lq*	*q33a_uq*	*q33bnumerator*	*q33bnumpc*	*q33bdenominator*
41.5	36	48	264	94.6	3.4	95	93	97	0	0	264

Supp.Oxy_No, room air_Number	Supp.Oxy_No, room air_%	Supp.Oxy_Yes_ Number	Supp.Oxy_Yes_%	Supp.Oxy_Not recorded_Number	Supp.Oxy_Not recorded_%	Supp.Oxy_Total	Supp.Oxy_Flow rate_Yes	Supp.Oxy_Flow rate_Mean	Supp.Oxy_Flow rate_ Standard deviation	Supp.Oxy_Flow rate_Median	Supp.Oxy_Flow rate_Lower quartile	Supp.Oxy_Flow rate_Upper quartile
Q3.3.1	Q3.3.1	Q3.3.1	Q3.3.1	Q3.3.1	Q3.3.1	Q3.3.1	Q3.3.1	Q3.3.1	Q3.3.1	Q3.3.1	Q3.3.1	Q3.3.1
q331anumerator0	*q331anumpc0*	*q331anumerator1*	*q331anumpc1*	*q331anumerator2*	*q331anumpc2*	*q331adenominator*	*q331b_N*	*q331b_mean*	*q331b_sd*	*q331b_median*	*q331b_lq*	*q331b_uq*
252	95.5	9	3.4	3	1.1	264	15	7.1	3.9	6	4	10

Supp.Oxy_Fi02_Yes	Supp.Oxy_Fi02_ Mean	Supp.Oxy_Fi02_ Standard deviation	Supp.Oxy_Fi02_ Median	Supp.Oxy_Fi02_ Lower quartile	Supp.Oxy_Fi02_ Upper quartile	Oxygen pres._Yes, admin_Number	Oxygen pres._Yes, admin_%	Oxygen pres._Yes, admin_Total	Oxygen pres._Yes, not admin_Number	Oxygen pres._Yes, not admin_%	Oxygen pres._Yes, not admin_Total	Oxygen pres._No, admin_Number	Oxygen pres._No, admin_%	Oxygen pres._No, admin_Total
Q3.3.1	Q3.3.1	Q3.3.1	Q3.3.1	Q3.3.1	Q3.3.1	Q3.4	Q3.4	Q3.4	Q3.4	Q3.4	Q3.4	Q3.4	Q3.4	Q3.4
q331c_N	*q331c_mean*	*q331c_sd*	*q331c_median*	*q331c_lq*	*q331c_uq*	*q34anumerator*	*q34anumpc*	*q34adenominator*	*q34bnumerator*	*q34bnumpc*	*q34bdenominator*	*q34cnumerator*	*q34cnumpc*	*q34cdenominator*
2	60	45.3	60	28	92	37	14.0	264	4	1.5	264	56	21.2	264

Oxygen pres._No, not admin_Number	Oxygen pres._No, not admin_%	Oxygen pres._No, not admin_Total	Steroids admin._No_Number	Steroids admin._No_%	Steroids admin._Yes_Number	Steroids admin._Yes_%	Steroids admin._Not recorded_Number	Steroids admin._Not recorded_%	Steroids admin._Total
Q3.4	Q3.4	Q3.4	Q3.5	Q3.5	Q3.5	Q3.5	Q3.5	Q3.5	Q3.5
q34dnumerator	*q34dnumpc*	*q34ddenominator*	*q35numerator0*	*q35numpc0*	*q35numerator1*	*q35numpc1*	*q35numerator2*	*q35numpc2*	*q35denominator*
148	56.1	264	57	22.2	198	77.0	2	0.8	257

Time from arrival to First admin β2 agonist _Number	Time from arrival to First admin β2 agonist *(Hours)* _Mean	Time from arrival to First admin β2 agonist *(Hours)* _ Standard deviation	Time from arrival to First admin β2 agonist *(Hours)* _Median	Time from arrival to First admin β2 agonist *(Hours)* _Lower quartile	Time from arrival to First admin β2 agonist *(Hours)* _Upper quartile	First admin β2 agonist_Not administered_Number	First admin β2 agonist_Not administered_%	First admin β2 agonist_Not recorded_Number	First admin β2 agonist_ Not recorded_%	First admin β2 agonist_Total
Q3.6	Q3.6	Q3.6	Q3.6	Q3.6	Q3.6	Q3.6	Q3.6	Q3.6	Q3.6	Q3.6
timtobeta_N	*timtobeta_mean*	*timtobeta_sd*	*timtobeta_median*	*timtobeta_lq*	*timtobeta_uq*	*q36cnumerator1*	*q36cnumpc1*	*q36cnumerator2*	*q36cnumpc2*	*q36cdenominator*
172	2.3	13.2	0.725	0.3	1.6	2	1.1	6	3.3	180

Length of stay						Review and discharge				
Length of stay *(Hours)* _Number	Length of stay *(Hours)* _Mean	Length of stay *(Hours)* _ Standard deviation	Length of stay *(Hours)* _Median	Length of stay *(Hours)* _Lower quartile	Length of stay *(Hours)* _Upper quartile	Date & Time discharge_ Not yet disc._Number	Date & Time discharge_ Not yet disc._%	Date & Time discharge_ Not yet disc._Total	Discharge bundle_No_Number	Discharge bundle_No_%
Q1.3, Q4.1	Q1.3, Q4.1	Q1.3, Q4.1	Q1.3, Q4.1	Q1.3, Q4.1	Q1.3, Q4.1	Q4.1	Q4.1	Q4.1	Q4.2	Q4.2
los_N	*los_mean*	*los_sd*	*los_median*	*los_lq*	*los_uq*	*q41cnumerator*	*q41cnumpc*	*q41cdenominator*	*q42numerator0*	*q42numpc0*
236	24.1	22.4	20.6	13.525	31.0	21	8.0	262	119	46.7

Discharge bundle_Yes, BTS_Number	Discharge bundle_Yes, BTS_%	Discharge bundle_Yes, non-BTS_Number	Discharge bundle_ Yes, non-BTS_%	Discharge bundle_Parental-dis._Number	Discharge bundle_Parental-dis._%	Discharge bundle_Total	DB_Inhaler_Number	DB_Inhaler_%	DB_Inhaler_Total	DB_Med.classes_ Number	DB_Med.classes_%	DB_Med.classes_ Total
Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2						
q42numerator1	*q42numpc1*	*q42numerator2*	*q42numpc2*	*q42numerator3*	*q42numpc3*	*q42denominator*	*q421anumerator*	*q421anumpc*	*q421adenominator*	*q421bnumerator*	*q421bnumpc*	*q421bdenominator*
21	8.2	115	45.1	0	0	255	170	70.5	241	153	66.2	231

DB_Doses_Number	DB_Doses_%	DB_Doses_Total	DB_Import.Ad_ Number	DB_Import.Ad_%	DB_Import.Ad_Total	DB_PAAP_Modified_N umber	DB_PAAP_Modified_%	DB_PAAP_Modified_T otal	DB_ PAAP_Issued new_Number	DB_PAAP_Issued new_%	DB_PAAP_Issued new_Total	DB_Triggers_Number	DB_Triggers_%	DB_Triggers_Total
q421cnumerator	*q421cnumpc*	*q421cdenominator*	*q421dnumerator*	*q421dnumpc*	*q421ddenominator*	*q421enumerator*	*q421enumpc*	*q421edenominator*	*q421fnumerator*	*q421fnumpc*	*q421fdenominator*	*q421gnumerator*	*q421gnumpc*	*q421gdenominator*
143	64.1	223	75	34.2	219	11	5.4	203	98	43.75	224	81	34.8	233

DB_Follow-up_ Community_2 days_Number	DB_Follow-up_ Community_2 days_%	DB_Follow-up_ Community_2 days_Total	DB_Follow-up_ Paed.clinic_4 weeks_Number	DB_Follow-up_ Paed.clinic_4 weeks_%	DB_Follow-up_ Paed.clinic_4 weeks_Total	DB_Follow-up_ Paed.spec._Number	DB_Follow-up_ Paed.spec._%	DB_Follow-up_ Paed.spec._Total	DB_Other_Number	DB_Other_%	DB_Other_Total
q421inumerator	*q421inumpc*	*q421idenominator*	*q421jnumerator*	*q421jnumpc*	*q421jdenominator*	*q421knumerator*	*q421knumpc*	*q421kdenominator*	*q421lnumerator*	*q421lnumpc*	*q421ldenominator*
97	41.6	233	43	19.4	222	13	5.8	224	32	14.2	226

Pred._No_Number	Pred._No_%	Pred._Yes_Number	Pred._Yes_%	Pred._No, completed during hosp_Number	Pred._No, completed during hosp_%	Pred._Total
q43numerator0	*q43numpc0*	*q43numerator1*	*q43numpc1*	*q43numerator2*	*q43numpc2*	*q43denominator*
62	25	174	70.2	12	4.8	248

Section	Generic questions					
Variable name	Age_Number	Age_Mean	Age_Stand deviation	Age_Median	Age_Lower Quartile	Age_Upper Quartile
Question number	Q1.1	Q1.1	Q1.1	Q1.1	Q1.1	Q1.1
Variable	*age_N*	*age_mean*	*age_sd*	*age_median*	*age_lq*	*age_uq*
National results	144	9.0	2.8	9	7	11

Gender_Male_ Number	Gender_Male_%	Gender_Female_ Number	Gender_Female_%	Gender_Total	CAMHS referral_Number	CAMHS referral_%	CAMHS referral_Total
Q1.2	Q1.2	Q1.2	Q1.2	Q1.2	Q1.4	Q1.4	Q1.4
gendernumerator1	*gendernumpc1*	*gendernumerator2*	*gendernumpc2*	*genderdenominator*	*q14numerator*	*q14numpc*	*q14denominator*
86	59.7	58	40.3	144	2	1.4	139

Recorded Learning Dis._Number	Recorded Learning Dis._%	Recorded Learning Dis._Total	Exposure SHS_No_Number	Exposure SHS_No_%	Exposure SHS_Yes_Number	Exposure SHS_Yes_%	Exposure SHS_Not recorded_Number	Exposure SHS_Not recorded_%	Exposure SHS_Total
Q1.5	Q1.5	Q1.5	Q1.6	Q1.6	Q1.6	Q1.6	Q1.6	Q1.6	Q1.6
q15numerator	*q15numpc*	*q15denominator*	*q16numerator0*	*q16numpc0*	*q16numerator1*	*q16numpc1*	*q16numerator2*	*q16numpc2*	*q16denominator*
3	2.2	139	53	37.1	26	18.2	64	44.8	143

Pre-hospital care								
Pre-hosp_steroids_Yes_Number	Pre-hosp_steroids_Yes_%	Pre-hosp_steroids_Yes_Total	Pre-hosp_β2 agonist_Yes_Number	Pre-hosp_β2 agonist_Yes_%	Pre-hosp_β2 agonist_Total	Pre-hosp_Oxygen_Yes_Number	Pre-hosp_Oxygen_Yes_%	Pre-hosp_Oxygen_Total
Q2.1	Q2.1	Q2.1	Q2.1	Q2.1	Q2.1	Q2.1	Q2.1	Q2.1
q21anumerator	*q21anumpc*	*q21adenominator*	*q21bnumerator*	*q21bnumpc*	*q21bdenominator*	*q21cnumerator*	*q21cnumpc*	*q21cdenominator*
35	24.5	143	108	75.5	143	10	7.1	141

Acute presentation and admission											
Heart rate_Number	Heart rate_Mean	Heart rate_Standard deviation	Heart rate_Median	Heart rate_Lower quartile	Heart rate_Upper quartile	Resp rate_Number	Resp rate_Mean	Resp rate_Standard deviation	Resp rate_Median	Resp rate_Lower quartile	Resp rate_Upper quartile
Q3.1	Q3.1	Q3.1	Q3.1	Q3.1	Q3.1	Q3.2	Q3.2	Q3.2	Q3.2	Q3.2	Q3.2
q31_N	*q31_mean*	*q31_sd*	*q31_median*	*q31_lq*	*q31_uq*	*q32_N*	*q32_mean*	*q32_sd*	*q32_median*	*q32_lq*	*q32_uq*
143	125.0	18.4	125	113	140	143	31.0	8.7	28	24	36

PEF arrival_Number	PEF arrival_Mean	PEF arrival_Standard deviation	PEF arrival_Median	PEF arrival_Lower quartile	PEF arrival_Upper quartile	PEF predicted_Number	PEF predicted_Mean	PEF predicted_ Standard deviation	PEF predicted_Median	PEF predicted_Lower quartile	PEF predicted_Upper quartile
Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3
q33a_N	*q33a_mean*	*q33a_sd*	*q33a_median*	*q33a_lq*	*q33a_uq*	*q33b_N*	*q33b_mean*	*q33b_sd*	*q33b_median*	*q33b_lq*	*q33b_uq*
17	179.7	65.6	180	150	220	10	277.2	100.1	297	200	358

PEF Prev.B_Number	PEF Prev.B_Mean	PEF Prev.B_Standard deviation	PEF Prev.B_Median	PEF Prev.B_Lower quartile	PEF Prev.B_Upper quartile	PEF Not recorded_Number	PEF Not recorded_%	PEF Not recorded_Total
Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3	Q3.3
q33c_N	*q33c_mean*	*q33c_sd*	*q33c_median*	*q33c_lq*	*q33c_uq*	*q33dnumerator*	*q33dnumpc*	*q33ddenominator*
3	323.3	30.6	330	290	350	125	87.4	143

Sp02_Number	Sp02_Mean	Sp02_Standard deviation	Sp02_Median	Sp02_Lower quartile	Sp02_Upper quartile	Sp02_Not recorded_Number	Sp02_Not recorded_%	Sp02_Not recorded_Total	Supp.Oxy_No, room air_Number	Supp.Oxy_No, room air_%
Q3.4	Q3.4	Q3.4	Q3.4	Q3.4	Q3.4	Q3.4	Q3.4	Q3.4	Q3.4.1	Q3.4.1
q34a_N	*q34a_mean*	*q34a_sd*	*q34a_median*	*q34a_lq*	*q34a_uq*	*q34bnumerator*	*q34bnumpc*	*q34bdenominator*	*q341anumerator0*	*q341anumpc0*
141	94.5	3.0	95	93	97	3	2.1	144	128	90.1

Supp.Oxy_Yes_ Number	Supp.Oxy_Yes_%	Supp.Oxy_Not recorded_Number	Supp.Oxy_Not recorded_%	Supp.Oxy_Total	Supp.Oxy_Flow rate_Yes	Supp.Oxy_Flow rate_Mean	Supp.Oxy_Flow rate_ Standard deviation	Supp.Oxy_Flow rate_Median	Supp.Oxy_Flow rate_Lower quartile	Supp.Oxy_Flow rate_Upper quartile
Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1
q341anumerator1	*q341anumpc1*	*q341anumerator2*	*q341anumpc2*	*q341adenominator*	*q341b_N*	*q341b_mean*	*q341b_sd*	*q341b_median*	*q341b_lq*	*q341b_uq*
11	7.7	3	2.1	142	12	7.2	4.4	5.5	4.5	10

Supp.Oxy_Fi02_Yes	Supp.Oxy_Fi02_ Mean	Supp.Oxy_Fi02_ Standard deviation	Supp.Oxy_Fi02_ Median	Supp.Oxy_Fi02_ Lower quartile	Supp.Oxy_Fi02_ Upper quartile	Oxygen pres._Yes, admin_Number	Oxygen pres._Yes, admin_%	Oxygen pres._Yes, admin_Total	Oxygen pres._Yes, not admin_Number	Oxygen pres._Yes, not admin_%	Oxygen pres._Yes, not admin_Total
Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1	Q3.4.1	Q3.5	Q3.5	Q3.5	Q3.5	Q3.5	Q3.5
q341c_N	*q341c_mean*	*q341c_sd*	*q341c_median*	*q341c_lq*	*q341c_uq*	*q35anumerator*	*q35anumpc*	*q35adenominator*	*q35bnumerator*	*q35bnumpc*	*q35bdenominator*
1	85		85	85	85	15	10.4	144	1	0.7	144

Oxygen pres._No, admin_Number	Oxygen pres._No, admin_%	Oxygen pres._No, admin_Total	Oxygen pres._No, not admin_Number	Oxygen pres._No, not admin_%	Oxygen pres._No, not admin_Total	Time from arrival to first administration of steroids_Number	Time from arrival to first administration of steroids *(Hours)* _Mean	Time from arrival to first administration of steroids *(Hours)* _ Standard deviation	Time from arrival to first administration of steroids *(Hours)* _Median	Time from arrival to first administration of steroids *(Hours)* _Lower quartile	Time from arrival to first administration of steroids *(Hours)* _Upper quartile
Q3.5	Q3.5	Q3.5	Q3.5	Q3.5	Q3.5	Q3.6	Q3.6	Q3.6	Q3.6	Q3.6	Q3.6
q35cnumerator	*q35cnumpc*	*q35cdenominator*	*q35dnumerator*	*q35dnumpc*	*q35ddenominator*	*timtoster_N*	*timtoster_mean*	*timtoster_sd*	*timtoster_median*	*timtoster_lq*	*timtoster_uq*
37	25.7	144	71	49.3	144	118	1.2	5.7	1.0	0.45	2

first administration of steroids_Not administered_Number	first administration of steroids_Not administered_%	first administration of steroids_Not recorded_Number	first administration of steroids_Not recorded_%	first administration of steroids_Total	Time from arrival to First admin β2 agonist_Number	Time from arrival to First admin β2 agonist *(Hours)* _Mean	Time from arrival to First admin β2 agonist *(Hours)* _ Standard deviation	Time from arrival to First admin β2 agonist *(Hours)* _Median	Time from arrival to First admin β2 agonist *(Hours)* _Lower quartile	Time from arrival to First admin β2 agonist *(Hours)* _Upper quartile	First admin β2 agonist_Not administered_Number
Q3.6	Q3.6	Q3.6	Q3.6	Q3.6	Q3.7	Q3.7	Q3.7	Q3.7	Q3.7	Q3.7	Q3.7
q36cnumerator1	*q36cnumpc1*	*q36cnumerator2*	*q36cnumpc2*	*q36cdenominator*	*timtobeta_N*	*timtobeta_mean*	*timtobeta_sd*	*timtobeta_median*	*timtobeta_lq*	*timtobeta_uq*	*q37cnumerator1*
5	3.9	4	3.1	128	92	0.4	3.4	0.5	0.2	0.9	1

				Length of stay					
First admin β2 agonist_Not administered_%	First admin β2 agonist_Not recorded_Number	First admin β2 agonist_Not recorded_%	First admin β2 agonist_Total	Length of stay_Number	Length of stay *(Hours)* _Mean	Length of stay *(Hours)* _ Standard deviation	Length of stay *(Hours)* _Median	Length of stay *(Hours)* _Lower quartile	Length of stay *(Hours)* _Upper quartile
Q3.7	Q3.7	Q3.7	Q3.7	Q1.3, Q4.1	Q1.3, Q4.1	Q1.3, Q4.1	Q1.3, Q4.1	Q1.3, Q4.1	Q1.3, Q4.1
q37cnumpc1	*q37cnumerator2*	*q37cnumpc2*	*q37cdenominator*	*los_N*	*los_mean*	*los_sd*	*los_median*	*los_lq*	*los_uq*
1.0	2	2.1	96	131	34.6	29.3	24.8	13.9	45.7

Review and discharge											
Date & Time discharge_ Not yet disc._Number	Date & Time discharge_ Not yet disc._%	Date & Time discharge_ Not yet disc._Total	Discharge bundle_No_Number	Discharge bundle_No_%	Discharge bundle_Yes, BTS_Number	Discharge bundle_Yes, BTS_%	Discharge bundle_Yes, non-BTS_Number	Discharge bundle_ Yes, non-BTS_%	Discharge bundle_Self/Parental-dis._Number	Discharge bundle_Self/Parental-dis._%	Discharge bundle_Total
Q4.1	Q4.1	Q4.1	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2
q41cnumerator	*q41cnumpc*	*q41cdenominator*	*q42numerator0*	*q42numpc0*	*q42numerator1*	*q42numpc1*	*q42numerator2*	*q42numpc2*	*q42numerator3*	*q42numpc3*	*q42denominator*
11	7.6	144	58	41.7	25	18.0	56	40.3	0	0	139

DB_Inhaler_Number	DB_Inhaler_%	DB_Inhaler_Total	DB_Med.classes_ Number	DB_Med.classes_%	DB_Med.classes_ Total	DB_Doses_Number	DB_Doses_%	DB_Doses_Total	DB_Import.Ad_ Number	DB_Import.Ad_%	DB_Import.Ad_Total
Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1
q421anumerator	*q421anumpc*	*q421adenominator*	*q421bnumerator*	*q421bnumpc*	*q421bdenominator*	*q421cnumerator*	*q421cnumpc*	*q421cdenominator*	*q421dnumerator*	*q421dnumpc*	*q421ddenominator*
106	80.9	131	90	70.9	127	80	63.5	126	67	53.2	126

DB_PAAP_Modified_Number	DB_PAAP_Modified_%	DB_PAAP_Modified_Total	DB_ PAAP_Issued new_Number	DB_PAAP_Issued new_%	DB_PAAP_Issued new_Total	DB_Triggers_Number	DB_Triggers_%	DB_Triggers_Total	DB_Smoking cessation_Number	DB_Smoking cessation_%	DB_Smoking cessation_Total
Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1
q421enumerator	*q421enumpc*	*q421edenominator*	*q421fnumerator*	*q421fnumpc*	*q421fdenominator*	*q421gnumerator*	*q421gnumpc*	*q421gdenominator*	*q421hnumerator*	*q421hnumpc*	*q421hdenominator*
24	22.6	106	47	41.6	113	59	46.5	127	7	7.3	96

DB_Follow-up_ Community_2 days_Number	DB_Follow-up_ Community_2 days_%	DB_Follow-up_ Community_2 days_Total	DB_Follow-up_ Paed.clinic_4 weeks_Number	DB_Follow-up_ Paed.clinic_4 weeks_%	DB_Follow-up_ Paed.clinic_4 weeks_Total	DB_Follow-up_ Paed.spec._Number	DB_Follow-up_ Paed.spec._%	DB_Follow-up_ Paed.spec._Total	DB_Other_Number	DB_Other_%	DB_Other_Total
Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1
q421inumerator	*q421inumpc*	*q421idenominator*	*q421jnumerator*	*q421jnumpc*	*q421jdenominator*	*q421knumerator*	*q421knumpc*	*q421kdenominator*	*q421lnumerator*	*q421lnumpc*	*q421ldenominator*
39	30.2	129	29	23.4	124	32	26.4	121	22	18.6	118

Pred._Mgs/kgs per day_ Number	Pred._Mgs/kgs per day_ Mean	Pred._Mgs/kgs per day_ Standard Deviation	Pred._Mgs/kgs per day_ Median	Pred._Mgs/kgs per day_ Lower quartile	Pred._Mgs/kgs per day_ Upper quartile	Pred._Mgs/day_ Number	Pred._Mgs/day_ Mean	Pred._Mgs/day_ Standard Deviation	Pred._Mgs/day_ Median	Pred._Mgs/day_ Lower quartile	Pred._Mgs/day_ Upper quartile
Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3
q43a_N	*q43a_mean*	*q43a_sd*	*q43a_median*	*q43a_lq*	*q43a_uq*	*q43b_N*	*q43b_mean*	*q43b_sd*	*q43b_median*	*q43b_lq*	*q43b_uq*
16	1.45	0.6	1.5	1	2	100	33.6	8.0	40	30	40

Pred._No.Days_ Number	Pred._No.Days_ Mean	Pred._No.Days_ Standard Deviation	Pred._No.Days_ Median	Pred._No.Days_ Lower quartile	Pred._No.Days_ Upper quartile	Pred._No, completed during hosp_Number	Pred._No, completed during hosp_%	Pred._No, completed during hosp_Total	Pred._No_Number	Pred._No_%	Pred._No_Total
Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3	Q4.3
q43c_N	*q43c_mean*	*q43c_sd*	*q43c_median*	*q43c_lq*	*q43c_uq*	*q43dnumerator*	*q43dnumpc*	*q43ddenominator*	*q43enumerator*	*q43enumpc*	*q43edenominator*
93	2.3	1.6	2	1	3	23	18.5	124	18	15.1	119

Section	Admissions, staffing levels and general organisation of care										
Variable name	Paediatric emergency admissions_2016_ Number	Paediatric emergency admissions_2016_ Mean	Paediatric emergency admissions_2016_ Standard deviation	Paediatric emergency admissions_2016_ Median	Paediatric emergency admissions_2016_ Lower quartile	Paediatric emergency admissions_2016_ Upper quartile	Emergency paediatric resporatory coded admissions_2016_ Number	Emergency paediatric resporatory coded admissions_2016_ Mean	Emergency paediatric resporatory coded admissions_2016_ Standard deviation	Emergency paediatric resporatory coded admissions_2016_ Median	Emergency paediatric resporatory coded admissions_2016_ Lower quartile
Question number	Q1.1	Q1.1	Q1.1	Q1.1	Q1.1	Q1.1	Q1.2	Q1.2	Q1.2	Q1.2	Q1.2
Variable	*q11_N*	*q11_mean*	*q11_sd*	*q11_median*	*q11_lq*	*q11_uq*	*q12_N*	*q12_mean*	*q12_sd*	*q12_median*	*q12_lq*
National results	20	6209.0	5316.0	4990	3312	6781	20	1465	1002.9	1199.5	756

Emergency paediatric resporatory coded admissions_2016_ Upper quartile
Q1.2
q12_uq
1958

Paediatric emergency coded asthma admissions_2016_ Number	Paediatric emergency coded asthma admissions_2016_ Mean	Paediatric emergency coded asthma admissions_2016_ Standard Deviation	Paediatric emergency coded asthma admissions_2016_ Median	Paediatric emergency coded asthma admissions_2016_ Lower quartile	Paediatric emergency coded asthma admissions_2016_ Upper quartile
Q1.3	Q1.3	Q1.3	Q1.3	Q1.3	Q1.3
q13_N	*q13_mean*	*q13_sd*	*q13_median*	*q13_lq*	*q13_uq*
18	352.8	425.7	181.5	141	318

Emergency paediatric coded asthma admissions_discharged from resp. ward_Number	Emergency paediatric coded asthma admissions_ discharged from resp. ward_Mean	Emergency paediatric coded asthma admissions_discharged from resp. ward_ Standard deviation	Emergency paediatric coded asthma admissions_ discharged from resp. ward_Median	Emergency paediatric coded asthma admissions_ discharged from resp. ward_Lower quartile	Emergency paediatric coded asthma admissions_ discharged from resp. ward_Upper quartile	Emergency paediatric coded asthma admissions_ discharged from resp. ward_No dedicated resp. ward_Number	Emergency paediatric coded asthma admissions_ discharged from resp. ward_No dedicated resp. ward_%	Emergency paediatric coded asthma admissions_ discharged from resp. ward_No dedicated resp. ward_Total
Q1.4	Q1.4	Q1.4	Q1.4	Q1.4	Q1.4	Q1.4	Q1.4	Q1.4
q14a_N	*q14a_mean*	*q14a_sd*	*q14a_median*	*q14a_lq*	*q14a_uq*	*q14bnumerator*	*q14bnumpc*	*q14bdenominator*
5	0.2	0.4	0	0	0	19	100	19

Medical beds used for paediatric patients_Number	Medical beds used for paediatric patients_Mean	Medical beds used for paediatric patients_Standard deviation	Medical beds used for paediatric patients_Median	Medical beds used for paediatric patients_Lower quartile	Medical beds used for paediatric patients_Upper quartile	Paediatric HDUs_No HDU_Number	Paediatric HDUs_No HDU_%	Paediatric HDUs_No HDU_Total	Paediatric HDUs_Paed. HDU_Number	Paediatric HDUs_Paed. HDU_%	Paediatric HDUs_Paed. HDU_Total
Q1.5	Q1.5	Q1.5	Q1.5	Q1.5	Q1.5	Q1.6	Q1.6	Q1.6	Q1.6	Q1.6	Q1.6
q15_N	*q15_mean*	*q15_sd*	*q15_median*	*q15_lq*	*q15_uq*	*q16anumerator*	*q16anumpc*	*q16adenominator*	*q16bnumerator*	*q16bnumpc*	*q16bdenominator*
21	34.9	27.9	28	22	34	6	30	20	16	72.7	22

Paediatric HDUs_Med. HDU_Number	Paediatric HDUs_Med. HDU_%	Paediatric HDUs_Med. HDU_Total	Paediatric HDUs_Mixed med./surg HDU_Number	Paediatric HDUs_Mixed med./surg HDU_%	Paediatric HDUs_Mixed med./surg HDU_Total	Paediatric HDUs_Resp. HDU_Number	Paediatric HDUs_Resp. med./surg HDU_%	Paediatric HDUs_Resp. med./surg HDU_Total	Paediatric HDUs_Other HDU_Number	Paediatric HDUs_Other med./surg HDU_%	Paediatric HDUs_Other med./surg HDU_Total
Q1.6	Q1.6	Q1.6	Q1.6	Q1.6	Q1.6	Q1.6	Q1.6	Q1.6	Q1.6	Q1.6	Q1.6
q16cnumerator	*q16cnumpc*	*q16cdenominator*	*q16dnumerator*	*q16dnumpc*	*q16ddenominator*	*q16enumerator*	*q16enumpc*	*q16edenominator*	*q16fnumerator*	*q16fnumpc*	*q16fdenominator*
5	25	20	8	38.1	21	0	0	19	1	5	20

Paediatric HDU beds_0_Number	Paediatric HDU beds_0_%	Paediatric HDU beds_1_Number	Paediatric HDU beds_1_%	Paediatric HDU beds_2_Number	Paediatric HDU beds_2_%	Paediatric HDU beds_3_Number	Paediatric HDU beds_3_%	Paediatric HDU beds_4_Number	Paediatric HDU beds_4_%	Paediatric HDU beds_5_Number	Paediatric HDU beds_5_%
Q1.7	Q1.7	Q1.7	Q1.7	Q1.7	Q1.7	Q1.7	Q1.7	Q1.7	Q1.7	Q1.7	Q1.7
q17numerator0	*q17numpc0*	*q17numerator1*	*q17numpc1*	*q17numerator2*	*q17numpc2*	*q17numerator3*	*q17numpc3*	*q17numerator4*	*q17numpc4*	*q17numerator5*	*q17numpc5*
3	13.0	3	13.0	3	13.0	2	8.7	6	26.1	2	8.7

Paediatric HDU beds_6_Number	Paediatric HDU beds_6_%	Paediatric HDU beds_7_Number	Paediatric HDU beds_7_%	Paediatric HDU beds_8_Number	Paediatric HDU beds_8_%	Paediatric HDU beds_9_Number	Paediatric HDU beds_9_%	Paediatric HDU beds_10_Number	Paediatric HDU beds_10_%	Paediatric HDU beds_>10_Number	Paediatric HDU beds_>10_%
Q1.7	Q1.7	Q1.7	Q1.7	Q1.7	Q1.7	Q1.7	Q1.7	Q1.7	Q1.7	Q1.7	Q1.7
q17numerator6	*q17numpc6*	*q17numerator7*	*q17numpc7*	*q17numerator8*	*q17numpc8*	*q17numerator9*	*q17numpc9*	*q17numerator10*	*q17numpc10*	*q17numerator11*	*q17numpc11*
0	0	1	4.3	0	0	2	8.7	0	0	1	4.3

Paediatric HDU beds_Total	PICU beds_0_Number	PICU beds_0_%	PICU beds_1_Number	PICU beds_1_%	PICU beds_2_Number	PICU beds_2_%	PICU beds_3_Number	PICU beds_3_%	PICU beds_4_Number	PICU beds_4_%	PICU beds_5_Number
Q1.7	Q1.8	Q1.8	Q1.8	Q1.8	Q1.8	Q1.8	Q1.8	Q1.8	Q1.8	Q1.8	Q1.8
q17denominator	*q18numerator0*	*q18numpc0*	*q18numerator1*	*q18numpc1*	*q18numerator2*	*q18numpc2*	*q18numerator3*	*q18numpc3*	*q18numerator4*	*q18numpc4*	*q18numerator5*
23	18	78.3	0	0	0	0	0	0	0	0	0

PICU beds_5_%	PICUbeds_6_Number	PICU beds_6_%
Q1.8	Q1.8	Q1.8
q18numpc5	*q18numerator6*	*q18numpc6*
0	0	0

PICU beds_7_Number	PICU beds_7_%	PICU beds_8_Number	PICU beds_8_%	PICU beds_9_Number	PICU beds_9_%	PICU beds_10_Number	PICU beds_10_%	PICU beds_>10_Number	PICU beds_>10_%	PICU beds_Total
Q1.8	Q1.8	Q1.8	Q1.8	Q1.8	Q1.8	Q1.8	Q1.8	Q1.8	Q1.8	Q1.8
q18numerator7	*q18numpc7*	*q18numerator8*	*q18numpc8*	*q18numerator9*	*q18numpc9*	*q18numerator10*	*q18numpc10*	*q18numerator11*	*q18numpc11*	*q18denominator*
0	0	2	8.7	1	4.3	0	0	2	8.7	23

System for PEWs detection_Yes_ Number	System for PEWs detection_Yes_ %	System for PEWs detection_Yes_ Total	PICU outreach service_Days_None_N umber	PICU outreach service_Days_None_%	PICU outreach service_Days_None_To tal	PICU outreach service_Days_ Monday_Number	PICU outreach service_Days_ Monday_%	PICU outreach service_Days_ Monday_Total	PICU outreach service_Days_ Tuesday_Number	PICU outreach service_Days_ Tuesday_%	PICU outreach service_Days_ Tuesday_Total
Q1.9	Q1.9	Q1.9	Q1.10	Q1.10	Q1.10	Q1.10	Q1.10	Q1.10	Q1.10	Q1.10	Q1.10
q19numerator	*q19numpc*	*q19denominator*	*q110anumerator*	*q110anumpc*	*q110adenominator*	*q110bnumerator*	*q110bnumpc*	*q110bdenominator*	*q110cnumerator*	*q110cnumpc*	*q110cdenominator*
21	95.5	22	12	57.1	21	6	28.6	21	6	30	20

PICU outreach service_Days_ Wednesday_Number	PICU outreach service_Days_ Wednesday_%	PICU outreach service_Days_ Wednesday_Total	PICU outreach service_Days_ Thursday_Number	PICU outreach service_Days_ Thursday_%	PICU outreach service_Days_ Thursday_Total	PICU outreach service_Days_ Friday_Number	PICU outreach service_Days_ Friday_%	PICU outreach service_Days_ Friday_Total	PICU outreach service_Days_ Saturday_Number	PICU outreach service_Days_ Saturday_%	PICU outreach service_Days_ Saturday_Total
Q1.10	Q1.10	Q1.10	Q1.10	Q1.10	Q1.10	Q1.10	Q1.10	Q1.10	Q1.10	Q1.10	Q1.10
q110dnumerator	*q110dnumpc*	*q110ddenominator*	*q110enumerator*	*q110enumpc*	*q110edenominator*	*q110fnumerator*	*q110fnumpc*	*q110fdenominator*	*q110gnumerator*	*q110gnumpc*	*q110gdenominator*
6	28.6	21	6	28.6	21	6	28.6	21	6	28.6	21

PICU outreach service_Days_ Sunday_Number	PICU outreach service_Days_ Sunday_%	PICU outreach service_Days_ Sunday_Total	PICU outreach service_Days_ Runs overnight_Number	PICU outreach service_Days_ Runs overnight_%	PICU outreach service_Days_ Runs overnight_Total	Paediatric intake rota_staff members WTE_Cons.Acute Paed._Number	Paediatric intake rota_staff members WTE_Cons.Acute Paed._Mean	Paediatric intake rota_staff members WTE_Cons.Acute Paed._Standard Deviation	Paediatric intake rota_staff members WTE_Cons.Acute Paed._Median	Paediatric intake rota_staff members WTE_Cons.Acute Paed._Lower quartile
Q1.10	Q1.10	Q1.10	Q1.10	Q1.10	Q1.10	Q1.11	Q1.11	Q1.11	Q1.11	Q1.11
q110hnumerator	*q110hnumpc*	*q110hdenominator*	*q110inumerator*	*q110inumpc*	*q110idenominator*	*q111a_N*	*q111a_mean*	*q111a_sd*	*q111a_median*	*q111a_lq*
6	28.6	21	6	28.6	21	22	9.4	3.5	10	8

Paediatric intake rota_staff members WTE_Cons.Acute Paed._Upper quartile	Paediatric intake rota_staff members WTE_Spec.Resp.Paed._ Number	Paediatric intake rota_staff members WTE_Spec.Resp.Paed._ Mean	Paediatric intake rota_staff members WTE_Spec.Resp.Paed._ Standard Deviation	Paediatric intake rota_staff members WTE_Spec.Resp.Paed.. _Median	Paediatric intake rota_staff members WTE_Spec.Resp.Paed._ Lower quartile	Paediatric intake rota_staff members WTE_Spec.Resp.Paed._ Upper quartile	Paediatric intake rota_staff members WTE_Paed.Intensive Care Cons._Number	Paediatric intake rota_staff members WTE_Paed.Intensive Care Cons._Mean	Paediatric intake rota_staff members WTE_Paed.Intensive Care Cons._Standard Deviation	Paediatric intake rota_staff members WTE_Paed.Intensive Care Cons._Median	Paediatric intake rota_staff members WTE_Paed.Intensive Care Cons._Lower quartile
Q1.11	Q1.11	Q1.11	Q1.11	Q1.11	Q1.11	Q1.11	Q1.11	Q1.11	Q1.11	Q1.11	Q1.11
q111a_uq	*q111b_N*	*q111b_mean*	*q111b_sd*	*q111b_median*	*q111b_lq*	*q111b_uq*	*q111c_N*	*q111c_mean*	*q111c_sd*	*q111c_median*	*q111c_lq*
11	22	1.5	2.9	0	0	2	21	0.3	1.3	0	0

Paediatric intake rota_staff members WTE_Paed.Intensive Care Cons._Upper quartile	Paediatric intake rota_staff members WTE_Other spec. paed. Cons._Number	Paediatric intake rota_staff members WTE_Other spec. paed. Cons._Mean	Paediatric intake rota_staff members WTE_Other spec. paed. Cons._Standard Deviation	Paediatric intake rota_staff members WTE_Other spec. paed. Cons._Median	Paediatric intake rota_staff members WTE_Other spec. paed. Cons._Lower quartile	Paediatric intake rota_staff members WTE_Other spec. paed. Cons._Upper quartile	Paediatric intake rota_Staff member WTE_Paed. SpR/Spec. trainee & fellow_Number	Paediatric intake rota_staff members WTE_Paed. SpR/Spec. trainee & fellow_Mean	Paediatric intake rota_staff members WTE_Paed. SpR/Spec. trainee & fellow._Standard Deviation	Paediatric intake rota_staff members WTE_Paed. SpR/Spec. trainee & fellow_Median	Paediatric intake rota_staff members WTE_Paed. SpR/Spec. trainee & fellow._Lower quartile
Q1.11	Q1.11	Q1.11	Q1.11	Q1.11	Q1.11	Q1.11	Q1.11	Q1.11	Q1.11	Q1.11	Q1.11
q111c_uq	*q111d_N*	*q111d_mean*	*q111d_sd*	*q111d_median*	*q111d_lq*	*q111d_uq*	*q111e_N*	*q111e_mean*	*q111e_sd*	*q111e_median*	*q111e_lq*
0	19	1.9	3.4	0	0	2	18	8.6	4.4	8.2	6

Paediatric intake rota_staff members WTE_Paed. SpR/Spec. trainee & fellow_Upper quartile	Frequency of paediatric patient review by senior decision maker_On weekdays_Twice daily_Number	Frequency of paediatric patient review by senior decision maker_On weekdays_Twice daily_%	Frequency of paediatric patient review by senior decision maker_On weekdays_Daily_Number	Frequency of paediatric patient review by senior decision maker_On weekdays_Daily_%	Frequency of paediatric patient review by senior decision maker_On weekdays_Other_Number	Frequency of paediatric patient review by senior decision maker_On weekdays_Other_%	Frequency of paediatric patient review by senior decision maker_On weekdays_Total	Frequency of paediatric patient review by senior decision maker_On weekends_Twice daily_Number	Frequency of paediatric patient review by senior decision maker_On weekends_Twice daily_%	Frequency of paediatric patient review by senior decision maker_On weekends_Daily_Number	Frequency of paediatric patient review by senior decision maker_On weekends_Daily_%
Q1.11	Q1.12	Q1.12	Q1.12	Q1.12	Q1.12	Q1.12	Q1.12	Q1.12	Q1.12	Q1.12	Q1.12
q111e_uq	*q112anumerator1*	*q112anumpc1*	*q112anumerator2*	*q112anumpc2*	*q112anumerator3*	*q112anumpc3*	*q112adenominator*	*q112cnumerator1*	*q112cnumpc1*	*q112cnumerator2*	*q112cnumpc2*
12	8	34.8	8	34.8	7	30.4	23	7	30.4	10	43.5

Frequency of paediatric patient review by senior decision maker_On weekends_Other_Number	Frequency of paediatric patient review by senior decision maker_On weekends_Other_%	Frequency of paediatric patient review by senior decision maker_On weekends_Total	Staff in paediatric team_WTE_FY1_Number	Staff in paediatric team_WTE_FY1_Mean	Staff in paediatric team_WTE_FY1_Standard Deviation	Staff in paediatric team_WTE_FY1_Median	Staff in paediatric team_WTE_FY1_Lower quartile	Staff in paediatric team_WTE_FY1_Upper quartile	Staff in paediatric team_WTE_FY2_Number	Staff in paediatric team_WTE_FY2_Mean	Staff in paediatric team_WTE_FY2_Standard Deviation
Q1.12	Q1.12	Q1.12	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13
q112cnumerator3	*q112cnumpc3*	*q112cdenominator*	*q113a_N*	*q113a_mean*	*q113a_sd*	*q113a_median*	*q113a_lq*	*q113a_uq*	*q113b_N*	*q113b_mean*	*q113b_sd*
6	26.1	23	21	1	1.3	1	0	1	22	1.9	1.2

Staff in paediatric team_WTE_FY2_Median	Staff in paediatric team_WTE_FY2_Lower quartile	Staff in paediatric team_WTE_FY2_Upper quartile	Staff in paediatric team_WTE_CT1/CT2_Number	Staff in paediatric team_WTE_CT1/CT2_Mean	Staff in paediatric team_WTE_CT1/CT2_Standard Deviation	Staff in paediatric team_WTE_CT1/CT2_Median	Staff in paediatric team_WTE_CT1/CT2_Lower quartile	Staff in paediatric team_WTE_CT1/CT2_Upper quartile	Staff in paediatric team_WTE_ST3&above_Number	Staff in paediatric team_WTE_ST3&above_Mean	Staff in paediatric team_WTE_ST3&above_Standard Deviation
Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13
q113b_median	*q113b_lq*	*q113b_uq*	*q113c_N*	*q113c_mean*	*q113c_sd*	*q113c_median*	*q113c_lq*	*q113c_uq*	*q113d_N*	*q113d_mean*	*q113d_sd*
2	1	3	18	5.4	4.4	6.5	1	8	22	7.1	4.4

Staff in paediatric team_WTE_ST3&above_Median	Staff in paediatric team_WTE_ST3&above_Lower quartile	Staff in paediatric team_WTE_ST3&above_Upper quartile	Staff in paediatric team_WTE_Associate Spec._Number	Staff in paediatric team_WTE_Associate Spec._Mean	Staff in paediatric team_WTE_Associate Spec._Standard Deviation	Staff in paediatric team_WTE_Associate Spec._Median	Staff in paediatric team_WTE_Associate Spec._Lower quartile	Staff in paediatric team_WTE_Associate Spec._Upper quartile	Staff in paediatric team_WTE_Staff grade_Number	Staff in paediatric team_WTE_Staff grade_Mean	Staff in paediatric team_WTE_Staff grade_Standard Deviation
Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13
q113d_median	*q113d_lq*	*q113d_uq*	*q113e_N*	*q113e_mean*	*q113e_sd*	*q113e_median*	*q113e_lq*	*q113e_uq*	*q113f_N*	*q113f_mean*	*q113f_sd*
7	3.9	11	22	0.7	1.0	0	0	1	21	1.4	2.9

Staff in paediatric team_WTE_Staff grade_Median	Staff in paediatric team_WTE_Staff grade_Lower quartile	Staff in paediatric team_WTE_Staff grade_Upper quartile	Staff in paediatric team_WTE_Physiologist_Number	Staff in paediatric team_WTE_Physiologist_Mean	Staff in paediatric team_WTE_Physiologist_Standard Deviation	Staff in paediatric team_WTE_Physiologist_Median	Staff in paediatric team_WTE_Physiologist_Lower quartile	Staff in paediatric team_WTE_Physiologist_Upper quartile	Staff in paediatric team_WTE_Resp.Nurse Cons._Number	Staff in paediatric team_WTE_Resp.Nurse Cons._Mean	Staff in paediatric team_WTE_Resp.Nurse Cons._Standard Deviation
Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13
q113f_median	*q113f_lq*	*q113f_uq*	*q113g_N*	*q113g_mean*	*q113g_sd*	*q113g_median*	*q113g_lq*	*q113g_uq*	*q113h_N*	*q113h_mean*	*q113h_sd*
0	0	1	23	0.3	0.7	0	0	0.1	23	0.1	0.6

Staff in paediatric team_WTE_Resp.Nurse Cons._Median	Staff in paediatric team_WTE_Resp.Nurse Cons._Lower quartile	Staff in paediatric team_WTE_Resp.Nurse Cons._Upper quartile	Staff in paediatric team_WTE_Paed.Nurse Cons._Number	Staff in paediatric team_WTE_Paed.Nurse Cons_Mean	Staff in paediatric team_WTE_Paed.Nurse Cons_Standard Deviation	Staff in paediatric team_WTE_Paed.Nurse Cons_Median	Staff in paediatric team_WTE_Paed.Nurse Cons._Lower quartile	Staff in paediatric team_WTE_Paed.Nurse Cons._Upper quartile	Staff in paediatric team_WTE_Asthma Nurse Spec._Number	Staff in paediatric team_WTE_Asthma Nurse Spec._Mean	Staff in paediatric team_WTE_Asthma Nurse Spec._Standard Deviation
Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13
q113h_median	*q113h_lq*	*q113h_uq*	*q113i_N*	*q113i_mean*	*q113i_sd*	*q113i_median*	*q113i_lq*	*q113i_uq*	*q113j_N*	*q113j_mean*	*q113j_sd*
0	0	0	23	0	0	0	0	0	23	0.6	0.7

Staff in paediatric team_WTE_Asthma Nurse Spec._Median	Staff in paediatric team_WTE_Asthma Nurse Spec._Lower quartile	Staff in paediatric team_WTE_Asthma Nurse Spec._Upper quartile	Staff in paediatric team_WTE_Other spec. resp. nurse_Number	Staff in paediatric team_WTE_Other spec. resp. nurse_Mean	Staff in paediatric team_WTE_Other spec. resp. nurse_Standard Deviation	Staff in paediatric team_WTE_Other spec. resp. nurse_Median	Staff in paediatric team_WTE_Other spec. resp. nurse_Lower quartile	Staff in paediatric team_WTE_Other spec. resp. nurse_Upper quartile	Staff in paediatric team_WTE_Other spec. paed. nurse_Number	Staff in paediatric team_WTE_Other spec. paed. nurse_Mean	Staff in paediatric team_WTE_Other spec. paed. nurse_Standard Deviation
Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13
q113j_median	*q113j_lq*	*q113j_uq*	*q113k_N*	*q113k_mean*	*q113k_sd*	*q113k_median*	*q113k_lq*	*q113k_uq*	*q113l_N*	*q113l_mean*	*q113l_sd*
0.6	0	1	23	1.1	1.4	0.2	0	2	22	1.2	2.0

Staff in paediatric team_WTE_Other spec. paed. nurse_Median	Staff in paediatric team_WTE_Other spec. paed. nurse_Lower quartile	Staff in paediatric team_WTE_Other spec. paed. nurse_Upper quartile	Staff in paediatric team_WTE_Physiotherapist_Number	Staff in paediatric team_WTE_Physiotherapist_Mean	Staff in paediatric team_WTE_Physiotherapist_Standard Deviation	Staff in paediatric team_WTE_Physiotherapist_Median	Staff in paediatric team_WTE_Physiotherapist_Lower quartile	Staff in paediatric team_WTE_Physiotherapist_Upper quartile	Staff in paediatric team_WTE_Research registrar/fellow_Number	Staff in paediatric team_WTE_Research registrar/fellow_Mean	Staff in paediatric team_WTE_Research registrar/fellow_Standard Deviation
Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13
q113l_median	*q113l_lq*	*q113l_uq*	*q113m_N*	*q113m_mean*	*q113m_sd*	*q113m_median*	*q113m_lq*	*q113m_uq*	*q113n_N*	*q113n_mean*	*q113n_sd*
0	0	2	22	1.0	0.9	1	0	1.8	23	0.0	0.2

Staff in paediatric team_WTE_Research registrar/fellow_Median	Staff in paediatric team_WTE_Research registrar/fellow_Lower quartile	Staff in paediatric team_WTE_Research registrar/fellow_Upper quartile	Staff in paediatric team_WTE_Research nurse_Number	Staff in paediatric team_WTE_Research nurse_Mean	Staff in paediatric team_WTE_Research nurse_Standard Deviation	Staff in paediatric team_WTE_Research nurse_Median	Staff in paediatric team_WTE_Research nurse_Lower quartile	Staff in paediatric team_WTE_Research nurse_Upper quartile	Staff in paediatric team_WTE_Resp.paed. cons_Number	Staff in paediatric team_WTE_Resp.paed. cons_Mean	Staff in paediatric team_WTE_Resp.paed. cons_Standard Deviation
Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13
q113n_median	*q113n_lq*	*q113n_uq*	*q113o_N*	*q113o_mean*	*q113o_sd*	*q113o_median*	*q113o_lq*	*q113o_uq*	*q113p_N*	*q113p_mean*	*q113p_sd*
0	0	0	21	0.3	0.6	0	0	0.6	23	1.1	1.5

Staff in paediatric team_WTE_Resp.paed. conse_Median	Staff in paediatric team_WTE_Resp.paed. cons_Lower quartile	Staff in paediatric team_WTE_Resp.paed. cons_Upper quartile	Staff in paediatric team_WTE_Other_Number	Staff in paediatric team_WTE_Other_Mean	Staff in paediatric team_WTE_Other_Standard Deviation	Staff in paediatric team_WTE_Other_Median	Staff in paediatric team_WTE_Other_Lower quartile	Unfilled posts in paediatric team_WTE_Other_Upper quartile	Unfilled posts in paediatric team_WTE_FY1_Number	Unfilled posts in paediatric team_WTE_FY1_Mean	Unfilled posts in paediatric team_WTE_FY1_Standard Deviation
Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.13	Q1.14	Q1.14	Q1.14
q113p_median	*q113p_lq*	*q113p_uq*	*q113q_N*	*q113q_mean*	*q113q_sd*	*q113q_median*	*q113q_lq*	*q113q_uq*	*q114a_N*	*q114a_mean*	*q114a_sd*
0	0	2	19	0.8	2.3	0	0	0	19	0.1	0.2

Unfilled posts in paediatric team_WTE_FY1_Median	Unfilled posts in paediatric team_WTE_FY1_Lower quartile	Unfilled posts in paediatric team_WTE_FY1_Upper quartile	Unfilled posts in paediatric team_WTE_FY2_Number	Unfilled posts in paediatric team_WTE_FY2_Mean	Unfilled posts in paediatric team_WTE_FY2_Standard Deviation	Unfilled posts in paediatric team_WTE_FY2_Median	Unfilled posts in paediatric team_WTE_FY2_Lower quartile	Unfilled posts in paediatric team_WTE_FY2_Upper quartile	Unfilled posts in paediatric team_WTE_CT1/CT2_Number	Unfilled posts in paediatric team_WTE_CT1/CT2_Mean	Unfilled posts in paediatric team_WTE_CT1/CT2_Standard Deviation
Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14
q114a_median	*q114a_lq*	*q114a_uq*	*q114b_N*	*q114b_mean*	*q114b_sd*	*q114b_median*	*q114b_lq*	*q114b_uq*	*q114c_N*	*q114c_mean*	*q114c_sd*
0	0	0	19	0.1	0.3	0	0	0	18	0.4	0.6

Unfilled posts in paediatric team_WTE_CT1/CT2_ Median	Unfilled posts in paediatric team_WTE_CT1/CT2_L ower quartile	Unfilled posts in paediatric team_WTE_CT1/CT2_U pper quartile	Unfilled posts in paediatric team_WTE_ST3&above _Number	Unfilled postsin paediatric team_WTE_ST3&above _Mean	Unfilled posts in paediatric team_WTE_ST3&above _Standard Deviation	Unfilled posts in paediatric team_WTE_ST3&above _Median	Unfilled posts in paediatric team_WTE_ST3&above _Lower quartile	Unfilled posts in paediatric team_WTE_ST3&above _Upper quartile	Unfilled posts in paediatric team_WTE_Associate Spec._Number	Unfilled posts in paediatric team_WTE_Associate Spec._Mean	Unfilled posts in paediatric team_WTE_Associate Spec._Standard Deviation
Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14
q114c_median	*q114c_lq*	*q114c_uq*	*q114d_N*	*q114d_mean*	*q114d_sd*	*q114d_median*	*q114d_lq*	*q114d_uq*	*q114e_N*	*q114e_mean*	*q114e_sd*
0	0	1	19	1.1	1.0	1	0	2	20	0.1	0.2

Unfilled posts in paediatric team_WTE_Associate Spec._Median	Unfilled posts in paediatric team_WTE_Associate Spec._Lower quartile	Unfilled postsin paediatric team_WTE_Associate Spec._Upper quartile	Unfilled posts in paediatric team_WTE_Staff grade_Number	Unfilled posts in paediatric team_WTE_Staff grade_Mean	Unfilled posts in paediatric team_WTE_Staff grade_Standard Deviation	Unfilled posts in paediatric team_WTE_Staff grade_Median	Unfilled posts in paediatric team_WTE_Staff grade_Lower quartile	Unfilled posts in paediatric team_WTE_Staff grade_Upper quartile	Unfilled posts in paediatric team_WTE_Physiologist_Number	Unfilled posts in paediatric team_WTE_Physiologist_Mean	Unfilled posts in paediatric team_WTE_Physiologist_Standard Deviation
Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14
q114e_median	*q114e_lq*	*q114e_uq*	*q114f_N*	*q114f_mean*	*q114f_sd*	*q114f_median*	*q114f_lq*	*q114f_uq*	*q114g_N*	*q114g_mean*	*q114g_sd*
0	0	0	20	0.2	0.5	0	0	0	21	0.0	0.2

Unfilled posts in paediatric team_WTE_Physiologist_Median	Unfilled posts in paediatric team_WTE_Physiologist_Lower quartile	Unfilled posts in paediatric team_WTE_Physiologist_Upper quartile	Unfilled posts in paediatric team_WTE_Resp.Nurse Cons._Number	Unfilled posts in paediatric team_WTE_Resp.Nurse Cons._Mean	Unfilled posts in paediatric team_WTE_Resp.Nurse Cons._Standard Deviation	Unfilled posts in paediatric team_WTE_Resp.Nurse Cons._Median	Unfilled posts in paediatric team_WTE_Resp.Nurse Cons._Lower quartile	Unfilled posts in paediatric team_WTE_Resp.Nurse Cons._Upper quartile	Unfilled posts in paediatric team_WTE_Paed.Nurse Cons._Number	Unfilled posts in paediatric team_WTE_Paed.Nurse Cons_Mean	Unfilled posts in paediatric team_WTE_Paed.Nurse Cons_Standard Deviation
Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14
q114g_median	*q114g_lq*	*q114g_uq*	*q114h_N*	*q114h_mean*	*q114h_sd*	*q114h_median*	*q114h_lq*	*q114h_uq*	*q114i_N*	*q114i_mean*	*q114i_sd*
0	0	0	22	0	0	0	0	0	23	0	0

Unfilled posts in paediatric team_WTE_Paed.Nurse Cons_Median	Unfilled posts in paediatric team_WTE_Paed.Nurse Cons._Lower quartile	Unfilled posts in paediatric team_WTE_Paed.Nurse Cons._Upper quartile	Unfilled posts in paediatric team_WTE_Asthma Nurse Spec._Number	Unfilled posts in paediatric team_WTE_Asthma Nurse Spec._Mean	Unfilled posts in paediatric team_WTE_Asthma Nurse Spec._Standard Deviation	Unfilled posts in paediatric team_WTE_Asthma Nurse Spec._Median	Unfilled posts in paediatric team_WTE_Asthma Nurse Spec._Lower quartile	Unfilled posts in paediatric team_WTE_Asthma Nurse Spec._Upper quartile	Unfilled posts in paediatric team_WTE_Other spec. resp. nurse_Number	Unfilled posts in paediatric team_WTE_Other spec. resp. nurse_Mean	Unfilled posts in paediatric team_WTE_Other spec. resp. nurse_Standard Deviation
Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14
q114i_median	*q114i_lq*	*q114i_uq*	*q114j_N*	*q114j_mean*	*q114j_sd*	*q114j_median*	*q114j_lq*	*q114j_uq*	*q114k_N*	*q114k_mean*	*q114k_sd*
0	0	0	23	0.1	0.1	0	0	0	23	0	0

Unfilled posts in paediatric team_WTE_Other spec. resp. nurse_Median	Unfilled posts in paediatric team_WTE_Other spec. resp. nurse_Lower quartile	Unfilled posts in paediatric team_WTE_Other spec. resp. nurse_Upper quartile	Unfilled posts in paediatric team_WTE_Other spec. paed. nurse_Number	Unfilled posts in paediatric team_WTE_Other spec. paed. nurse_Mean	Unfilled posts in paediatric team_WTE_Other spec. paed. nurse_Standard Deviation	Unfilled posts in paediatric team_WTE_Other spec. paed. nurse_Median	Unfilled posts in paediatric team_WTE_Other spec. paed. nurse_Lower quartile	Unfilled posts in paediatric team_WTE_Other spec. paed. nurse_Upper quartile	Unfilled posts in paediatric team_WTE_Physiotherapist_Number	Unfilled posts in paediatric team_WTE_Physiotherapist_Mean	Unfilled posts in paediatric team_WTE_Physiotherapist_Standard Deviation
Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14
q114k_median	*q114k_lq*	*q114k_uq*	*q114l_N*	*q114l_mean*	*q114l_sd*	*q114l_median*	*q114l_lq*	*q114l_uq*	*q114m_N*	*q114m_mean*	*q114m_sd*
0	0	0	22	0	0	0	0	0	22	0	0

Unfilled posts in paediatric team_WTE_Physiotherapist_Median	Unfilled posts in paediatric team_WTE_Physiotherapist_Lower quartile	Unfilled posts in paediatric team_WTE_Physiotherapist_Upper quartile	Unfilled posts in paediatric team_WTE_Research registrar/fellow_Number	Unfilled posts in paediatric team_WTE_Research registrar/fellow_Mean	Unfilled posts in paediatric team_WTE_Research registrar/fellow_Standard Deviation	Unfilled posts in paediatric team_WTE_Research registrar/fellow_Median	Unfilled posts in paediatric team_WTE_Research registrar/fellow_Lower quartile	Unfilled posts in paediatric team_WTE_Research registrar/fellow_Upper quartile	Unfilled posts in paediatric team_WTE_Research nurse_Number	Unfilled posts in paediatric team_WTE_Research nurse_Mean	Unfilled posts in paediatric team_WTE_Research nurse_Standard Deviation
Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14
q114m_median	*q114m_lq*	*q114m_uq*	*q114n_N*	*q114n_mean*	*q114n_sd*	*q114n_median*	*q114n_lq*	*q114n_uq*	*q114o_N*	*q114o_mean*	*q114o_sd*
0	0	0	22	0	0	0	0	0	21	0	0

Unfilled posts in paediatric team_WTE_Research nurse_Median	Unfilled posts in paediatric team_WTE_Research nurse_Lower quartile	Unfilled posts in paediatric team_WTE_Research nurse_Upper quartile	Unfilled posts in paediatric team_WTE_Resp.paed. cons_Number	Unfilled posts in paediatric team_WTE_Resp.paed. cons_Mean	Unfilled posts in paediatric team_WTE_Resp.paed. cons_Standard Deviation	Unfilled posts in paediatric team_WTE_Resp.paed. conse_Median	Unfilled posts in paediatric team_WTE_Resp.paed. cons_Lower quartile	Unfilled posts in paediatric team_WTE_Resp.paed. cons_Upper quartile	Unfilled posts in paediatric team_WTE_Other_Number	Unfilled posts in paediatric team_WTE_Other_Mean	Unfilled posts in paediatric team_WTE_Other_Standard Deviation
Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14	Q1.14
q114o_median	*q114o_lq*	*q114o_uq*	*q114p_N*	*q114p_mean*	*q114p_sd*	*q114p_median*	*q114p_lq*	*q114p_uq*	*q114q_N*	*q114q_mean*	*q114q_sd*
0	0	0	22	0.0	0.2	0	0	0	21	0.1	0.4

Unfilled posts in paediatric team_WTE_Other_Median	Unfilled posts in paediatric team_WTE_Other_Lower quartile	Unfilled posts in paediatric team_WTE_Other_Upper quartile	Smoking cessation service_No service available_Number	Smoking cessation service_No service available_%	Smoking cessation service_Less than 0.5 WTE_Number	Smoking cessation service_Less than 0.5 WTE_%	Smoking cessation service_0.5 WTE_Number	Smoking cessation service_ 0.5 WTE_%	Smoking cessation service_1 WTE_Number	Smoking cessation service_1 WTE_%	Smoking cessation service_2 WTE_Number
Q1.14	Q1.14	Q1.14	Q1.15	Q1.15	Q1.15	Q1.15	Q1.15	Q1.15	Q1.15	Q1.15	Q1.15
q114q_median	*q114q_lq*	*q114q_uq*	*q115numerator1*	*q115numpc1*	*q115numerator2*	*q115numpc2*	*q115numerator3*	*q115numpc3*	*q115numerator4*	*q115numpc4*	*q115numerator5*
0	0	0	8	40	0	0	0	0	3	15	0

Smoking cessation service_2 WTE_%	Smoking cessation service_3 WTE_Number	Smoking cessation service_3 WTE_%	Smoking cessation service_4+ WTE_Number	Smoking cessation service_4+ WTE_%	Smoking cessation service_Other WTE_Number	Smoking cessation service_Other WTE_%	Smoking cessation service_Total	Smoking-cessation pharmacotherapies_12 years_Number	Smoking-cessation pharmacotherapies_12 years_%	Smoking-cessation pharmacotherapies_12 years_Total	Smoking-cessation pharmacotherapies_16 years_Number
Q1.15	Q1.15	Q1.15	Q1.15	Q1.15	Q1.15	Q1.15	Q1.15	Q1.16	Q1.16	Q1.16	Q1.16
q115numpc5	*q115numerator6*	*q115numpc6*	*q115numerator7*	*q115numpc7*	*q115numerator8*	*q115numpc8*	*q115denominator*	*q116anumerator*	*q116anumpc*	*q116adenominator*	*q116bnumerator*
0	1	5	0	0	8	40	20	8	44.4	18	6

Smoking-cessation pharmacotherapies_16 years_%	Smoking-cessation pharmacotherapies_16 years_Total	Smoking-cessation pharmacotherapies_Adults only_Number	Smoking-cessation pharmacotherapies_Adults only_%	Smoking-cessation pharmacotherapies_Adults only_Total	Smoking-cessation pharmacotherapies_No pharmacy_Number	Smoking-cessation pharmacotherapies_No pharmacy_%	Smoking-cessation pharmacotherapies_No pharmacy_Total	If yes, smoking-cessation pharmacotherapies_Nicotine replacement_Number	If yes, smoking-cessation pharmacotherapies_Nicotine replacement_%	If yes, smoking-cessation pharmacotherapies_Nicotine replacement_Total
Q1.16	Q1.16	Q1.16	Q1.16	Q1.16	Q1.16	Q1.16	Q1.16	Q1.16	Q1.16	Q1.16
q116bnumpc	*q116bdenominator*	*q116cnumerator*	*q116cnumpc*	*q116cdenominator*	*q116dnumerator*	*q116dnumpc*	*q116ddenominator*	*q116enumerator*	*q116enumpc*	*q116edenominator*
40	15	8	53.3	15	0	0	13	7	63.6	11

			Organisation of acute respiratory care									
If yes, smoking-cessation pharmacotherapies_Other_Number	If yes, smoking-cessation pharmacotherapies_Other_%	If yes, smoking-cessation pharmacotherapies_Other_Total	On-call paediatric respiratory consultant_Days_None_Number	On-call paediatric respiratory consultant_Days_None_%	On-call paediatric respiratory consultant_Days_None_Total	On-call paediatric respiratory consultant_Days_Monday_Number	On-call paediatric respiratory consultant_Days_Monday_%	On-call paediatric respiratory consultant_Days_Monday_Total	On-call paediatric respiratory consultant_Days_Tuesday_Number	On-call paediatric respiratory consultant_Days_Tuesday_%	On-call paediatric respiratory consultant_Days_Tuesday_Total
Q1.16	Q1.16	Q1.16	Q2.1	Q2.1	Q2.1	Q2.1	Q2.1	Q2.1	Q2.1	Q2.1	Q2.1
q116fnumerator	*q116fnumpc*	*q116fdenominator*	*q21anumerator*	*q21anumpc*	*q21adenominator*	*q21bnumerator*	*q21bnumpc*	*q21bdenominator*	*q21cnumerator*	*q21cnumpc*	*q21cdenominator*
1	14.3	7	10	43.5	23	9	56.3	16	8	53.3	15

On-call paediatric respiratory consultant_Days_Wednesday_Number	On-call paediatric respiratory consultant_Days_Wednesday_%	On-call paediatric respiratory consultant_Days_Wednesday_Total	On-call paediatric respiratory consultant_Days_Thursday_Number	On-call paediatric respiratory consultant_Days_Thursday_%	On-call paediatric respiratory consultant_Days_Thursday_Total	On-call paediatric respiratory consultant_Days_Friday_Number	On-call paediatric respiratory consultant_Days_Friday_%	On-call paediatric respiratory consultant_Days_Friday_Total	On-call paediatric respiratory consultant_Days_Saturday_Number	On-call paediatric respiratory consultant_Days_Saturday_%	On-call paediatric respiratory consultant_Days_Saturday_Total
Q2.1	Q2.1	Q2.1	Q2.1	Q2.1	Q2.1	Q2.1	Q2.1	Q2.1	Q2.1	Q2.1	Q2.1
q21dnumerator	*q21dnumpc*	*q21ddenominator*	*q21enumerator*	*q21enumpc*	*q21edenominator*	*q21fnumerator*	*q21fnumpc*	*q21fdenominator*	*q21gnumerator*	*q21gnumpc*	*q21gdenominator*
8	53.3	15	9	60	15	8	53.3	15	5	35.7	14

On-call paediatric respiratory consultant_Days_Sunday_Number	On-call paediatric respiratory consultant_Days_Sunday_%	On-call paediatric respiratory consultant_Days_Sundayy_Total	On-call paediatric respiratory consultant_Days_In hours_Number	On-call paediatric respiratory consultant_Days_In hours_%	On-call paediatric respiratory consultant_Days_In hours_Total	On-call paediatric respiratory consultant_Days_Out of hours_Number	On-call paediatric respiratory consultant_Days_Out of hours_%	On-call paediatric respiratory consultant_Days_Out of hours_Total	Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_None_Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_None_%	Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_None_Total
Q2.1	Q2.1	Q2.1	Q2.1.1	Q2.1.1	Q2.1.1	Q2.1.1	Q2.1.1	Q2.1.1	Q2.2	Q2.2	Q2.2
q21hnumerator	*q21hnumpc*	*q21hdenominator*	*q211anumerator*	*q211anumpc*	*q211adenominator*	*q211bnumerator*	*q211bnumpc*	*q211bdenominator*	*q22anumerator*	*q22anumpc*	*q22adenominator*
6	42.9	14	9	42.9	21	6	30	20	10	47.6	21

Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_Monday_Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_Monday_%	Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_Monday_Total	Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_Tuesday_Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_Tuesday_%	Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_Tuesday_Total	Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_Wednesday_Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_Wednesday_%	Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_Wednesday_Total	Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_Thursday_Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_Thursday_%	Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_Thursday_Total
Q2.2	Q2.2	Q2.2	Q2.2	Q2.2	Q2.2	Q2.2	Q2.2	Q2.2	Q2.2	Q2.2	Q2.2
q22bnumerator	*q22bnumpc*	*q22bdenominator*	*q22cnumerator*	*q22cnumpc*	*q22cdenominator*	*q22dnumerator*	*q22dnumpc*	*q22ddenominator*	*q22enumerator*	*q22enumpc*	*q22edenominator*
6	46.2	13	5	38.5	13	5	38.5	13	5	38.5	13

Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_Friday_Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_Friday_%	Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_Friday_Total	Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_Saturday_Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_Saturday_%	Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_Saturday_Total	Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_Sunday_Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_Sunday_%	Senior decision maker from resp. team undertake ward rounds of new asthma patients_MAU/ad.ward_Days_Sunday_Total	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_None_Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_None_%	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_None_Total
Q2.2	Q2.2	Q2.2	Q2.2	Q2.2	Q2.2	Q2.2	Q2.2	Q2.2	Q2.3	Q2.3	Q2.3
q22fnumerator	*q22fnumpc*	*q22fdenominator*	*q22gnumerator*	*q22gnumpc*	*q22gdenominator*	*q22hnumerator*	*q22hnumpc*	*q22hdenominator*	*q23anumerator*	*q23anumpc*	*q23adenominator*
6	46.2	13	3	23.1	13	3	23.1	13	11	52.4	21

Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_Monday_Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_Monday_%	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_Monday_Total	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_Tuesday_Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_Tuesday_%	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_Tuesday_Total	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_Wednesday_Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_Wednesday_%	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_Wednesday_Total	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_Thursday_Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_Thursday_%	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_Thursday_Total
Q2.3	Q2.3	Q2.3	Q2.3	Q2.3	Q2.3	Q2.3	Q2.3	Q2.3	Q2.3	Q2.3	Q2.3
q23bnumerator	*q23bnumpc*	*q23bdenominator*	*q23cnumerator*	*q23cnumpc*	*q23cdenominator*	*q23dnumerator*	*q23dnumpc*	*q23ddenominator*	*q23enumerator*	*q23enumpc*	*q23edenominator*
3	27.3	11	3	27.3	11	3	27.3	11	3	27.3	11

Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_Friday_Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_Friday_%	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_Friday_Total	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_Saturday_Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_Saturday_%	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_Saturday_Total	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_Sunday_Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_Sunday_%	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Resp.ward_Days_Sunday_Total	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_None_Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_None_%	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_None_Total
Q2.3	Q2.3	Q2.3	Q2.3	Q2.3	Q2.3	Q2.3	Q2.3	Q2.3	Q2.4	Q2.4	Q2.4
q23fnumerator	*q23fnumpc*	*q23fdenominator*	*q23gnumerator*	*q23gnumpc*	*q23gdenominator*	*q23hnumerator*	*q23hnumpc*	*q23hdenominator*	*q24anumerator*	*q24anumpc*	*q24adenominator*
3	27.3	11	2	18.2	11	2	18.2	11	9	42.9	21

Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_Monday_ Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_Monday_ %	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_Monday_ Total	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_Tuesday_ Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_Tuesday_ %	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_Tuesday_ Total	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_Wednesday_Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_Wednesday_%	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_Wednesday_Total	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_Thursday_Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_Thursday_%	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_Thursday_Total
Q2.4	Q2.4	Q2.4	Q2.4	Q2.4	Q2.4	Q2.4	Q2.4	Q2.4	Q2.4	Q2.4	Q2.4
q24bnumerator	*q24bnumpc*	*q24bdenominator*	*q24cnumerator*	*q24cnumpc*	*q24cdenominator*	*q24dnumerator*	*q24dnumpc*	*q24ddenominator*	*q24enumerator*	*q24enumpc*	*q24edenominator*
6	50	12	5	41.7	12	5	41.7	12	5	41.7	12

Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_Friday_Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_Friday_%	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_Friday_Total	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_Saturday_Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_Saturday_%	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_Saturday_Total	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_Sunday_Number	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_Sunday_%	Senior decision maker from resp. team undertake ward rounds of new asthma patients_Other wards_Days_Sunday_Total	Respiratory nurse available to review asthma paed. patients_Days_None_Number	Respiratory nurse available to review asthma paed. patients_Days_None_%	Respiratory nurse available to review asthma paed. patients_Days_None_Total
Q2.4	Q2.4	Q2.4	Q2.4	Q2.4	Q2.4	Q2.4	Q2.4	Q2.4	Q2.5	Q2.5	Q2.5
q24fnumerator	*q24fnumpc*	*q24fdenominator*	*q24gnumerator*	*q24gnumpc*	*q24gdenominator*	*q24hnumerator*	*q24hnumpc*	*q24hdenominator*	*q25anumerator*	*q25anumpc*	*q25adenominator*
6	50	12	1	8.3	12	1	8.3	12	5	21.7	23

Respiratory nurse available to review asthma paed. patients_Days_Monday_Number	Respiratory nurse available to review asthma paed. patients_Days_Monday_%	Respiratory nurse available to review asthma paed. patients_Monday_Total	Respiratory nurse available to review asthma paed. patients_Days_Tuesday_Number	Respiratory nurse available to review asthma paed. patients_Days_Tuesday_%	Respiratory nurse available to review asthma paed. patients_Days_Tuesday_Total	Respiratory nurse available to review asthma paed. patients_Days_Wednesday_Number	Respiratory nurse available to review asthma paed. patients_Days_Wednesday_%	Respiratory nurse available to review asthma paed. patients_Days_Wednesday_Total	Respiratory nurse available to review asthma paed. patients_Days_Thursday_Number	Respiratory nurse available to review asthma paed. patients_Days_Thursday_%	Respiratory nurse available to review asthma paed. patients_Days_Thursday_Total
Q2.5	Q2.5	Q2.5	Q2.5	Q2.5	Q2.5	Q2.5	Q2.5	Q2.5	Q2.5	Q2.5	Q2.5
q25bnumerator	*q25bnumpc*	*q25bdenominator*	*q25cnumerator*	*q25cnumpc*	*q25cdenominator*	*q25dnumerator*	*q25dnumpc*	*q25ddenominator*	*q25enumerator*	*q25enumpc*	*q25edenominator*
15	83.3	18	15	83.3	18	15	88.2	17	11	68.8	16

Respiratory nurse available to review asthma paed. patients_Days_Friday_Number	Respiratory nurse available to review asthma paed. patients_Days_Friday_%	Respiratory nurse available to review asthma paed. patients_Days_Friday_Total	Respiratory nurse available to review asthma paed. patients_Days_Saturday_Number	Respiratory nurse available to review asthma paed. patients_Days_Saturday_%	Respiratory nurse available to review asthma paed. patients_Days_Saturday_Total	Respiratory nurse available to review asthma paed. patients_Days_Sunday_Number	Respiratory nurse available to review asthma paed. patients_Days_Sunday_%	Respiratory nurse available to review asthma paed. patients_Days_Sunday_Total	Patients with access to paediatric respiratory nurse_None_Number	Patients with access to paediatric respiratory nurse_None_%
Q2.5	Q2.5	Q2.5	Q2.5	Q2.5	Q2.5	Q2.5	Q2.5	Q2.5	Q2.6	Q2.6
q25fnumerator	*q25fnumpc*	*q25fdenominator*	*q25gnumerator*	*q25gnumpc*	*q25gdenominator*	*q25hnumerator*	*q25hnumpc*	*q25hdenominator*	*q26anumerator0*	*q26anumpc0*
12	70.6	17	0	0	17	0	0	17	6	26.1

Patients with access to paediatric respiratory nurse_All_Number	Patients with access to paediatric respiratory nurse_All_%	Patients with access to paediatric respiratory nurse_Only those under resp.physician_Number	Patients with access to paediatric respiratory nurse_Only those under resp.physician_%	Patients with access to paediatric respiratory nurse_Other_Number	Patients with access to paediatric respiratory nurse_Other_%	Patients with access to paediatric respiratory nurse_Total	Asthma lead_No_Number	Asthma lead_No_%	Asthma lead_Yes_Number	Asthma lead_Yes_%	Asthma lead_Hospital wide lead_Number
Q2.6	Q2.6	Q2.6	Q2.6	Q2.6	Q2.6	Q2.6	Q2.7	Q2.7	Q2.7	Q2.7	Q2.7
q26anumerator1	*q26anumpc1*	*q26anumerator2*	*q26anumpc2*	*q26anumerator3*	*q26anumpc3*	*q26adenominator*	*q27numerator0*	*q27numpc0*	*q27numerator1*	*q27numpc1*	*q27numerator2*
14	60.9	0	0	3	13.0	23	4	18.2	16	72.7	2

									Managing respiratory failure - emergency oxygen therap		
Asthma lead_Hospital wide lead_%	Asthma lead_Total	If yes, responsible for training_No_Number	If yes, responsible for training_No_%	If yes, responsible for training_Yes_Number	If yes, responsible for training_Yes_%	If yes, responsible for training_Yes, but also adult_Number	If yes, responsible for training_Yes, but also adult_%	If yes, responsible for training_Total	Paediatric oxygen policy_No_Number	Paediatric oxygen policy_No_%	Paediatric oxygen policy_Yes_Number
Q2.7	Q2.7	Q2.7.1	Q2.7.1	Q2.7.1	Q2.7.1	Q2.7.1	Q2.7.1	Q2.7.1	Q3.1	Q3.1	Q3.1
q27numpc2	*q27denominator*	*q271numerator0*	*q271numpc0*	*q271numerator1*	*q271numpc1*	*q271numerator2*	*q271numpc2*	*q271denominator*	*q31numerator0*	*q31numpc0*	*q31numerator1*
9.1	22	6	31.6	12	63.2	1	5.3	19	6	26.1	12

Paediatric oxygen policy_Yes_%	Paediatric oxygen policy_Not known_Number	Paediatric oxygen policy_Not known_%	Paediatric oxygen policy_Total	Paper or electronic prescribing_Paper only_Number	Paper or electronic prescribing_Paper only_%	Paper or electronic prescribing_Electronic partially implemented_Number	Paper or electronic prescribing_Electronic partially implemented_%	Paper or electronic prescribing_Electronic fully implemented_Number	Paper or electronic prescribing_Electronic fully implemented_%	Paper or electronic prescribing_Total	Paediatric med. chart/record with place to prescribe oxygen_Yes_Number
Q3.1	Q3.1	Q3.1	Q3.1	Q3.2	Q3.2	Q3.2	Q3.2	Q3.2	Q3.2	Q3.2	Q3.3
q31numpc1	*q31numerator2*	*q31numpc2*	*q31denominator*	*q32numerator1*	*q32numpc1*	*q32numerator2*	*q32numpc2*	*q32numerator3*	*q32numpc3*	*q32denominator*	*q33numerator*
52.2	5	21.7	23	11	47.8	6	26.1	6	26.1	23	17

Paediatric med. chart/record with place to prescribe oxygen_Yes_%	Paediatric med. chart/record with place to prescribe oxygen_Total	Monitoring chart which allows the follow to be recorded: None_Number	Monitoring chart which allows the follow to be recorded: None_%	Monitoring chart which allows the follow to be recorded: None_Total	Monitoring chart which allows the follow to be recorded: Target saturation_Number	Monitoring chart which allows the follow to be recorded: Target saturation_%	Monitoring chart which allows the follow to be recorded: Target saturation_Total	Monitoring chart which allows the follow to be recorded: Actual saturation_Number	Monitoring chart which allows the follow to be recorded: Actual saturation_%	Monitoring chart which allows the follow to be recorded: Actual saturation_Total	Monitoring chart which allows the follow to be recorded: Monitoring of emergency oxy._Number
Q3.3	Q3.3	Q3.4	Q3.4	Q3.4	Q3.4	Q3.4	Q3.4	Q3.4	Q3.4	Q3.4	Q3.4
q33numpc	*q33denominator*	*q34anumerator*	*q34anumpc*	*q34adenominator*	*q34bnumerator*	*q34bnumpc*	*q34bdenominator*	*q34cnumerator*	*q34cnumpc*	*q34cdenominator*	*q34dnumerator*
77.3	22	5	41.7	12	10	50	20	22	100	22	22

Monitoring chart which allows the follow to be recorded: Monitoring of emergency oxy._%	Monitoring chart which allows the follow to be recorded: Monitoring of emergency oxy._Total	Oxygen training programme_None_Number	Oxygen training programme_None_%	Oxygen training programme_None_Total	Oxygen training programme_Not known_Number	Oxygen training programme_Not known_%	Oxygen training programme_Not known_Total	Oxygen training programme_Pres.emergency oxy. doctors_Number	Oxygen training programme_Pres.emergency oxy. doctors_%	Oxygen training programme_Pres.emergency oxy. doctors_Total	Oxygen training programme_Monitoring emergency oxy. Nurses and other_Number
Q3.4	Q3.4	Q3.5	Q3.5	Q3.5	Q3.5	Q3.5	Q3.5	Q3.5	Q3.5	Q3.5	Q3.5
q34dnumpc	*q34ddenominator*	*q35anumerator*	*q35anumpc*	*q35adenominator*	*q35bnumerator*	*q35bnumpc*	*q35bdenominator*	*q35cnumerator*	*q35cnumpc*	*q35cdenominator*	*q35dnumerator*
95.7	23	7	43.8	16	8	61.5	13	2	20	10	6

		Integrating care across primary and secondary sectors									
Oxygen training programme_Monitoring emergency oxy. Nurses and other_%	Oxygen training programme_Monitoring emergency oxy. Nurses and other_Total	Paediatric specialist asthma service_Yes_Number	Paediatric specialist asthma service_Yes_%	Paediatric specialist asthma service_Yes_Total	MDT meetings_No_ Number	MDT meetings_No_%	MDT meetings_No_Total	MDT meetings_Paed.resp.cons_ Number	MDT meetings_Paed.resp.cons_%	MDT meetings_Paed.resp.cons_Total	MDT meetings_Spec.trainee_ Number
Q3.5	Q3.5	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2
q35dnumpc	*q35ddenominator*	*q41numerator*	*q41numpc*	*q41denominator*	*q42anumerator*	*q42anumpc*	*q42adenominator*	*q42bnumerator*	*q42bnumpc*	*q42bdenominator*	*q42cnumerator*
46.2	13	15	65.2	23	15	65.2	23	8	66.7	12	1

MDT meetings_Spec.trainee_%	MDT meetings_Spec.trainee_Total	MDT meetings_Paed.asthma nurse spec._ Number	MDT meetings_Paed.asthma nurse spec_%	MDT meetings_Paed.asthma nurse spec_Total	MDT meetings_GP_ Number	MDT meetings_GP_%	MDT meetings_GP_Total	MDT meetings_Hosp.asthma nurse spec._ Number	MDT meetings_Hosp.asthma nurse spec._%	MDT meetings_Hosp.asthma nurse spec._Total	MDT meetings_Hosp.paed. nurse_ Number
Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2
q42cnumpc	*q42cdenominator*	*q42dnumerator*	*q42dnumpc*	*q42ddenominator*	*q42enumerator*	*q42enumpc*	*q42edenominator*	*q42fnumerator*	*q42fnumpc*	*q42fdenominator*	*q42gnumerator*
9.1	11	7	58.3	12	0	0	11	4	36.4	11	2

MDT meetings_Hosp.paed. nurse_%	MDT meetings_Hosp.paed. nurse_Total	MDT meetings_Physiotherapist_ Number	MDT meetings_Physiotherapist_%	MDT meetings_Physiotherapist_Total	MDT meetings_Dietician_ Number	MDT meetings_Dietician_%	MDT meetings_Dietician_Total	MDT meetings_Psychologist_ Number	MDT meetings_Psychologist_%	MDT meetings_Psychologist_Total	MDT meetings_Radiologist_ Number
Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2
q42gnumpc	*q42gdenominator*	*q42hnumerator*	*q42hnumpc*	*q42hdenominator*	*q42inumerator*	*q42inumpc*	*q42idenominator*	*q42jnumerator*	*q42jnumpc*	*q42jdenominator*	*q42knumerator*
20	10	4	40	10	0	0	10	2	20	10	0

MDT meetings_Radiologist_%	MDT meetings_Radiologist_Total	MDT meetings_Pharmacistt_Number	MDT meetings_Pharmacist_%	MDT meetings_Pharmacist_Total	MDT meetings_Other_Number	MDT meetings_Other_%	MDT meetings_Other_Total	MDT frequency_Weekly_Number	MDT frequency_Weekly_%	MDT frequency_Fortnightly_Number	MDT frequency_Fortnightly_%
Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1
q42knumpc	*q42kdenominator*	*q42lnumerator*	*q42lnumpc*	*q42ldenominator*	*q42mnumerator*	*q42mnumpc*	*q42mdenominator*	*q421anumerator1*	*q421anumpc1*	*q421anumerator2*	*q421anumpc2*
0	10	1	10	10	4	44.4	9	3	37.5	1	12.5

							Patient and carer engagement				
MDT frequency_Monthly_Number	MDT frequency_Monthly_%	MDT frequency_Quarterly_Number	MDT frequency_Quarterly_%	MDT frequency_Other_Number	MDT frequency_Other_%	MDT frequency_Total	Formal survey seeking patient/carer views_Continuous_Number	Formal survey seeking patient/carer views_Continuous_%	Formal survey seeking patient/carer views_>4 times a year_Number	Formal survey seeking patient/carer views_>4 times a years_%	Formal survey seeking patient/carer views_ 3-4 times a year_Number
Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q4.2.1	Q5.1	Q5.1	Q5.1	Q5.1	Q5.1
q421anumerator3	*q421anumpc3*	*q421anumerator4*	*q421anumpc4*	*q421anumerator5*	*q421anumpc5*	*q421adenominator*	*q51numerator1*	*q51numpc1*	*q51numerator2*	*q51numpc2*	*q51numerator3*
2	25	1	12.5	1	12.5	8	9	40.9	1	4.5	1

Formal survey seeking patient/carer views_ 3-4 times a year_%	Formal survey seeking patient/carer views_ 1-2 times a year_Number	Formal survey seeking patient/carer views_ 1-2 times a year_%	Formal survey seeking patient/carer views_ Less than once a year_Number	Formal survey seeking patient/carer views_ Less than once a year_%	Formal survey seeking patient/carer views_ Never_Number	Formal survey seeking patient/carer views_ Never_%	Formal survey seeking patient/carer views_ Total	Strategic group for paed. services_No_Number	Strategic group for paed. services_No_%	Strategic group for paed. services_Yes_Number	Strategic group for paed. services_Yes_%
Q5.1	Q5.1	Q5.1	Q5.1	Q5.1	Q5.1	Q5.1	Q5.1	Q5.2	Q5.2	Q5.2	Q5.2
q51numpc3	*q51numerator4*	*q51numpc4*	*q51numerator5*	*q51numpc5*	*q51numerator6*	*q51numpc6*	*q51denominator*	*q52numerator0*	*q52numpc0*	*q52numerator1*	*q52numpc1*
4.5	4	18.2	4	18.2	3	13.6	22	2	8.7	19	82.6

Strategic group for paed. services_Not known_Number	Strategic group for paed. services_Not known_%	Strategic group for paed. services_Total	Patient rep. on strategic group_No_Number	Patient rep. on strategic group_No_%	Patient rep. on strategic group_Yes_Number	Patient rep. on strategic group_Yes_%	Patient rep. on strategic group_Not known_Number	Patient rep. on strategic group_Not known_%	Patient rep. on strategic group_Total	Paediatric patient access to healthcare records_No_Number	Paediatric patient access to healthcare records_No_%
Q5.2	Q5.2	Q5.2	Q5.2.1	Q5.2.1	Q5.2.1	Q5.2.1	Q5.2.1	Q5.2.1	Q5.2.1	Q5.3	Q5.3
q52numerator2	*q52numpc2*	*q52denominator*	*q521numerator0*	*q521numpc0*	*q521numerator1*	*q521numpc1*	*q521numerator2*	*q521numpc2*	*q521denominator*	*q53numerator0*	*q53numpc0*
2	8.7	23	12	60	4	20	4	20	20	5	21.7

Paediatric patient access to healthcare records_Yes_Number	Paediatric patient access to healthcare records_Yes_%	Paediatric patient access to healthcare records_Not known_Number	Paediatric patient access to healthcare records_Not known_%	Paediatric patient access to healthcare records_Total	Link with patient support/engagement group_No_Number	Link with patient support/engagement group_No_%	Link with patient support/engagement group_Yes_Number	Link with patient support/engagement group_Yes_%	Link with patient support/engagement group_Not known_Number	Link with patient support/engagement group_Not known_%	Link with patient support/engagement group_Total
Q5.3	Q5.3	Q5.3	Q5.3	Q5.3	Q5.4	Q5.4	Q5.4	Q5.4	Q5.4	Q5.4	Q5.4
q53numerator1	*q53numpc1*	*q53numerator2*	*q53numpc2*	*q53denominator*	*q54numerator0*	*q54numpc0*	*q54numerator1*	*q54numpc1*	*q54numerator2*	*q54numpc2*	*q54denominator*
15	65.2	3	13.0	23	12	52.2	6	26.1	5	21.7	23

Transitional care											
Transitional care_YP has full record_Number	Transitional care_YP has full record_%	Transitional care_YP has full record_Total	Transitional care_GP has same record as YP_Number	Transitional care_GP has same record as YP_%	Transitional care_GP has same record as YP_Total	Transitional care_YP has transitional care plan_Number	Transitional care_YP has transitional care plan_%	Transitional care_YP has transitional care plan_Total	Transitional care_YP has named case worker_Number	Transitional care_YP has named case worker_%	Transitional care_YP has named case worker_Total
q61anumerator	*q61anumpc*	*q61adenominator*	*q61bnumerator*	*q61bnumpc*	*q61bdenominator*	*q61cnumerator*	*q61cnumpc*	*q61cdenominator*	*q61dnumerator*	*q61dnumpc*	*q61ddenominator*
15	65.2	23	14	60.9	23	10	43.5	23	8	34.8	23