Bolton's HealthMatters

JSNA: Respiratory disease

Introduction

The term respiratory disease covers a range of conditions, but the key areas for the JSNA are asthma, bronchitis, emphysema, and other COPD, and pneumonia. Respiratory disease is one of the key contributing factors to reduced life expectancy in Bolton and is the third leading cause of death after circulatory disease and cancer. There are serious health inequality issues in Bolton concerning respiratory diseases where the mortality rate in our most deprived areas is double that of Bolton as a whole, and historically, COPD detection rates have been lower in these more deprived areas.

Whilst most respiratory illnesses are associated with smoking or exposure to tobacco smoke in the environment, smoking is not the only risk factor to explain the relationship between deprivation and respiratory illness. Work related conditions, housing conditions, fuel poverty, and exposure to outdoor air pollution are all associated with respiratory disease, independently of smoking.

NHS Bolton spends around £26million on problems of the respiratory system, the majority of which is split between secondary care non-elective activity (£11million) and primary care prescribing and pharmaceutical services (£8million). NHS Bolton has a higher respiratory spend per weighted head of population than is average for England (£88 compared to £82) but generally has worse outcomes according to programme budgeting data, though not significantly so.

Implications for commissioning

For many respiratory diseases, especially asthma and COPD, early diagnosis and effective treatment and management have a positive impact on long term health outcomes. Therefore it is essential that:

1. The public and professionals are aware of symptoms of respiratory disease;
2. Individuals with suspected respiratory disease are encouraged to access early diagnostic and treatment services;
3. Good disease management is promoted and people are empowered to use self-care techniques;
4. Healthcare professionals are able to offer effective treatment and support individuals in managing their condition.

The current pattern of service utilisation is not the most cost effective; opportunities to reduce costs include:

1. Ensuring a more systematic evidence based approach to care management in primary care in line with NICE guidance and identified local areas of need;
2. The further development of accessible community based respiratory services;
3. The establishment of an alternative assessment and treatment service could offer a more cost-effective alternative to hospital admission for this group of patients.

Who's at risk and why?

Respiratory disease has a substantial impact on the health of populations at all ages and every level of morbidity. However, the major risk factor for developing many respiratory diseases is smoking or exposure to tobacco smoke. In particular, COPD predominantly affects adults over the age of 40 with a history of smoking.

In addition, older people, young people, people with chronic conditions, and people with weakened immune systems are especially vulnerable to respiratory diseases such as colds, flu, and pneumonia.

Socioeconomic factors such as poor diet, poor housing conditions, and fuel poverty contribute to the incidence of respiratory diseases and exacerbate these conditions. Other factors such as work related conditions and exposure to outdoor air pollution also play a role in the development and exacerbation of respiratory disease.

The level of need in the population

Pneumonia, COPD, and other respiratory diseases are significant contributors to Bolton's life expectancy gap to England.

The prevalence of all respiratory disease is unsurprisingly highest in the most deprived areas and those with the highest levels of current smokers. Evidence suggests that these groups are not engaging with primary care prevention initiatives. Anecdotally, these groups tend to have a more fatalistic view of healthy life expectancy and lower aspirations for living a healthy life. They are less likely to recognize symptoms of disease early and/or act quickly to access treatment. Subsequently people with respiratory disease living in the most deprived areas of Bolton are more likely to experience chronic disease which, potentially, is not managed well.

Asthma

Only around 5 people die each year in Bolton due to asthma.

In Bolton there are currently 19,000 people on the asthma disease register (aged 8 years and over). This is likely a slight underestimation of the true prevalence. The Asian Pakistani community demonstrates the highest levels of asthma and chronic cough in Bolton.

Regarding asthma in childhood, Bolton has a higher rate of asthma admissions (aged under 16 years) than England for both boys and girls, but is lower than average for the North West region. Historically, Bolton boys have a higher rate of admissions than Bolton girls. There is no significant difference between admissions across the first four deprivation quintiles (the least deprived fifth of the population are however significantly lower). Great Lever stands out as the Children's Centre Reach Area with the highest rate of emergency asthma admissions in children.

Bronchitis, emphysema, and other COPD

Mortality from bronchitis, emphysema, and other COPD in Bolton is higher than average for the North West region with the rate currently 28% higher than England as a whole, but around average for our statistical peer group. The female trend, whilst lower than male, shows no reduction locally, regionally, or nationally. The significant inequality gap between the most deprived group and Bolton shows no change over time. In some parts of Bolton mortality is more than double the national average, with the rates highest in the more deprived areas around the Town Centre.

COPD prevalence in Bolton is higher than the England average but generally not as high as it is in the North West. Estimates indicate there to be a significant proportion of undiagnosed COPD in Bolton, potentially up to 6,000 people. In some parts of Bolton prevalence is more than three times the Bolton average, however compared to mortality, some of our more deprived areas still have relatively low detection rates. COPD is most serious in and around Hall i'th' Wood, followed by Breightmet and Farnworth. The inequality gap for COPD prevalence between the most and least deprived groups in Bolton is considerable; furthermore, COPD locally is very strongly associated with those of White ethnicity.

Pneumonia

Mortality from pneumonia in Bolton is higher than average for the North West region with the rate currently 28% higher than England as a whole. The female mortality rate in Bolton from pneumonia is currently particularly high compared to England (41% higher). Over recent years the inequality gap between the most deprived group and Bolton is widening and mortality remains significantly high in the more deprived areas around the Town Centre. Finally, Bolton is above average for its peer group.

Key JSNA Indicator Sheets

MORTALITY: Bronchitis, Emphysema and other COPD

MORTALITY: Pneumonia

DISEASE AND ILL HEALTH: Chronic Obstructive Pulmonary Disease

CHILD AND MATERNAL HEALTH: Hospital Admissions for Asthma

Current services in relation to need

The Chronic Disease Management Team supports general practice to improve the management of COPD. However, we know that some of the more deprived parts of the borough are underserved regarding GP practices.

Other local services are in place to specifically meet the needs of those with respiratory disease locally:

- The Rapid Access Breathlessness Clinic is commissioned to provide assessment, diagnostic tests and treatment to new onset of symptom, breathless patients;
- The Domiciliary Oxygen Assessment Service, assesses patients with demonstrated or suspected hypoxia, and assesses patients who have not been assessed but are receiving oxygen;
- The Pulmonary Rehabilitation Service provides services for those with a diagnosis of COPD meeting the access criteria;
- BART - Bolton Adult Respiratory Service - provides support for acute episodes of respiratory illness.

COPD contributes almost 5,000 emergency bed days each year in Bolton. This equates to 97 emergency bed days per 100 people on the QOF COPD register. As a measure of how well COPD is managed locally, this suggests that Bolton performs better than average, being ranked 53 out of 152 areas (where 1 denotes the best performing area). Within this figure, COPD contributes around 660 emergency admissions with an average length of stay of 7.4 days (this is lower than average for England as 7.9 days).

However, historically a greater proportion of Bolton's COPD emergency admissions (82%) have come via Accident & Emergency compared to the regional (74%) and national (71%) averages. Noticeably lower admissions are made locally via GP (2%) compared to the North West and England picture (21% each). However, HES data records Bolton with a large proportion classed "via other means" and this may warrant further investigation.

In Bolton, asthma contributes around 500 emergency admissions per year, accounting for 1,150 emergency bed days. The average length of stay for asthma is 2 days. The rate of admissions for asthma is 2.9 per 100 people on the QOF asthma register, which is higher than the England average (2.2 admissions). As a measure of how well asthma is managed locally, this suggests that Bolton performs worse than average, being ranked 102 out of 152 areas.

Historically, a lower proportion of asthma emergency admissions come via Accident & Emergency (53%) than we see regionally (71%) and nationally (70%). Again, Bolton has a much lower proportion admitted via GP (4%) compared to 19% across the North West and 20% nationally. As above for COPD, HES data records Bolton with a large proportion classed "via other means" and this may warrant further investigation.

Cost-effectiveness

As discussed above, Bolton's length of stay for COPD emergency admissions is 7.4 days, which is slightly better than we see across England. However, if this was reduced by 5% (0.4 days) this would save 244 emergency bed days locally per year. Assuming the cost of an individual bed day to be £167 (default value – the long stay day payment for HRG D40) reducing the length of stay by 5% would save £40,764.

Similarly, Bolton's admission rate is below England (13 per 100 people on the QOF COPD register), but if this were to be reduced by 5% this would save 33 emergency admissions per year. Assuming the cost of an individual admission to be £1,709 (the PbR tariff for D40 (excluding any long stay payment)), reducing admissions by 5% would save £56,482 per year.

Bolton's length of stay for asthma admissions is lower than England (2.3 days and 3.0 days respectively). However, if this length of stay was reduced by 5% (0.1 days), this would save 57 emergency bed days per year. Assuming the cost of an individual bed day to be £196 (the long stay HRG payment for D22), reducing the length of stay by 5% would save £11,159 per year.

Also as above, Bolton's admission rate for asthma is 2.9 per 100 people on the QOF disease register; if this were reduced to the England average (2.2), this would save 129 admissions per year. Assuming the cost of an admission to be £1,138 (the PbR tariff for D22 (excluding any long stay payment)) reducing admissions to the English average would save £146,883 per year.

Projected service use and outcomes

Identification of the currently undiagnosed populations will lead to increased workloads in primary and community settings in future years. However, early diagnosis and appropriate treatment should eventually reduce demand on acute settings.

Bolton's population is ageing, with the 65+ population projected to increase from 44,700 in 2012 to 51,400 in 2020, with obvious impacts on disease and services. In addition, the number of people aged 65 and over predicted to have a long-standing health condition caused by bronchitis and emphysema is set to increase from 750 in 2012 to 868 in 2020. Some respiratory diseases (e.g. lung cancer, COPD and pneumonia) are more common in older age than others and therefore targeted primary and secondary prevention will be

required to reduce the burden of respiratory disease in older people (both in terms of health and social care services).

Whilst smoking levels have declined in Bolton in recent years, those still smoking after the recent smoking legislation are likely to be the most difficult to engage in cessation interventions. Therefore it will be important to continue to develop innovative and responsive service models to meet the needs of entrenched smokers. Furthermore, whilst smoking cessation rates continue to decline, young people (especially teenage girls) are still taking up smoking in relatively large numbers. Anecdotally there appears to be an increase in young people from BME (black and minority ethnic) communities taking up smoking and also young people's tobacco use may also be associated with smoking cannabis. More recently the use of electronic cigarettes has become an emerging concern as it is feared that far from being a smoking cessation tool it will actually encourage more young people to take up smoking and to move on from electronic cigarettes to tobacco filled cigarettes and other substances. This is in addition to the current trend for shisha smoking which adds to the need to continue to focus on tobacco control initiatives. As a result, preventative interventions targeted at young people will need to be increased and smoking cessation and drug services will need to address cultural norms relating to drug and tobacco use in a manner that is reflective of the needs of Bolton's diverse population.

Evidence of what works

Bolton's Health Matters has created a collection of evidence and intelligence to ensure best practice in decision within this area. To view this collection, please click here.

Community views and priorities

The National Outcomes Strategy for respiratory disease undertook research to discover what the public, people with COPD and asthma and their carer's, and clinicians want from services. The below findings are taken from the strategy document[1].

The general public concluded that their needs are for:

- Information and advice on how to reduce their risk of respiratory disease;
- Timely access to services (e.g. smoking cessation services) which can help them reduce their risk of respiratory disease or of making it worse;
- Information on the symptoms and signs of respiratory disease to help them seek help early;

[1] Department of Health (2011) *An Outcomes Strategy for Chronic Obstructive Pulmonary Disease (COPD) and Asthma in England*, DoH.

- The reassurance that if they or their relatives develop respiratory disease they have rapid access to high quality services.

People with COPD and asthma and their carers want:

- Timely access to comprehensive quality assured assessment and diagnostic services;
- Information related to their condition and how it is managed to be available to all practitioners involved in their care irrespective of the setting;
- Access to reliable information about their condition which sets out all the options so that they can make choices which are appropriate for them;
- Easy access to comprehensive information about the services available to them and the outcomes achieved by these services;
- To be empowered to make choices about their care where these are clinically appropriate and to be supported in decision making to the extent that they wish;
- To know that they will receive the support they need whilst living with their condition and to be supported to remain in work and play an active role in society and local communities;
- To be treated as a whole person, often with a range of other conditions;
- To know that everyone involved in their care has the necessary skills, training and expertise and be reassured that everyone involved in their care will work effectively together, so that their care will feel seamless even when delivered in different locations;
- To be able to access specialist services without delay should they need to do so; and to be assisted where necessary to remain at home;
- To know that if they are approaching the end of life their preferences for care will be discussed with them and every effort will be made to meet their needs and their preferences;
- To be treated as a whole to enable them to fully undertake activities of daily living and for the care providers to act as one team.

Health and social care professionals want:

- The training, support and information they need to deliver high quality care and deliver good outcomes;
- To work in a service which is well managed, so that their time is used effectively and so that care is streamlined for people with COPD and asthma;
- To be able to compare the outcomes they achieve with those achieved elsewhere in this country and in other countries;
- To be free to make the choices which they feel will benefit their patients the most;

- To be recognised for the specialist skills and knowledge that they possess and for this to be fully utilised to deliver better outcomes for people;
- To be able to work across traditional boundaries of care and to be supported to be innovative and to deliver care differently;
- To have information about the people they care for, that is shared and easily accessible across the whole health system;
- To be supported in creating the evidence on which models of care needs to be based.

Equality impact assessments

No recent local equality impact assessments have been carried out that we are aware of. If you are aware of any such work locally please let us know at Bolton Health Matters

Unmet needs and service gaps

Comparing QOF disease registers to expected prevalence and self-reported prevalence of respiratory conditions suggests that there are many cases of undiagnosed asthma and COPD in the community.

For some patients with mild/moderate exacerbation of respiratory illness, their first port of call is an attendance at Accident & Emergency, with subsequent emergency admission. This historic pattern of service utilisation is not the most cost effective. This statement is reinforced by figures showing a year on year increase in non-elective (emergency) admissions for respiratory conditions. There has also been an increase in non-elective admissions of 2 days and less, potentially indicating that an admission to acute hospital care was not necessary.

Despite recurrent investment into community initiatives for respiratory services, and an increasing spend on acute services there has been no impact upon the number of non-elective admissions, or the gap between predicted and actual prevalence and treatment of respiratory conditions.

Respiratory disease is frequently not immediately obvious and there is a lack of public awareness relating to the causes of respiratory conditions. There is also varied public awareness about measures that can be undertaken to improve self-care and to ameliorate disease progression. These factors are often compounded by the fact that the quality of primary care in relation to respiratory disease diagnosis, treatment and management varies across the borough. As large scale measures to increase awareness and improve primary and secondary prevention are currently lacking, there is a need for systematic awareness raising for the public and high quality training for those primary care professionals serving communities with a high prevalence of respiratory disease.

Smokers in the most deprived parts of Bolton are less likely to use the smoking cessation service and are generally less likely to have a successful outcome.

Young people, people from BME communities, and entrenched smokers are the groups least likely to access existing smoking cessation services locally.

People in the most deprived areas of the borough are the least likely to experience healthy life expectancy in older age and are disproportionately affected by disabilities associated with poor respiratory health (e.g. reduced ability to carry out activities of daily living).

People living in the most deprived areas of the borough are the least likely to recognise the symptoms or the early onset of respiratory disease and are also least likely to seek early diagnosis and treatment.

People living in the poorest material circumstances across the borough, especially older people, are the most susceptible to respiratory diseases that are exacerbated by poor housing, fuel poverty and cold weather.

Recommendations for further needs assessment work

Assessment and regular monitoring/analysis of the Public Health Outcomes Framework indicators linked to respiratory disease are necessary. These are: 2.3 Smoking status at time of delivery; 2.9 Smoking prevalence 15 year olds; 2.14 Smoking prevalence – adults; 4.7 Mortality from respiratory diseases in <75s.

We require further comprehensive information regarding public views on their respiratory health and health needs and the barriers faced in addressing unhealthy lifestyles. We also require further consultation to enhance our understanding of patient's opinions on current services and interventions.

Key contacts

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