National COPD Audit Programme

COPD: Working together

Clinical audit of COPD exacerbations admitted to acute hospitals in England and Wales 2017

Findings and quality improvement
The audit programme partnership

Working in strategic partnership:

- Royal College of Physicians
- Primary Care Respiratory Society
- British Lung Foundation
- British Thoracic Society
- Imperial College London

Supported by:

- ACPRC
- Academic Health Science Network
- Association for Respiratory Technology & Physiology
- Association of Respiratory Nurse Specialists
- BGS
- Care Quality Commission
- GIG CYMRU Informatics Service
- GIG CYMRU Public Health Wales
- Iechyd Cyhoeddus Cymru
- Llywodraeth Cymru Welsh Government
- Respiratory Health Implementation Group

Endorsed by:

- Royal College of Nursing
- Royal Pharmaceutical Society
- SAM - The Society for Acute Medicine

Commissioned by:

- HQIP - Healthcare Quality Improvement Partnership
Key findings and recommendations
Recruitment

Audit participation

All hospitals in England and Wales admitting patients with acute exacerbations of COPD (AECOPD) were invited to participate.

Continuous audit launched: 1 February 2017.

Includes patients discharged between 1 February and 13 September 2017.

36,431 hospital admissions
By 182 hospitals in England and Wales
-General information-

Admissions/discharge

- Admissions were more common in females
  - 2017: 53.1% Female, 46.9% Male
  - 2014: 51% Female, 49% Male

- Median time from arrival to admission: 3.4 hours

Length of stay

- Median length of stay remained unchanged from 2014: 4 days

Mortality

- Inpatient mortality fell marginally:
  - 2014: 4.3%, 2017: 3.9%

The median age at admission was: 73 years
Provision of timely care

Acute physician review

82.3% of admissions were reviewed by an acute physician of grade specialty trainee 3 (ST3) or above.

Respiratory specialist review

78% of admissions were reviewed by a member of the respiratory team (compared to 77% in 2014).

54.8% of admissions were reviewed by a member of the respiratory team within 24 hours (compared to 49% in 2014).
There was a marginal improvement in the number of admissions being prescribed oxygen.

Quality improvement priority 1

Ensure a spirometry result is available for all patients admitted to hospital with an acute exacerbation of COPD.
Recording key clinical information

Smoking cessation

9.1% of admissions in 2017 were not asked about their smoking status/it was not recorded, compared to 8% in 2014.

Quality improvement priority 2

Ensure that all current smokers are identified, offered, and if they accept, prescribed smoking cessation pharmacotherapy.

Of admissions that were current smokers, only 25.1% were prescribed smoking cessation pharmacotherapy.
Non-invasive ventilation (NIV)

10.9% of admissions received acute treatment with NIV (compared to 12% in 2014).

Of those that received it, only 30.1% received NIV within 3 hours of arrival.*

* Note: the audit did not distinguish patients who deteriorated later in the admission and were appropriately managed with late NIV from those that presented with an acidosis and received inappropriate late NIV.

Quality improvement priority 3

To ensure that all patients requiring NIV on presentation receive it within 60 minutes of the blood gas result associated with the clinical decision to provide NIV and within 120 minutes of arrival for those who present acutely.

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Setting higher standards
Discharge processes

Discharge bundle

Only 53% of admissions received a discharge bundle.

Follow-up arrangements for the patient

18.8% of admissions had ‘no follow-up arrangements apparent’
Web-tool run charts

Released during **2017**

Charts are derived from **data entered** to the audit

**Hospital level** data **benchmarked** against the **national average**

Only **viewable** by **registered web-tool users**

- **Best practice tariff (BPT)** released March 2017
- **Oxygen** released May 2017
- **Spirometry** released May 2017
- **Smoking cessation pharmacotherapy** released June 2017
- **Non-invasive ventilation (NIV)** released July 2017
Web-tool run charts

Example run chart (BPT)

Best Practice - [ALL]

- % Patients meeting BPT criteria
- Discharge date

- Care meets BPT %
- [ALL]
- Respiratory Review %
- Resp Review <24 Hrs %
- Discharge Bundle %

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### Web-tool run charts

#### Best practice tariff (BPT)

<table>
<thead>
<tr>
<th></th>
<th>Feb 2017</th>
<th>Feb 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory review within 24 hours</td>
<td>48.4%</td>
<td>69.3%</td>
</tr>
<tr>
<td>(% of patients receiving a review by a member of the respiratory team within 24 hours)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discharge bundle</td>
<td>48.2%</td>
<td>81.5%</td>
</tr>
<tr>
<td>(% of patients receiving a discharge bundle upon discharge)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Care meets best practice tariff (BPT)</td>
<td>31.1%</td>
<td>62%</td>
</tr>
<tr>
<td>(proportion of patient care at that meets the BPT criteria)</td>
<td></td>
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</tbody>
</table>

#### Spirometry

<table>
<thead>
<tr>
<th></th>
<th>Feb 2017</th>
<th>Feb 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spirometry result</td>
<td>36.4%</td>
<td>40.8%</td>
</tr>
<tr>
<td>(% of patients for whom a spirometry result is available)</td>
<td></td>
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### Web-tool run charts

#### Oxygen

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<thead>
<tr>
<th></th>
<th>Feb 2017</th>
<th>Feb 2018</th>
</tr>
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<tbody>
<tr>
<td>Prescribed oxygen</td>
<td>70.3%</td>
<td>74.7%</td>
</tr>
</tbody>
</table>

*Prescribed oxygen (% of patients receiving oxygen that have a documented prescription for this)*

#### Smoking cessation

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<thead>
<tr>
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<th>Feb 2017</th>
<th>Feb 2018</th>
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</thead>
<tbody>
<tr>
<td>Smoking cessation pharmacotherapy</td>
<td>23.9%</td>
<td>26.6%</td>
</tr>
</tbody>
</table>

*Smoking cessation pharmacotherapy (% of current smokers prescribed smoking cessation pharmacotherapy)*

#### NIV

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<thead>
<tr>
<th></th>
<th>Feb 2017</th>
<th>Feb 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prescribed oxygen to target saturation</td>
<td>95.7%</td>
<td>97.7%</td>
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</tbody>
</table>

*Prescribed oxygen to target saturation (% of patients prescribed oxygen for whom a target saturation range was stipulated)*

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<thead>
<tr>
<th></th>
<th>Feb 2017</th>
<th>Feb 2018</th>
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</thead>
<tbody>
<tr>
<td>NIV within 3 hours</td>
<td>26.6%</td>
<td>29.8%</td>
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</tbody>
</table>

*NIV within 3 hours (% of patients receiving NIV within 3 hours of arrival)*

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So, what happens next...?
Quality improvement (QI)

Using quality improvement methodology to plan a change (SMART)

- Specific
- Measurable
- Achievable
- Realistic
- Time bound

Look for areas where you can realistically make improvements.

Decide on an aim, this should be SMART.

Build a team and understand your stakeholders.

Meet with your team regularly to performance manage yourselves, and have clear responsibilities.

Plan how you will achieve your aim.
To decide what to start on for your overall improvement aim, you may find it helpful to use a driver diagram.

The Institute for Healthcare Improvement has a helpful guide on how to use them [http://www.ihi.org/resources/Pages/Tools/Driver-Diagram.aspx](http://www.ihi.org/resources/Pages/Tools/Driver-Diagram.aspx)
Quality improvement (QI)

A model for improvement

To plan your change, it is important to regularly measure and study your activity using:

- **Aim**: What are we trying to accomplish?
- **Measure**: How will I know that a change is an improvement?
- **Change**: What changes can we make that will result in improvement?

Rapid cycle improvement
Quality improvement (QI)

The PDSA cycle

- What changes are to be made?
- Next cycle?
- Objective
- Questions and predictions (why)
- Plan to carry out the cycle (who, what, where, when)
- Complete the analysis of the data
- Compare data to predictions
- Summarise what was learned
- Carry out the plan
- Document problems and unexpected observations
- Begin analysis of the data
- What changes are to be made?
- Next cycle?

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Quality improvement (QI)

The PDSA cycle example: COPD patients to have received a discharge bundle

**ACT:** Identify what still needs to change to improve further and plan what you will do next. Use your audit run-charts provided on the web-tool* to help identify these. (Next PDSA cycle)

**PLAN:** Use your audit run-charts provided on the web-tool* to identify all COPD patients admitted that haven’t received a discharge bundle.

**STUDY:** Analyse data to see if the rate has improved. Compare results to your audit run-charts on the web-tool* and your results reported in the last audit. Plot change over time and summarise what you have learned.

**DO:** Instigate 2 ward rounds of A&E per day to identify COPD patients being admitted and follow them up on discharge to check they have received a discharge bundle.

*www.nacap.org.uk
Quality improvement (QI)

Resources

Respiratory futures forum
Login to share and learning and express your thoughts and ideas.
www.respiratoryfutures.org.uk/copdsecondarycareauditforum

Good practice repository
View our secondary care repository sharing stories from teams across the country about their challenges and achievements in the provision of quality COPD care.
www.rcplondon.ac.uk/nacap-copd-resources
Quality improvement (QI)

Institute for Healthcare Improvement
IHI uses the Model for Improvement as the framework to guide improvement work. http://www.ihi.org/resources/Pages/HowtoImprove/default.aspx

COPD QI workshop resources
During 2017 the COPD team ran a series of QI workshops. A selection of QI resources from the events have been published online. https://www.rcplondon.ac.uk/projects/outputs/copd-audit-regional-qi-workshops
National COPD Audit Programme

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