This report has been produced by the Yorkshire & Humber Respiratory Team. It highlights opportunities that will help you improve quality and productivity and improve outcomes for people with COPD in your CCG locality.

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**COPD Value Pyramid (1) (2)**

This pyramid illustrates cost effectiveness of treatment options in COPD, it is not a treatment algorithm. For guidance on management of COPD visit: www.nice.org.uk/cg101

A quality adjusted life-year (QALY) is the arithmetic product of life expectancy and a measure of the quality of the remaining life-years.

NICE defines an intervention to be cost effective if it costs less than £20,000-£30,000 per QALY.

The pyramid shows that the most cost effective interventions for COPD are influenza vaccination, stopping smoking and pulmonary rehabilitation and should underpin pharmacological treatment.

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- **Flu vaccination**: £1,000/QALY in "at risk" population
- **Stop Smoking Support with pharmacotherapy**: £2,000/QALY
- **Pulmonary Rehabilitation**: £2,000-8,000/QALY
- **LAMA***: £7,000/QALY
- **LABA**: £8,000/QALY
- **ICS-LABA combination**:
  - £78,000-£130,000/QALY (FEV1 >50%)
  - £35,000-£78,000/QALY (FEV1 < 50%)
- **Triple Therapy (LAMA/LABA/ICS)**
  - £52,000/QALY (FEV1 >50%)
  - £9,833/QALY (FEV1 <50%)
  - £4,500/QALY (FEV1 <35%)

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*Costing calculations based on Tiotropium*
COPD Pathway

PREVENTION
- Smoking cessation rates
- Find Undiagnosed COPD population and increase early diagnosis of mild disease
- Social marketing to raise awareness of COPD
- Targeted case finding to increase early diagnosis rates

DIAGNOSIS
- COPD 8 Flu vaccination Bassetlaw CCG 91% (Range 81.5%-100%)
- COPD 15 Diagnostic Spirometry Bassetlaw CCG 95.3% (Range 62.5%-100%)
- COPD 13 MRC Score Bassetlaw CCG 93.9% (Range 85.1%-97%)
- Stratify population according to COPD disease severity
- Identify Pulmonary Rehabilitation referral rate MRC >=3
- COPD 10 Review with FEV1 Bassetlaw CCG 91.3% (Range 68.1%-96.1%)

MANAGEMENT OF STABLE COPD
- Inhaler technique & adherence with treatment
- Self management education and care planning
- Identify groups at high risk of admission and optimise treatment of COPD and co-morbidities
- Use of admission & discharge bundles

MANAGEMENT OF UNSTABLE COPD
- Identify frequent fliers & optimise management
- Self management education, written action plans and rescue packs
- Early pulmonary rehabilitation post admission
- Find Undiagnosed COPD population and increase early diagnosis of mild disease

END OF LIFE CARE
- Use of trigger tools to identify patients approaching end of life
- Involve palliative care team

Figures for COPD pathway: see references for Table 1
COPD Mortality

- Bassetlaw’s patients lose around 17.91 years of life due to mortality from Bronchitis, Emphysema and other COPD England 11.67 Yorkshire and the Humber 14.1 Range 8.7-23.
- Nationally, 70% of COPD patients die in the hospital (1)

Rate of admissions vs the prevalence of COPD in CCG General Practices

- It is predicted that Bassetlaw CCG has 3179 COPD patients QOF 2011/12 reports 2640 have been diagnosed by GPs (4).
- In 2011-12, there were 262 admissions for acute exacerbations (AE) COPD in Bassetlaw CCG patients.
- A total of 1132 bed days were associated with AE COPD admissions
- Average cost of each COPD admission for Bassetlaw is £2053
- Nationally 10% of emergency COPD admissions are in people whose COPD has not previously been diagnosed (5).
- Average rate of admission for patients/100 on COPD register in Bassetlaw was 9.92 (YH Range 9.92-23.12). 12.2% of all admissions in Wakefield patients was for 0 bed days (YH Range 2.6%-12.2%)

Smoking attributable hospital admissions per 100,000 population aged 35 years and over

- Smoking is the biggest risk factor for development of COPD. Smokers over 35 with one or more symptoms will be the majority of unidentified population.
- Stopping smoking is the most cost effective treatment for COPD, stop smoking support with pharmacotherapy costs £2000 per QALY.
- Stopping smoking is the only intervention shown to slow disease progression. It costs more to treat people with severe disease than mild or moderate disease (2).
- Supporting practices with high smoking prevalence in your CCG will significantly improve quit rates across the patch.

Spend on Inhalers for COPD and Asthma Patients in Bassetlaw PCT

- Bassetlaw CCG total spend on inhalers is £2,152,600.38
- 50% of patients cannot use their inhalers correctly (6).
- 45% of patients forget to take doses as prescribed.
- 30% of patients stop treatment due to lack of perceived benefits (7).
- Patients with poor inhaler technique are 50% more likely to be admitted (6).
- Patients with poor inhaler technique are 60% more likely to have an exacerbation (8).
Optimising best value COPD care in Bassetlaw (QIPPS)

This page outlines specific areas that need to be examined and considered locally in order to:

- Reduce premature mortality
- Reduce admissions
- Increase smoking cessation / quit rates
- Reduce prescribing costs (this is currently headed in the table as ‘smoking cessation/quit rates’)

Areas for consideration

Reduce premature mortality

- Early Identification of COPD
- Promote vaccination
- Support smoking cessation efforts
- Increase patient’s activity levels, refer to pulmonary rehabilitation
- Optimise treatment according to guidelines
- Commission specialist assessment during COPD admissions and adequate access to Non invasive Ventilation (NIV)
- Provide appropriate and targeted Oxygen prescription in both emergency and elective settings

Reduce admissions

- Target COPD patients for flu and pneumonia vaccinations as COPD death is a potential vaccine preventable event
- Regularly offer stop smoking advice
- Commission pulmonary rehabilitation for patients with MRC score of more than 3 or with MRC score of 2 and who have had an exacerbation OR post admission. The numbers needed to treat (NNT) with Pulmonary Rehabilitation is 4 to avoid 1 admission
- Record exacerbations and optimise pharmacotherapy
- Provide self-management education, action plans and rescue medication packs
- Provide “Hospital at Home” services
- Commission CQUIN core bundles on discharge
Areas for consideration

Inappropriate admissions of End of Life Care COPD Patients

- Identify patients approaching last year of life using trigger tools (9)
- Add them to Gold Standard Framework (GSF) Register
- Conduct Multi Disciplinary Team (MDT) assessment of GSF review
- Refer to End of Life care services if appropriate
- Provide additional measures for palliation of breathlessness (e.g. opiates)

Smoking cessation

- Make every contact count. “Ask, Advise, Act” at every opportunity in primary or secondary setting
- Increase access to smoking cessation advice – in general practice or specialist services
- Ensure GP teams delivering smoking cessation advice have adequate skills and training to increase quit rates using motivation techniques and behavioural support
- Prescribe adjunct pharmacotherapy as this increases success;

<table>
<thead>
<tr>
<th>Numbers Needed to Treat (NNT) to Obtain 1 Long-Term Quitter (7) (8)</th>
</tr>
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<tbody>
<tr>
<td>Brief advice (45 minutes)</td>
</tr>
<tr>
<td>Medication Plus behavioural support</td>
</tr>
<tr>
<td>NRT</td>
</tr>
<tr>
<td>Bupropion</td>
</tr>
<tr>
<td>Varenicline</td>
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</tbody>
</table>

- Reduce inappropriate prescribing and waste (1) (10)
- Make every contact count, check inhaler technique and adherence with therapy at every opportunity in primary and secondary settings.
- Use structured review to ensure right patient, right treatment, right time
- Work with community pharmacists using structured MURS.

The report was shared with Bassetlaw PCT prior to publication. If you would like further information about Respiratory Disease in Bassetlaw please contact:

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References

All information displayed at CCG level unless only available by PCT

Data sources:

1. IMPRESS Guide to relative value COPD interventions
2. NICE COPD guidelines ; www.nice.org.uk/cg101
4. Eastern Region Public Health Observatory COPD prevalence estimates December 2011 –
5. An outcome strategy for chronic pulmonary disease (COPD) and Asthma in England – July 2011- Department of Health.
6. Restepo et al, Int of of Chron Pulmon Dis 2008; 3 (3); 3712384
9. GSF toolkit http://www.goldstandardsframework.org.uk/theGSFToolkit
10. PCRS opinion sheet on COPD review; http://www.pcrs-uk.org/opinions/copd_review_final.pdf
Data sources for Tables

Table 1  
(b) QOF 2011-12; Yorks & Humber SHA CCG GP practices COPD prevalence data; Filename: http://www.ic.nhs.uk/webfiles/publications/002_Audits/QOF_2011-12/Practice_Tables/QOF1112_Pracs_Prevalence.xls; accessed 2 Nov 2012
(c) GP Practice to Clinical Commissioning Group Mappings - created 26/10/12; Filename: http://www.connectingforhealth.nhs.uk/systemsandservices/data/ods/ccginterim/interimpemem_v3.zip; accessed 5 Nov 2012

Table 2  

Table 3  
Spend on inhalers national ePACT system (electronic Prescribing and Cost Trend) Analysis tool via ePACT.net

Funnel plots extracted from GlaxoSmithKline Ltd. presentation to Lisa Chandler given on 20 December 2012; Title: An introduction to Statistical Process Control (SPC) and associated analysis with data for: Yorkshire & Humber SHA CCG practices
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