Ensuring rapid access to acute respiratory care

When patients with respiratory conditions present with acute problems such as exacerbations, they need to be cared for by a specialist multidisciplinary team. However, the lack of specialist cover in the emergency department can lead to unnecessary admissions, while a lack of beds can make it difficult to accommodate unplanned admissions on specialist wards. Admission to general wards means patients may have little or no access to specialist care.

Ensuring access to specialist care

When organisational changes at East and North Hertfordshire NHS Trust increased the number of patients in outlying wards, the respiratory team developed a new service to ensure patients with acute respiratory problems have access to timely specialist care.

The respiratory department at the beginning of 2013 consisted of 48 beds in two wards across the Lister Hospital and Queen Elizabeth II Hospital (QE2) sites, providing respiratory care for a local population of roughly 600,000. The ward in the Lister Hospital received an average of 300 respiratory patients per month when the respiratory ward at QE2 closed that year due to the Our Changing Hospitals (OCH) programme. This involved reconfiguring acute services on one site at the Lister Hospital. Consequently, the acute trust had a 29-bed respiratory ward, which included a four-bed non-invasive ventilation unit. This resulted in more respiratory patients presenting to the ED, as we had one acute site for the same population and demand for services would naturally increase. Therefore, patients requiring admissions were being managed on outlying wards without specialist input.

Local data for respiratory care at that time showed a hospital standardised mortality ratio (HSMR) of 107.08. HSMR is

### TABLE 1. PERCENTAGE OF PATIENTS REVIEWED BY ACT

<table>
<thead>
<tr>
<th>Condition</th>
<th>Identified by coding</th>
<th>Seen by ACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumonia</td>
<td>103 (actual CAP = 85)*</td>
<td>77 (corrected % = 90.5%)*</td>
</tr>
<tr>
<td>Acute bronchitis</td>
<td>34</td>
<td>18 (52%)</td>
</tr>
<tr>
<td>COPD/Bronchiectasis</td>
<td>45</td>
<td>37 (82%)</td>
</tr>
<tr>
<td>Asthma</td>
<td>17</td>
<td>16 (94%)</td>
</tr>
</tbody>
</table>

* 26 patients who were not seen had their history and chest X-rays reviewed; of these, 18 were coded inappropriately as having community-acquired pneumonia; therefore 77 out of 85 (90.5%) were seen
Development of the service
During the pilot, the ACT had one respiratory consultant and two respiratory clinical nurse specialists (CNSs); the nurses were seconded from an established respiratory CNS team, and provided expertise and advice within the ED and acute medical admissions unit. After the pilot, the team gained two additional respiratory consultants, and the nurses gained substantive positions.

During the first year (April 2014 to April 2015), we provided three rapid-access respiratory clinics per week, which were either consultant-led or nurse-led. Nurse-led clinics were predominantly handling 48-hour asthma follow-ups, with consultant-led clinics covering more complex disease groups. The nurses could be contacted via a bleep and mobile phone between 8.00 am and 4.00 pm Monday to Friday to see patients with acute respiratory problems in the ED and acute medical admissions units. The wider respiratory CNS team covered all other outlying wards in the hospital for any other respiratory referrals.

In its second year (April 2015 to April 2016), the ACT expanded by one additional respiratory CNS and three additional respiratory consultants in order to:
» Provide a seven-day service on the respiratory ward;
» Facilitate the expansion of the ACT to give patients access to a respiratory specialist within 24 hours of admission to hospital;
» Increase rapid-access clinics to five per week.

While the established respiratory CNS team regularly reviewed patients with COPD, a nurse from the ACT attended to patients in the ED who did not require hospital admission. We were able to improve the pathway for these patients and other respiratory patients by aiding the correct diagnosis and management of their disease, as recommended by the National Institute for Health and Care Excellence (2014).

The rapid-access clinics enabled us to review patients with acute asthma problems within 48 hours of being discharged from the ED, adhering to national guidance (Royal College of Physicians, 2014). In the absence of an integrated community respiratory team, this patient group was often unable to get a GP appointment within 48 hours, and their conditions could exacerbate quickly. Nurses in the rapid-access clinic could ensure patients were on the correct treatment and had appropriate management plans.

As a result of this data and the OCH initiative, the respiratory team reviewed the way we delivered care. The team proposed developing a respiratory outreach service to ensure all patients admitted through the ED and acute medical admissions unit are seen within 24 hours of presentation, with a view to providing a seven-day respiratory service. An acute chest team (ACT) was set up at the Lister Hospital, initially as a two-month pilot in April 2013. Its success led to the development of a five-day service within its first year of operation, a seven-day service in the second year, and a two-year Commissioning for Quality and Innovation (CQUIN) payment scheme.

The ACT’s objectives were to:
» Increase the number of patients seen by a respiratory specialist to improve the inpatient pathway and patient outcomes;
» Prevent unnecessary admission or readmission to hospital and avoid delayed discharge by offering urgent follow-up in a rapid-access respiratory clinic – this was essential as there were no community respiratory services available;
» Reduce the trust’s mortality rates for chronic obstructive pulmonary disease (COPD) and pneumonia, which were above the national average.

Readmission rates were 113.28 (100 is the expected score). National, the expected HSMR for hospitals such as the Lister is 100. Readmission rates were 113.28 (100 is the expected score).

When we initiated the service, we had to actively seek out patients by putting up posters in target areas of the ED and acute medical admission units. We visited these departments at least twice a day to advertise the service and promote appropriate referrals. We would also scan our hospital admission system to identify patients who would potentially benefit from our service; these were reviewed by the CNS team and only referred to the consultant when clinically indicated.

Evaluation and findings
We undertook quarterly evaluations during the two-year CQUIN and we provided quarterly audit information. The CQUIN required us to see 90% of patients presenting to hospital with a respiratory complaint within 24 hours. Those presented overnight and admitted directly to a ward that was outside our target area were excluded from the evaluation.

We looked at the numbers of:
» Patients presenting with respiratory complaints reviewed by the ACT;
» The number of admissions avoided due to patients receiving a timely review by the ACT;
» The number of patients seen in the rapid-access clinic.

Although results varied from quarter to quarter, the ACT consistently achieved its aims of providing timely reviews for patients and preventing unnecessary admission to hospital; on average we achieved up to a 10% reduction in respiratory admissions. Fig 1 shows the patient groups reviewed by the ACT over the two-year CQUIN; most had conditions with high mortality rates, such as COPD and pneumonia – the ‘other’ group (16.5%) included patients with pleural disease, interstitial lung diseases and lung cancer.

[Graph showing disease groups reviewed by ACT]

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The service was positively received by patients and relatives. We obtained regular written and verbal feedback on how the service had improved patient pathway, with prompt diagnosis and treatment of all respiratory diseases. Our recent patient feedback from 200 randomly selected service users showed that 99% of our patients would recommend the ACT service to family and friends.

References

For more on this topic go online...
- Non-invasive ventilation in COPD exacerbations
  Bit.ly/NTNivCOPD

Fig 1 on p17 identifies the percentage of patients reviewed by the ACT in each disease category, while Box 1 gives a snapshot from the final month in the CQUIN audits.

The number of patients reviewed by a respiratory specialist within 24 hours of admission increased for all respiratory diseases; the biggest increase was for patients with pneumonia, which rose from 10% to an average of 70%. Patients with COPD and asthma were already target groups for the respiratory CNS team, so we were able to meet the 90% CQUIN target for these. Finally, an average of 50% of patients with acute bronchitis were reviewed by the ACT; although this is lower than for other disease groups, most of these patients can be managed without specialist input.

On average, 5% of patients seen in the rapid-access clinic avoided a hospital admission. These patients were generally identified by the ACT team in the ED or referred from ambulatory care services as well as the wider respiratory consultant team. Without the availability of clinic support, these patients would potentially have been admitted to hospital. The length of stay for respiratory patients admitted to hospital also went down, from 95.08 in 2012-13 to 88.41 in 2015-16 (the NHS average is 100).

Fig 2 shows the significant increase in patients seen in the second year compared with the first. This is partly due to the expansion to a seven-day service and an increase in referrals from the ambulatory care service, but we believe it is also due to the ACT being a robust, well-established and well-utilised service.

Finally, the HMSR for respiratory reduced from 107.08 in 2012-2013 to 101.69 in 2015-2016. We hope to see further improvement in this, but mortality is heavily influenced by a range of factors currently being addressed, such as the availability of an integrated community respiratory service (ICRS) and admission rates for respiratory patients.

Early challenges
Like any new service, we experienced challenges in the early stages. A lack of clinical space in the first year affected our rapid-access clinic capacity, so we were unable to offer a supportive discharge to patients with asthma to avoid admission to hospital.

Some referrals came from outside target areas, requiring our nursing team to triage and appropriately redirect these patients. Inappropriate referrals also highlighted the need to clarify some existing pathways – for example, to ensure the appropriate clinical investigations were completed before patients were referred to the ACT.

At times, patients might have been coded inappropriately, which affected data accuracy and audit. Ongoing work is taking place with the coding department and medical teams to address potential issues and improve documentation in order to ensure accuracy.

Finally, the presence of a respiratory consultant in emergency areas has reduced the opportunity for junior doctors to perform pleural procedures and decision-making, and therefore potentially limits their learning opportunities.

Future developments
We are enthusiastic about continuing the service despite the CQUIN ending, and continue to target the same areas and receive referrals. Our target patients and disease groups remain the same, although we focus less on the acute bronchitis group, as the audit data revealed these patients were well managed by acute medicine and geriatricians.

We believe that it is essential to plan the next stages and future developments of the service carefully. Kerridge (2012) encourages people to reflect on success and positively reinforce the efforts of the team. If we use this advice specifically for the ACT, we will be wise to not change things for the sake of it and take difficult projects only when necessary. Since we began the ACT, we have absorbed the pleural effusion referrals into the rapid-access clinic. These patients might have previously presented to the ED and been admitted through the medical admission pathway. With the implementation of the ACT, we are able to review these patients promptly in the ED and potentially provide next-day clinic appointment, therefore potentially preventing an admission. This leads us to think about further development and expansion of the pleural service, and identifying if there is a need to develop nursing roles in an established team.

We aim to work more closely with the specialist asthma service to obtain data collected from rapid-access clinics, with regard to the benefit of providing a 48-hour asthma follow-up review post discharge. We hope to audit this information in the future to look at readmission rates.

The aim is for GPs to refer directly to rapid-access clinics in order to provide an urgent respiratory opinion. We need to work closely with the newly established ICRS for this to be implemented successfully. Although the ICRS is currently in its early stages, we have worked closely with the team and developed pathways to cement the ACT’s role within the integrated service.

We hope to audit this information in the future to look at readmission rates.