

Combined adult and paediatric Acute Respiratory Infection (ARI) hubs (previously RCAS hubs)

This document supports systems as they plan for the management of acute respiratory infections this winter and beyond, as COVID-19 and other respiratory infections persist throughout the year.

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1. Introduction

- 1.1 This document supports systems as they plan for the management of acute respiratory infections (ARI) this winter and beyond, as COVID-19 and other respiratory infections persist throughout the year.
- 1.2 The Fuller Stocktake report¹ calls on systems to develop an integrated urgent care pathway. This document builds on this and aims to achieve a step towards a smoother urgent care interface between primary, community and secondary care.
- 1.3 This document is aimed at supporting local systems to build on existing infrastructure to design ARI hub models to manage demand over winter, providing additional capacity to support primary and secondary care pressures and matching the needs of their population. To support this local approach, this document contains links to the most up-to-date respiratory infection data to support operational planning.

2. Background

- 2.1 NHS England and UK Health Security Agency (UKHSA) Emergency Department Syndromic Surveillance reports from 2020-2022 show that acute respiratory infections are one of the most common reasons for emergency attendance and admission. Scenarios for COVID-19, combined with those for flu, suggest that even in optimistic scenarios, high numbers of appointments and beds may be needed for respiratory patients during winter
- 2.2 Getting it Right First Time (GIRFT) specialty respiratory report (March 2021) states that respiratory problems were among the most common reasons for General Practice consultations and for acute hospital admissions even prior to COVID-19 and that admissions are growing at around 13% annually.

¹ NHS England » Next steps for integrating primary care: Fuller stocktake report

- 2.3 In its rapid review, the Academy of Medical Sciences (AMS) highlights the importance of system working to support all parts of the health system.
- 2.4 Primary care, secondary care and NHS111 will need to work together to prevent large numbers of children and older patients with breathing difficulties from being triaged with the outcome of an emergency ambulance, as many of these patients do not need to be admitted and can be looked after in the community.

3. Aims

- 3.1 An Acute Respiratory Infection hub model is a system approach that drives a collective objective to provide timely and appropriate care to the population and helps reduce pressure on other parts of the system. The hub model may be best suited to those with acute, episodic needs.
- 3.2 As a result, the goals are to:
 - 3.2.1 Support patients with urgent clinical needs by enhancing same day access to assessment and specialist advice as needed. This may include accessing secondary care respiratory 'hot clinics' (see case study 4). Access to point of care (POC) testing or other diagnostics may be helpful if available.
 - 3.2.2 Seek to reduce ambulance callouts, A&E attendances and hospital admissions for patients who could be appropriately managed in the community.
 - 3.2.3 Reduce the burden of acute respiratory illness on primary care and provide more time for practice teams to support patients where continuity of care is most important.
 - 3.2.4 Reduce nosocomial transmission by separating the high expected flow of infectious patients through hubs rather than usual GP waiting rooms and clinics.
 - 3.2.5 Seek to provide an accessible and equitable service to support same day access (with consideration given to the location of these services). This approach would support a positive impact on the health outcomes of the Core20PLUS population for tackling health inequalities and provision of inclusive services.

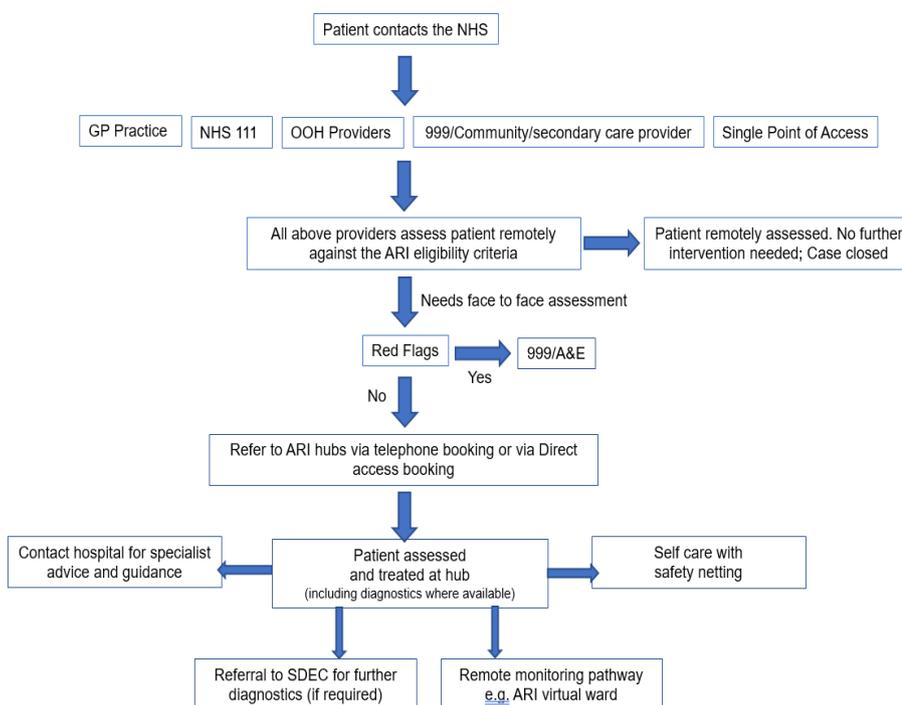
3.2.6 Provide an opportunity for portfolio integrated care working and training for staff at system level that may help with staff development and retention. This could include optimising workforce opportunities such as links with new Allied Health Professional roles to support deliver

3.3 It is recommended that where implemented, an ARI hub local evaluation should be undertaken to support development of evidence base and ensure sustainability of services.

4. Potential models

4.1 Areas may design their pathway in different ways, depending on local circumstances. The below is for illustrative purposes only.

4.2 Illustrative example of ARI pathway



4.3 ARI hubs build on the experience of hot hubs (delivered during the COVID-19 pandemic) or on existing models for respiratory infections in various systems. Systems will already have significant experience and any model should arise from that local intelligence, capacity, and infrastructure.

- 4.4 The inclusion criteria should be adults and children with acute respiratory symptoms, most likely due to infection (e.g. bacterial or viral infections including COVID-19, RSV, influenza), who have been identified through an initial remote/triage consultation as requiring face-to-face assessment but not as requiring hospitalisation. Consideration will need to be given to those more complex patients who may benefit from continuity of care in their general practice setting.
- 4.5 The main referral routes are likely to be NHS 111/integrated urgent care (IUC) clinical assessment services (CASs) and GP practices (by local agreement, this may be with direct booking by non-clinical roles to reduce pressure on clinical staff and improve efficiencies). Where care coordination hubs/Single Points of Access are available, these should be utilised to support timely referral and urgent assessment. Consideration may also be given to receiving patients who are referred by other primary care services like community pharmacy, community health services, secondary care or ambulance services/clinicians, and have been clinically assessed and identified as requiring an urgent follow-up but not an emergency admission.
- 4.6 Face-to-face assessment may include diagnostics where available such as Point of Care Testing (POCT), to support clinical decision making and avoidable hospital attendance. Referral to Same Day Emergency Care (SDEC) services may also be utilised to support further diagnostics where required. This may be followed by advice, treatment, follow-up appointments or monitoring as required such as referral to an [ARI virtual ward](#). Once established, subject to capacity, hubs could evolve to include assessment of other infections or conditions and could also support management of [COVID community therapeutics](#) if appropriate. Following a consultation, effective communication back to the patient's general practice will be required
- 4.7 The existing [COVID-19 IPC guidance](#) in healthcare settings would apply. ARI hubs could help to reduce the risk of infection spread through reducing the footfall in A&E and primary care.

5. Governance

- 5.1 Legal responsibility, including to ensure appropriate clinical governance, remains with the relevant provider. Each ICS should have a named person responsible for the establishment of the service in their area. ARI clinical, governance and administrative responsibilities can be provided by any appropriately trained person and best use of resources should be made.
- 5.2 Access arrangements and opening hours for ARI hubs will need to be locally agreed based on prevailing need, and local arrangements made for out-of-hours cover.
- 5.3 The ARI hub should be led by a named clinician.

6. Additional information

Data

National flu and COVID-19 surveillance reports for the 2022/2023 season can be accessed [here](#). The syndromic surveillance systems provide information for public health action on the spread of illness across England, from primary, secondary, and emergency care settings. These reports can be accessed [here](#).

COVID-19 Early Warning System allows users to make operational decisions by providing a 3-week forward look at the impact of COVID-19 on several hospital metrics at national, region, ICS, and trust levels. The forecasted metrics are estimated daily COVID-19 admissions and estimated beds occupied by patients with COVID-19.

The A&E admissions tool presents daily forecasts up to three weeks in advance for patients admitted via A&E. The forecasts produced for this metric are for all admissions via an emergency department at national, region, ICS, and trust levels. The forecasts are produced using data submitted to the Emergency Care Dataset (ECDS) by trusts. These tools and forecasts are available on the NHS National Data Platform for registered users.

To register for access to the NHS National Data Platform (Foundry) [National Homepage \(palantirfoundry.co.uk\)](#)

- Register for a NHS England applications (OKTA) account at this link [Register | NHS England applications \(model.nhs.uk\)](#) if you do not already have an account.
- Contact the NHS National Data Platforms (Foundry) Service Desk via foundry.support@england.nhs.uk to request access to the tools.

Learning resources

Health Education England resources have also been developed to support the NHS workforce to manage the respiratory surge in children and can be accessed [here](#). General principles and example pathways for assessment and management of children with respiratory symptoms: [here](#).

Details of sources of further advice, guidance and training materials, including bespoke support from Academic Health Science Networks (AHSNs) and Patient Safety Collaboratives, are available on the [@home FutureNHS platform](#).

General principles and example pathways for assessment and management of children with respiratory symptoms out of hospital are available from the [Royal College of Paediatrics and Child Health](#). Further guidance and resources are available: [RCPCH National guidance for the management of children with bronchiolitis \(2021\)](#) and [Healthier Together Bronchiolitis Pathway](#).

Guidance on safety netting for acute respiratory infection can be accessed on page 13 of

[ARI virtual ward document](#)

7. Case studies

Sandwell Paediatric Respiratory hub service model
Aim
<p>This paediatric respiratory hub was shortlisted for the HSJ Patient Safety awards in 2022. It was established to manage winter pressures and address the concern re same day paediatric care in primary care. The triple aim of the service included improving the quality of childhood acute illness management in primary care; reducing accident and emergency attendance and acute admission for children; supporting general practice with increased capacity in primary care.</p>
Processes and staffing
<p>The service was hosted by a primary care network in Sandwell, with full access to patient medical records, providing face-to-face assessment of patients with onward referrals via an existing single point of access (SPA) to see children with potential infectious illnesses (including RSV, bronchiolitis and COVID-19) in January 2022.</p> <p>The hub ran from 1-6 pm with 2 GPs offering 15 minute appointments with up to 40 slots available per afternoon supported by one administrative staff member. There was also some time allocated from a practice manager to book staff, update clinical rotas and add the clinics to the relevant system e.g. system 1/EMIS.</p> <p>Eligibility criteria included children aged 12 years or under who presented with acute presentation of breathing symptoms including shortness of breath, difficulty breathing, cough (productive or non-productive) or wheeze and symptoms of infection.</p>
Outcomes
<p>The experience of the service and quality of care provided was extremely positive and analysis from March 2022 demonstrated that out of 1098 patients seen, less than 0.72% (n=8) were referred to A&E and 0.63% (n=8) were referred to a paediatric assessment unit. The estimated savings from the hub</p>

were approximately 35% with hub appointments costing £43 in comparison to an A&E appointment at £121.

Dudley Combined Model (Adults & Children and Young People)

Aim

Dudley Access Hub is a model for Children and Young People that combines a respiratory hub with additional extended hours primary care appointments. This provides an additional 324 face to face GP appointments each week across Dudley place level serving all 6 PCNs. The service is integrated with the Urgent Treatment Centre, which is able to book directly, and 111 re-directing patients via telephone.

Processes and staffing

Staffing ratios are either 2 GPs or 1 GP and an Advanced Nurse Practitioner providing urgent same day appointments, 2 reception staff and a hub manager and is mainly staffed by locum GPs covering. The majority of staff are either permanent primary care locums or staff already employed within GP practices within the area. The hub prioritises paediatrics between 1-6pm.

Outcomes

Key successes include building relationships with partners and support to relieve pressures across primary and secondary care preserving workforce capacity. Outcomes of the service include:

- 95% of people reported that if the service wasn't available, they would have presented at the UTC
- An average of 88% utilisation rate with attendance rates at 94% and DNA rates of 6%
- 72% referrals come directly from GP practices, 20% re-directed from 111 and 8% re-directed from UTC
- 99.6% of referrals have been appropriate for the service
- Age profile on average 44% under 16, 47% aged 16-64 and 9% aged 64 and over
- Average 90% of people are discharged home, 5% of people required follow-up with their own GP, only 5% required admission to hospital

- 84% of people were seen within 15 minutes of arrival at the Hub
- Patient feedback very positive with 569 responses to date – 96% rating their experience as good or very good

The North Hants Winter Assessment Hub

Aim

The service was launched in November 2020 for patients (adults and children) with fever or respiratory symptoms who required a face-to-face assessment following an initial triage. It was a collaborative service across 6 PCNs run by a multidisciplinary Primary Care team, working closely with colleagues across Secondary, Community and Urgent Care. It was co-located with a COVID Oximetry at Home service, which allowed remote monitoring of high-risk patients with COVID-19 to identify early patient deterioration and provide timely escalation for cases of silent hypoxia, whilst reducing the burden on secondary care

Processes and staffing

This Hub was formed by a collaboration of 6 PCNs covering a population of 230,000 patients and operated from November 2020 to May 2021. Staff including GPs, ANP, Paramedics and HCAs were seconded from across the 6 PCNs with four clinicians seeing up to 80 patients per day. The staffing was multidisciplinary. Patients were referred into the service from individual practices following triage, and from the Community Nursing team, Emergency Department, and the Ambulance Service. A total of 4,623 patients were seen over 6 months, and 243 (5.26%) were admitted to hospital following this assessment, The remainder were managed safely at home, with support from the COVIDOximetry@Home service where appropriate. The hub also included development of Loop-Mediated Isothermal Amplification (LAMP) Point of Care Assays to confirm COVID-19 diagnosis on patients presenting with acute respiratory infection. Remote monitoring was utilised where required for high-risk patients with COVID-19 supported by pulse oximeters. This was again collaborative, and we worked with the voluntary sector to support vulnerable patients at home.

Outcomes

Patient feedback was extremely positive from this service and a total of 93.3% of respondents would recommend it to others.

Patients confirmed with acute COVID-19 infection were analysed over this time period and comparisons made between those who were assessed/monitored in the hub with those that did not, demonstrated a significant association between COVID oximetry @home and better patient outcomes; most notably a reduction in the odds of hospital lengths of stays longer than 7, 14 and 28 days and 30-day hospital mortality.

Clinician feedback was also positive. Collaboration resulted in stronger relationships across our local delivery system, between the six PCNs, but also across Primary, Secondary and Community Care.

NHS England
Wellington House
133-155 Waterloo Road
London
SE1 8UG

Contact: enquiries@england.nhs.uk

This publication can be made available in a number of alternative formats on request.