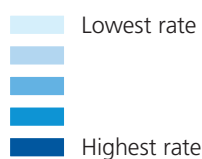


PROBLEMS OF THE RESPIRATORY SYSTEM

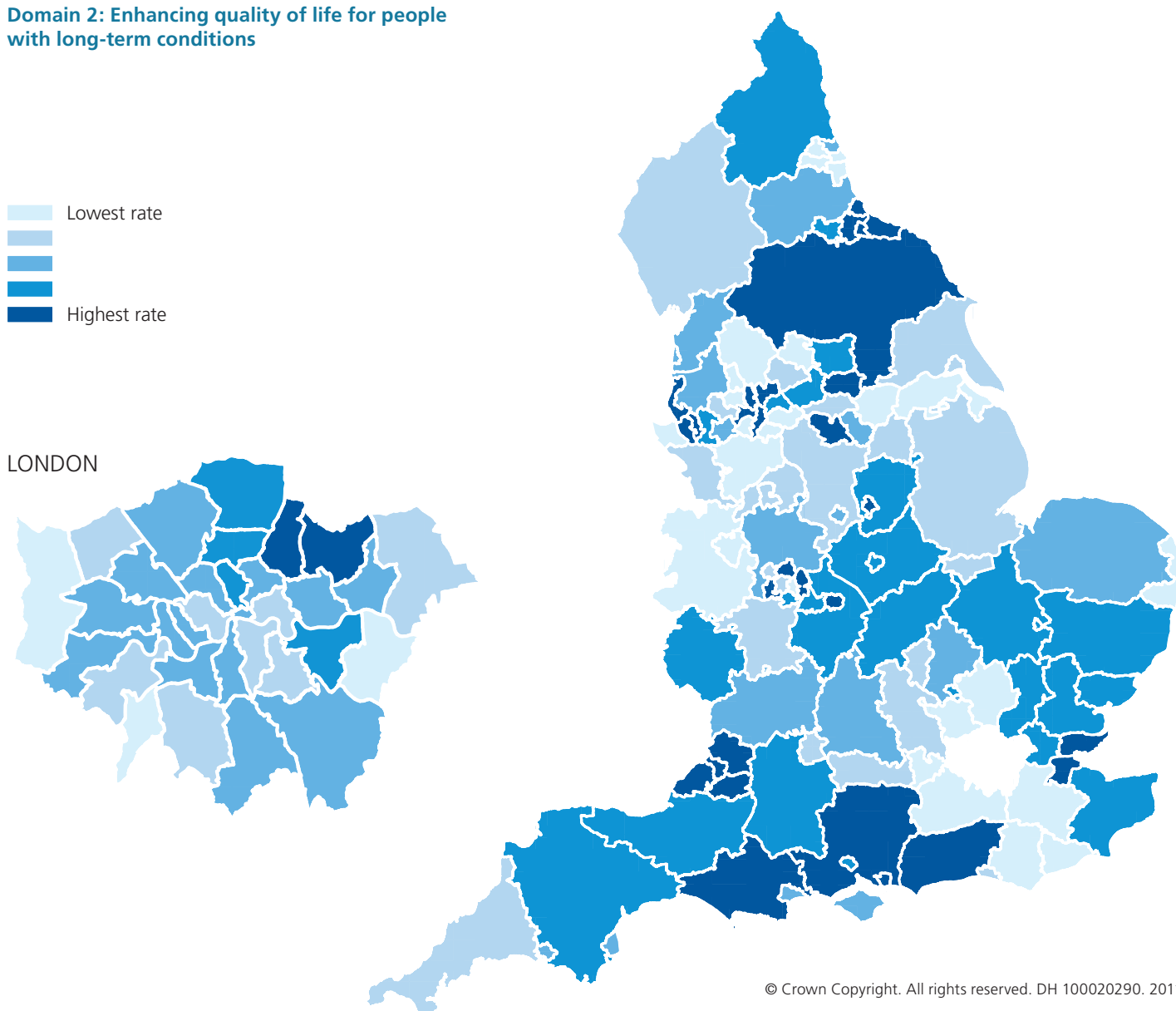
Map 35: Rate of sleep studies undertaken per population by PCT

2010

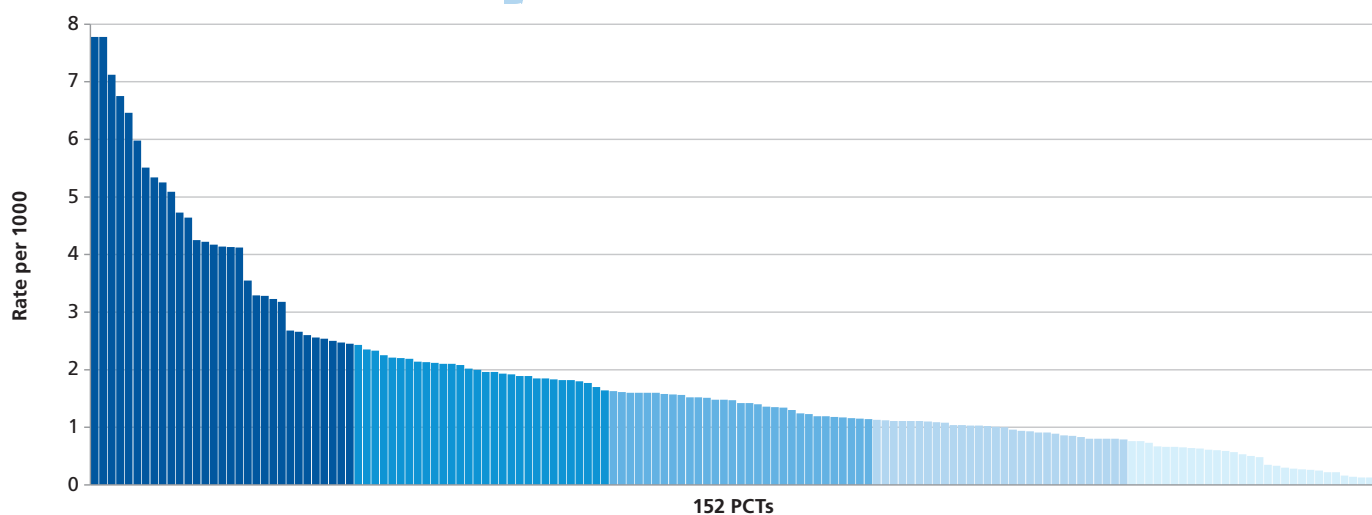
Domain 2: Enhancing quality of life for people with long-term conditions



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Context

Sleep physiology investigations are conducted to identify abnormal sleep patterns, and to assess and provide therapeutic intervention. Sleep disorders are common and can vary from mild to life-threatening. There are more than 80 recognised sleep disorders, which may affect the timing, quality and quantity of sleep. The most common are insomnia, sleep apnoea, restless leg syndrome, narcolepsy and sleep problems associated with Parkinson's disease and autism. Obstructive sleep apnoea (OSA) is the most common affecting up to 5% of the population. During sleep, muscles in the upper airway relax to a greater degree than normal or parts of the airway become blocked for one of several reasons, resulting in apnoeas or pauses in breathing lasting 10 seconds to two minutes. Apnoeas can cause sleep disruption and poor-quality sleep, resulting in daytime sleepiness. If left untreated, OSA can be a risk factor for stroke, cardiovascular problems or diabetes.

There has been a 51.2% increase in the commissioning of sleep studies tests over the last four years (see Figure 35.1). One reason for this increase may be the clearance of backlogs in accordance with the maximum waiting time constitutional right.

In a study in which the rates of polysomnography (PSG) sleep tests were compared in five countries, rate of provision in the UK was significantly lower than that in other countries.¹

There are two referral routes for sleep studies:

- Respiratory;
- Neurological – undertaken by clinical neurophysiology departments (with a higher mean cost but lower activity rate compared with those undertaken via the respiratory referral route).

Magnitude of variation

For PCTs in England, the rate of sleep studies undertaken per 1000 population ranged from 0.1 to 7.8 (60-fold variation). When the five PCTs with the highest rates and the five PCTs with the lowest rates are excluded, the range is 0.2–6.0 per 1000 population, and the variation is 27-fold.

Variation in the rate of sleep studies can be explained by two main factors:

- Prevalence of related conditions such as obesity;

1 Flemons WW, Douglas NJ, Kuna ST, Rodenstein DO, Wheatley J (2004) Access to Diagnosis and Treatment of Patients with Suspected Sleep Apnea. *American Journal of Respiratory and Critical Care Medicine* 169: 668–672. doi: 10.1164/rccm.200308-1124PP

- Availability of service for commissioners – in areas where there are large sleep centres, rates of testing for sleep-related conditions tend to be higher. This is probably because large sleep centres work closely with local commissioners to raise awareness of symptoms, and they are also likely to have a clear funding model for subsequent therapeutic intervention.

Options for action

Commissioners need to review referral and delivery models for sleep services to help reduce unwarranted variation.

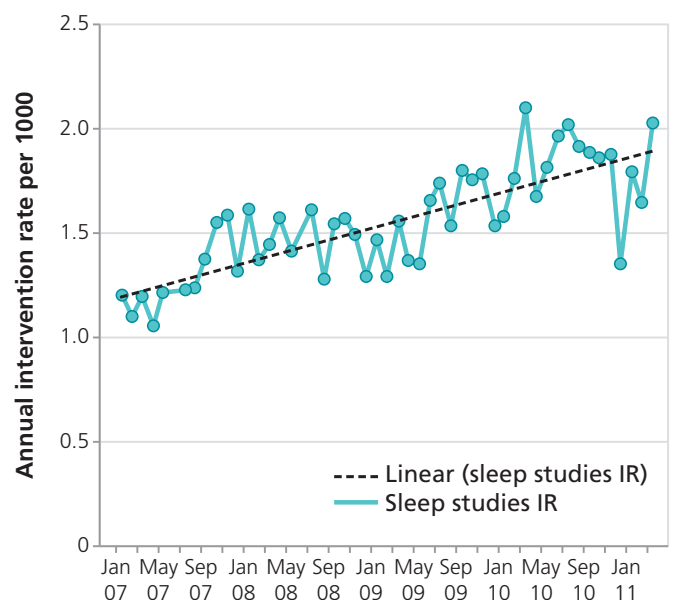
In addition, commissioners need:

- To improve their understanding of expected and observed prevalence of related conditions;
- To review funding models (e.g. block contract versus payment by results) to ensure there are no perverse financial incentives to commission inappropriately;
- To assess carefully demand and available capacity for local sleep services.
- To review models for initial diagnostic testing and triage approaches to referral management.

RESOURCES

- NHS Improvement Physiology Diagnostics homepage: sleep studies are under "Respiratory Physiology", which provides a link to the overarching "What is Physiological Measurement" document, and DH good practice guide for respiratory and sleep services. <http://www.improvement.nhs.uk/physiologydiagnostics/>

Figure 35.1: Annual intervention rate (IR) for sleep studies by month from January 2007 to March 2011



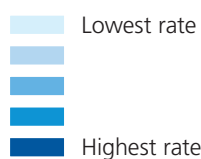
PROBLEMS OF THE RESPIRATORY SYSTEM

Map 36: Rate of all admissions to hospital with a primary diagnosis of chronic obstructive pulmonary disease (COPD) per population by PCT

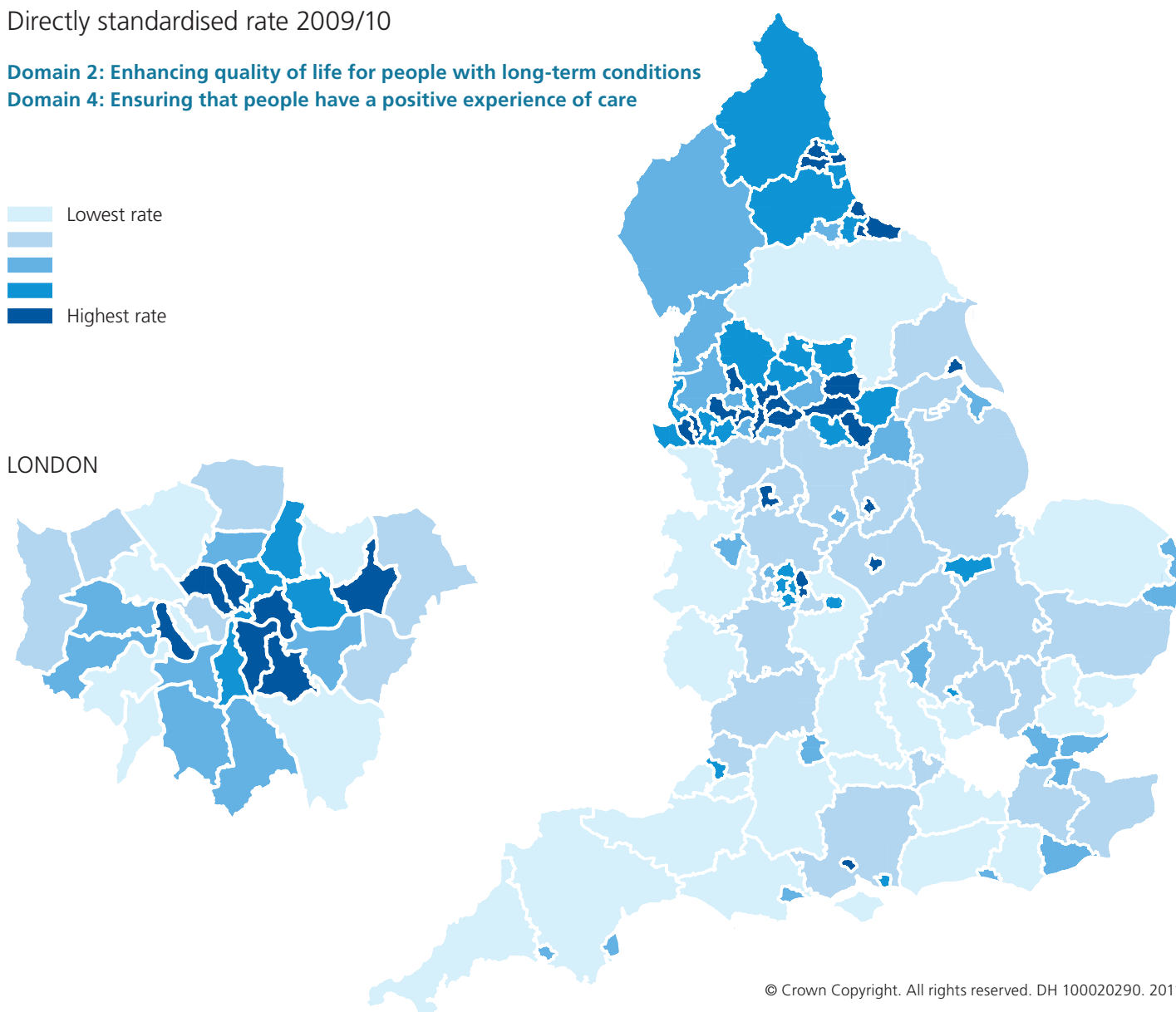
Directly standardised rate 2009/10

Domain 2: Enhancing quality of life for people with long-term conditions

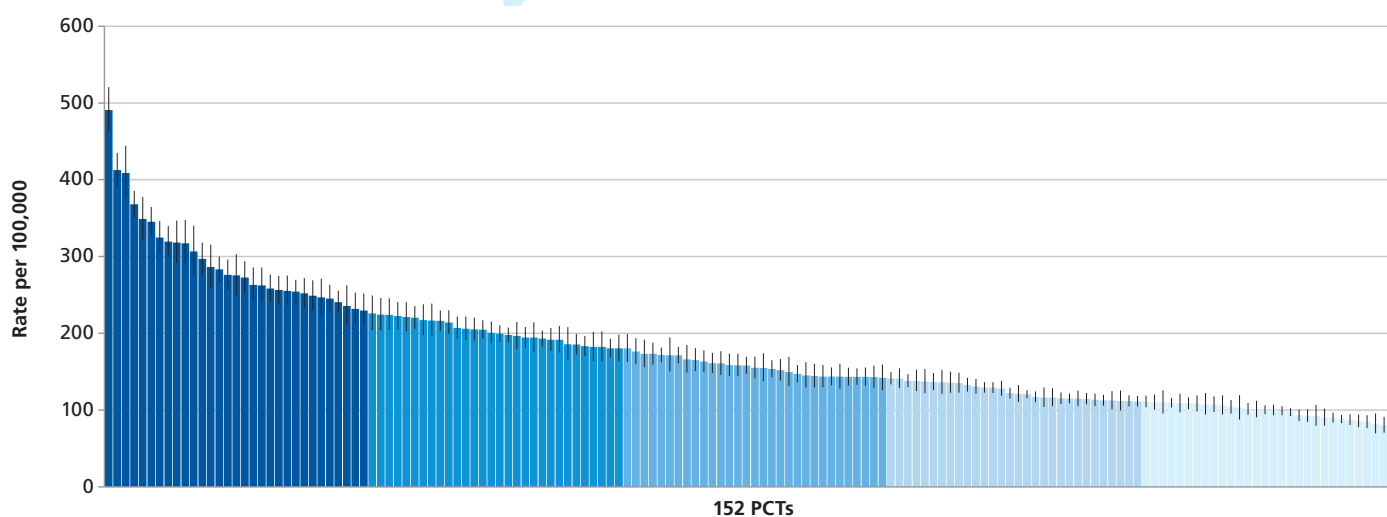
Domain 4: Ensuring that people have a positive experience of care



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Context

Chronic obstructive pulmonary disease (COPD) is one of the main causes of preventable death and disability. In England, over 3 million people are known to suffer from COPD, but only about 835,000 have been diagnosed. People with COPD experience recurrent flare-ups or exacerbations which need more intensive treatment. Some exacerbations can be so severe that they require hospital admission. COPD is the second most common reason for emergency admission to hospital, accounting for one in eight non-elective admissions. It is therefore costly for the NHS. In England, COPD kills about 23,000 people a year. Mortality is particularly high in those who are hospitalised: one in six will die during an emergency admission, and one in twelve will die within 3 months.

Magnitude of variation

For PCTs in England, the rate of all admissions to hospital with a primary diagnosis of COPD per 100,000 population ranged from 77.5 to 490.9 (6-fold variation). When the five PCTs with the highest rates and the five PCTs with the lowest rates are excluded, the range is 87.3–345.4 per 100,000, and the variation is fourfold.

Even when adjustment is made for deprivation, a similar pattern is seen. For a person with COPD, the risk of being admitted with an acute exacerbation can be four times greater depending on where they live.

Admission to hospital is a major adverse outcome for patients. The degree of variation shows that in many areas there is considerable scope for reducing admissions. As spend on COPD admissions is high in every PCT, action to prevent admissions could save money as well as improve patient outcomes.

Options for action

PCTs that achieve lower emergency admission rates are likely to do so by ensuring proactive clinical care and by commissioning alternatives to admission, as follows.

- Review of admissions to identify people who are admitted frequently and who need more proactive management.
- Early discharge schemes and hospital-at-home services commissioned to support evidence-based admission avoidance.
- Proactive chronic disease management in primary and community care: this should include clear action plans, optimisation of therapy, support for patient self-management, home provision of standby medication, and referral for pulmonary rehabilitation when indicated.
- Prompt support for patients when they develop new or worsening symptoms, with early access to specialist-led multidisciplinary team care in the community when appropriate.
- A structured approach to admissions with timely assessment and treatment, comprehensive management of COPD and co-morbid conditions, regular review by specialist respiratory team and early discharge planning.

RESOURCES

- Lung Improvement Programme – improvement projects, good practice examples and other resources. <http://www.improvement.nhs.uk/lung/>
- Department of Health Outcomes Strategy for COPD and Asthma in England 2011. http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_127974
- NICE Quality Standard for COPD 2011. <http://www.nice.org.uk/guidance/qualitystandards/chronicobstructivepulmonarydisease/chpdqualitystandard.jsp>
- NICE Clinical Guideline COPD (updated) 2010. <http://www.nice.org.uk/CG101>
- NICE Pathway for chronic obstructive pulmonary disease. <http://pathways.nice.org.uk/pathways/chronic-obstructive-pulmonary-disease>
- Department of Health Commissioning Pack for COPD: to be published in 2011.
- IMPRESS (Improving and Integrating Respiratory Services in the NHS): resources for improving outcomes in people with respiratory disease. <http://www.impressresp.com/>
- British Lung Foundation: resources for patients and health professionals. <http://www.lunguk.org/>

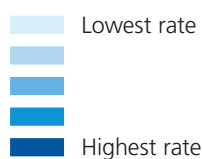
PROBLEMS OF THE RESPIRATORY SYSTEM

Map 37: Rate of expenditure on home oxygen therapy per population by PCT

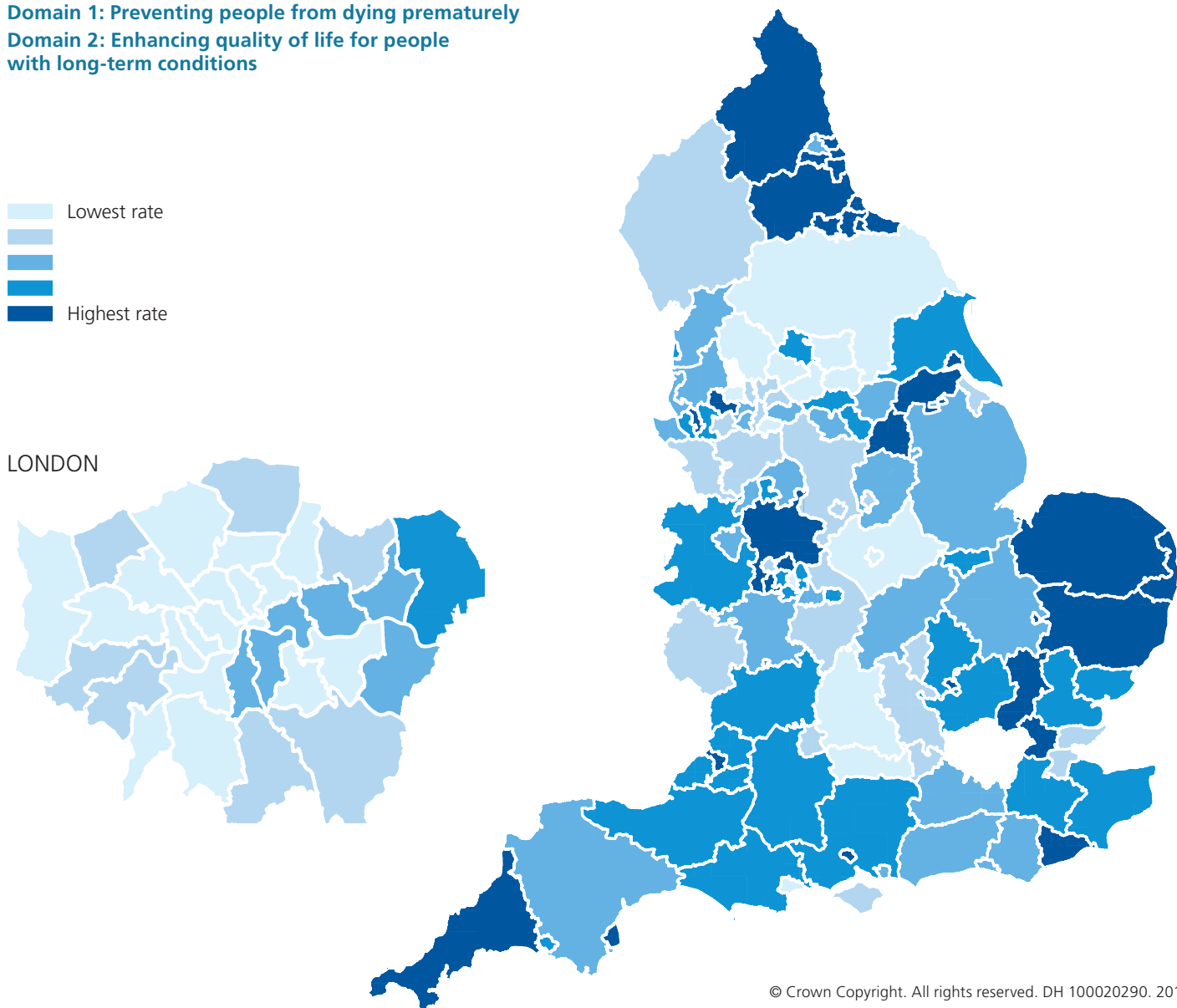
2010/11

Domain 1: Preventing people from dying prematurely

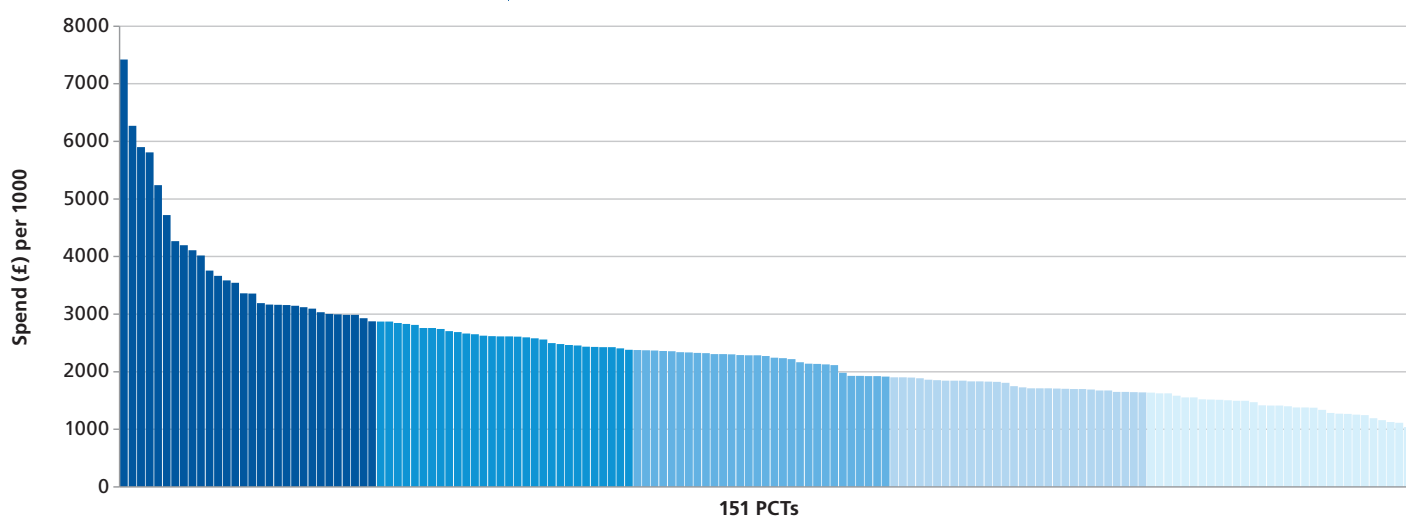
Domain 2: Enhancing quality of life for people with long-term conditions



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Context

Home oxygen therapy is provided to 85,000 people in England, which costs approximately £110 million a year. The most common reason for prescribing long-term home oxygen therapy is chronic obstructive pulmonary disease (COPD). It is also provided to people with other lung conditions, with heart disease, and with neurological disease, and those receiving palliative care.

Where indicated, oxygen therapy can improve survival in COPD. However, it is often prescribed without a clear clinical indication, from which the patient will derive no clinical benefit. Oxygen therapy is indicated only when the oxygen level in the blood is low. It is not an effective treatment for breathlessness in the absence of low blood oxygen levels. The Department of Health estimates that about one-third of people prescribed oxygen derive no clinical benefit from it or do not use it. As payment is based on provision not usage, costs are incurred even when oxygen therapy is not used.

Although oxygen therapy is a major source of expenditure, many PCTs do not undertake quality-assured clinical assessment and review of their patients' oxygen requirement. This may reduce the value of the intervention considerably.

Magnitude of variation

For PCTs in England, the rate of expenditure on home oxygen therapy per head of population ranged from £1039 to £7422 (7-fold variation). When the five PCTs with the highest spend and the five PCTs with the lowest spend are excluded, the range is from £1245 to £4721 per head, and the variation is 3.8-fold.

Some variation is due to differences in population composition and disease prevalence. However, when the rate of expenditure in each PCT is adjusted for COPD prevalence and the five PCTs with the highest spend and the five PCTs with the lowest spend are excluded, the range is £76 to £223 per registered patient, the variation 2.9-fold (see column chart below).

Some unwarranted variation will be due to:

- expenditure on oxygen for people who do not need it or are not using it;

- failure to identify all patients who would benefit from home oxygen.

The degree of variation shows there is considerable scope for increasing the value of spend on oxygen, both through improving quality of care and reducing waste.

Options for action

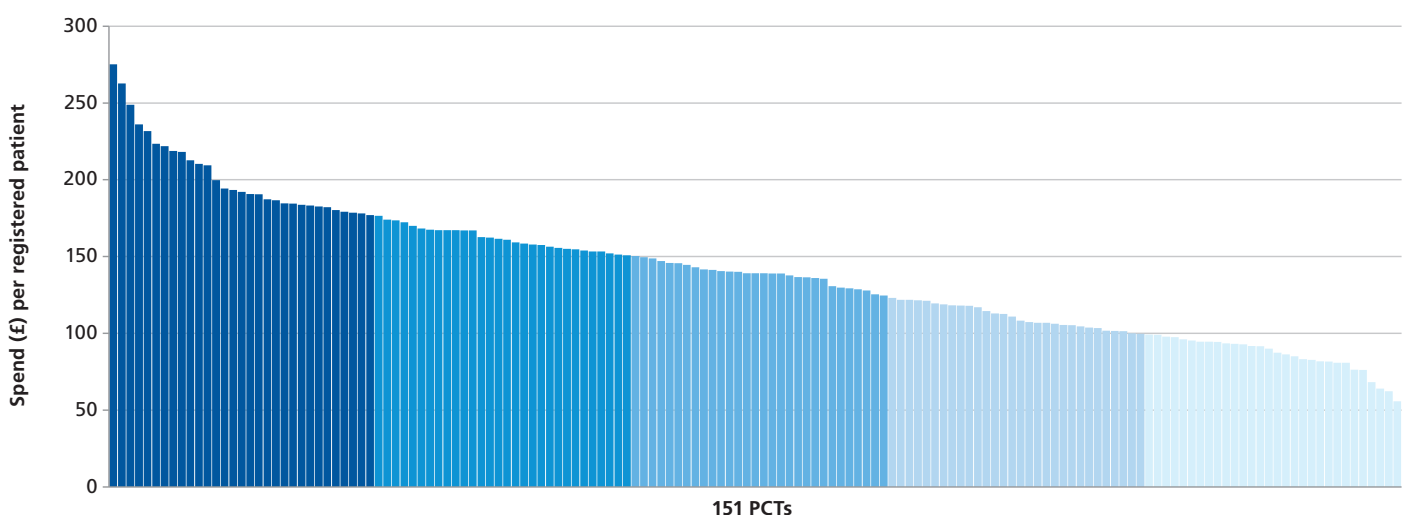
Department of Health analysis suggests that savings of up to 40% (equivalent to £45 million a year nationally or £300,000 per PCT) could be achieved through the establishment of a home oxygen service with structured clinical assessment and regular review of oxygen requirement. This ensures that patients receive home oxygen only after appropriate assessment and follow-up using criteria such as those listed below.

- Patients with COPD managed in primary care or specialist care should have regular pulse oximetry to determine their oxygen saturation.
- Oxygen therapy should be considered only in patients with an oxygen saturation of 92% or below.
- Patients with an oxygen saturation of 92% or below should be referred to a home oxygen assessment and review service for structured assessment.
- Oxygen therapy should be prescribed only after structured assessment by a home oxygen assessment and review service.
- Patients treated with home oxygen should have a review of their oxygen requirement by the home oxygen assessment and review service every 6 months.

RESOURCES

- Home Oxygen Service Good Practice Guide for Assessment and Review. <http://www.pcc.nhs.uk/home-oxygen-service-good-practice-guide-for-assessment-and-review>
- Improving Home Oxygen Services: Emerging Learning from the National Improvement Projects. <http://www.improvement.nhs.uk/lung/>

Rate of expenditure on home oxygen therapy in 2010/11 per people on GP chronic obstructive pulmonary disease (COPD) register 2009/10



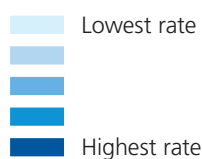
PROBLEMS OF THE RESPIRATORY SYSTEM

Map 38: Rate of emergency admissions to hospital in people aged 18 years and over with asthma per population by PCT

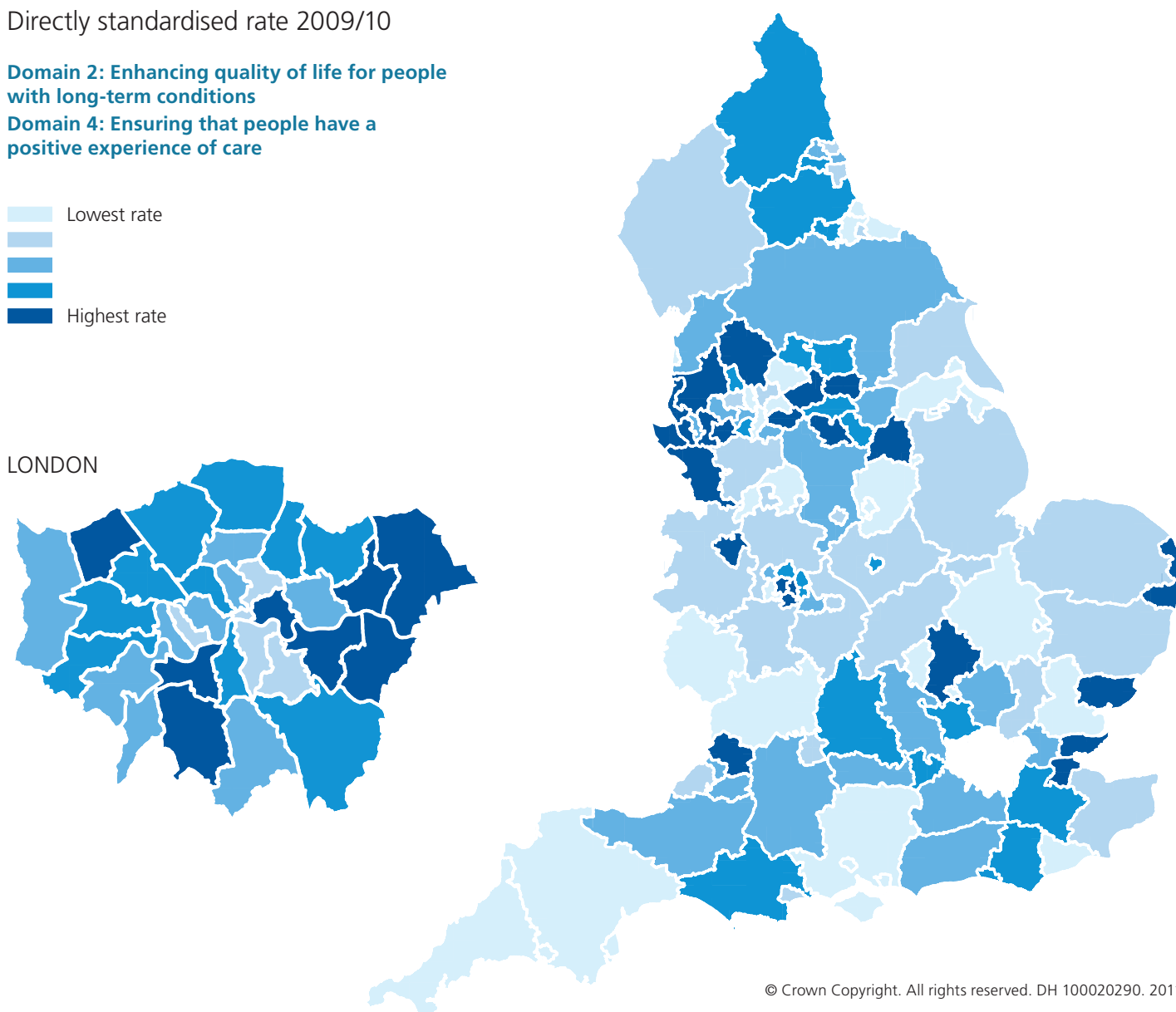
Directly standardised rate 2009/10

Domain 2: Enhancing quality of life for people with long-term conditions

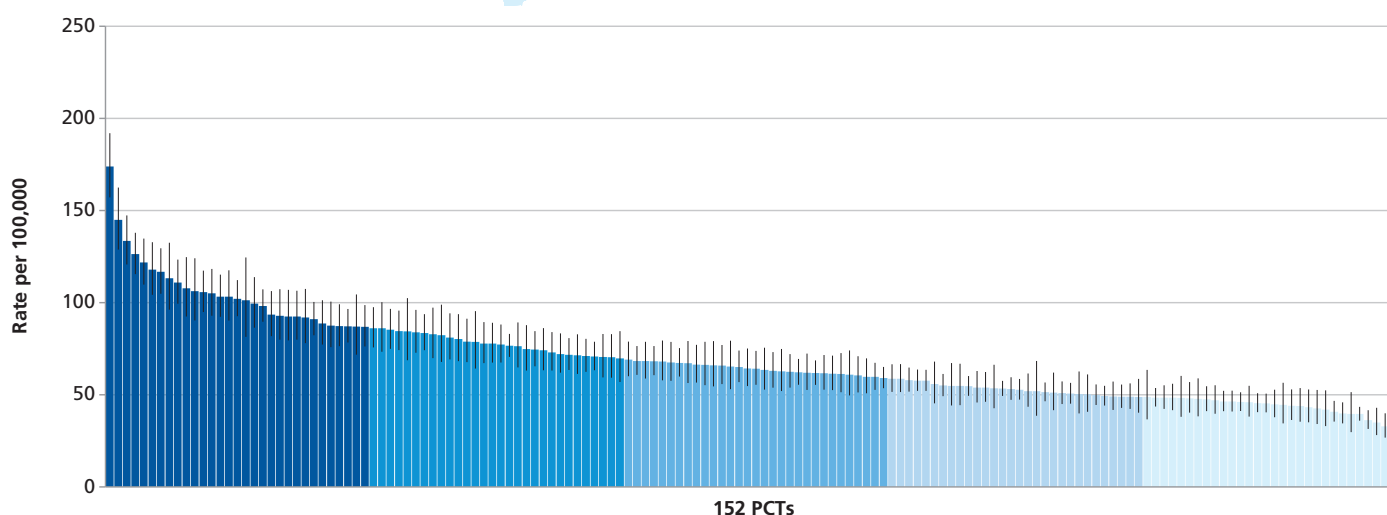
Domain 4: Ensuring that people have a positive experience of care



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Context

The goal of asthma care is to control symptoms such that people with asthma can lead as normal a life as possible. This should be achievable for the majority.

Emergency admission represents a serious loss of control of a person's asthma. Admissions are sometimes necessary for specialist management of severe exacerbations, but about three-quarters are preventable. Before admission, most patients have symptoms for several days, indicating there is time for intervention to prevent admission.

Structured self-management support including an individual action plan is key to chronic disease management in asthma. People with an asthma action plan have fewer hospitalisations, emergency department visits and unscheduled visits to the doctor.¹

Magnitude of variation

For PCTs in England, the rate of emergency admissions to hospital in people aged 18 years and over with asthma ranged from 31.2 to 173.9 per 100,000 (6-fold variation). When the five PCTs with the highest rates and the five PCTs with the lowest rates are excluded, the range is 39.5–117.9 per 100,000, and the variation is threefold.

For people with asthma, the risk of being admitted with an acute exacerbation can be up to three times greater depending on where they live.

Although the degree of variation is similar to that in 2008/09 (see Map 16, Atlas 1.0), the rate of emergency admissions has decreased at both ends of the range, indicating an improvement in care but little difference in equity of access to good care.

Some variation is due to local population characteristics. However, much is unwarranted due to differences in:

- the quality of asthma care;
- the support people receive to manage their condition.

What is achievable in one area should be possible everywhere if best practice is adopted.

Hospital admission is a major adverse outcome for patients. The degree of variation reveals considerable scope for reducing admissions in many areas. Preventing admissions will save money and improve patient outcomes.

Options for action

Emergency admissions can be avoided by ensuring optimal chronic disease management and structured support for patients in managing their condition.

Patients should have an asthma action plan, developed with them, as part of structured asthma education, helping them to identify deterioration and know what actions to take. Plans should be reviewed regularly and always at the time of emergency department attendance or admission.

Healthcare professionals should deliver care according to the SIGN/BTS guideline (see "Resources").

Healthcare professionals managing patients with asthma should have training in asthma management, and how to provide structured self-management support.

Patients with asthma should have a structured primary care review at least once a year according to the SIGN/BTS guideline.

People attending hospital with acute exacerbations of asthma should be reviewed by a clinician with expertise in asthma management, ideally within 30 days.

General practices could develop a register of patients at risk of admission to identify people who need more active monitoring and management, including patients admitted in the previous 12 months, and those identified at audit as using excessive quantities of short-acting bronchodilators.

RESOURCES

- Scottish Intercollegiate Guidelines Network/British Thoracic Society (SIGN/BTS) British Guideline on the management of asthma (revised 2011). <http://www.sign.ac.uk/pdf/sign101.pdf>
- Department of Health Outcomes Strategy for COPD and Asthma in England 2011. http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_127974
- Lung Improvement Programme: improvement projects, good practice examples and other resources. <http://www.improvement.nhs.uk/lung/>
- British Thoracic Society Adult asthma audit 2010. <http://www.brit-thoracic.org.uk/Portals/0/Audit%20Tools/2010%20Asthma%20AuditReport.pdf>
- Asthma UK: resources for clinicians and patients. <http://www.asthma.org.uk>
- Primary Care Respiratory Society: Resources for primary care professionals. <http://www.pcrs-uk.org/>



See what Right Care is doing about asthma on page 32

1 Gibson PG, Powell H, Wilson A, Abramson MJ, Haywood P, Bauman A, Hensley MJ, Walters EH, Roberts JLL. Selfmanagement education and regular practitioner review for adults with asthma. Cochrane Database of Systematic Reviews 2002, Issue 3. Art. No.: CD001117. doi: 10.1002/14651858.CD001117.

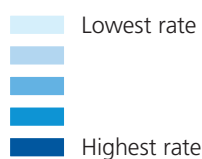
PROBLEMS OF THE RESPIRATORY SYSTEM

Map 39: Emergency admission rate for children with asthma per population aged 0–17 years by PCT

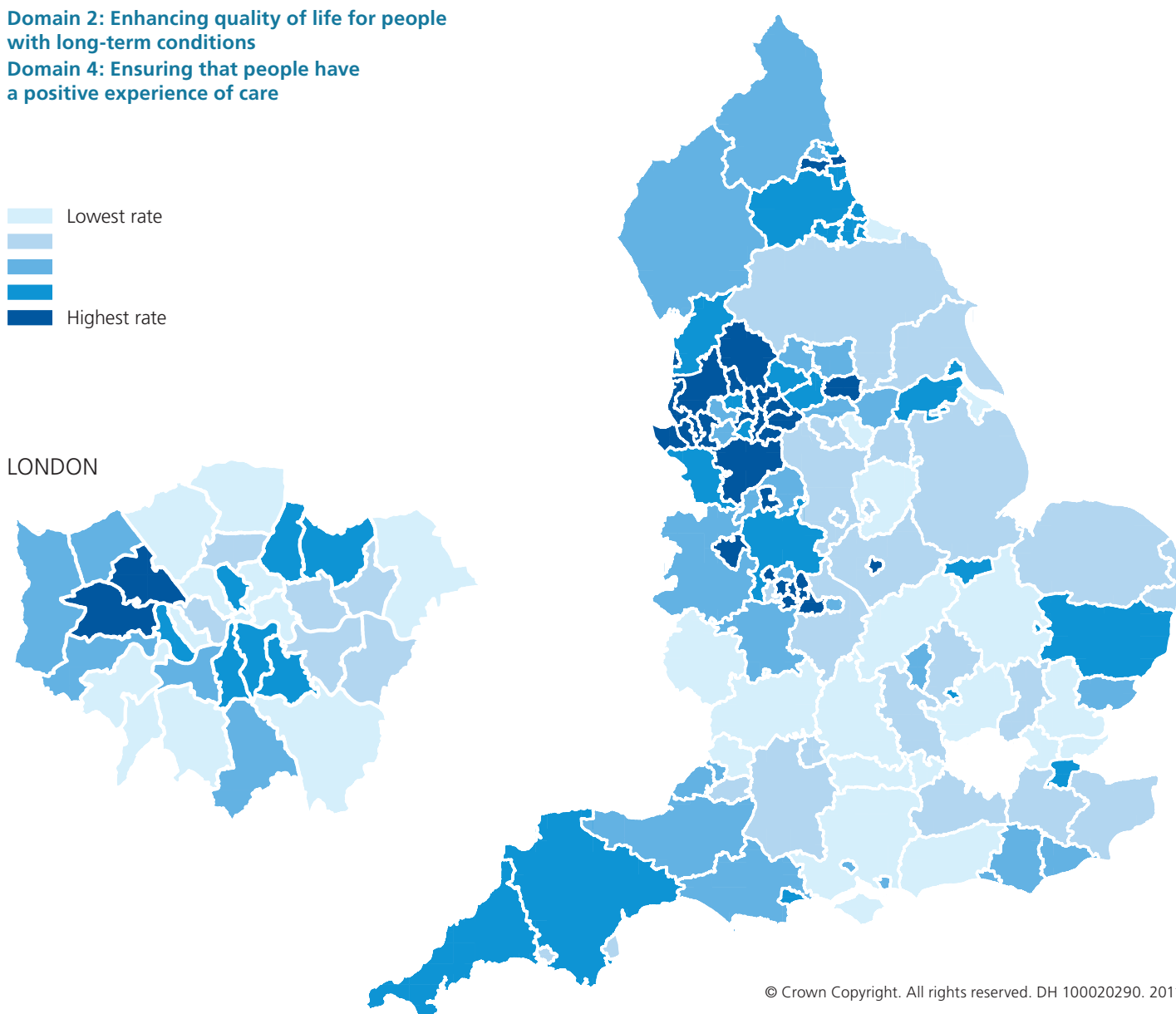
Directly standardised rate 2007/08–2009/10

Domain 2: Enhancing quality of life for people with long-term conditions

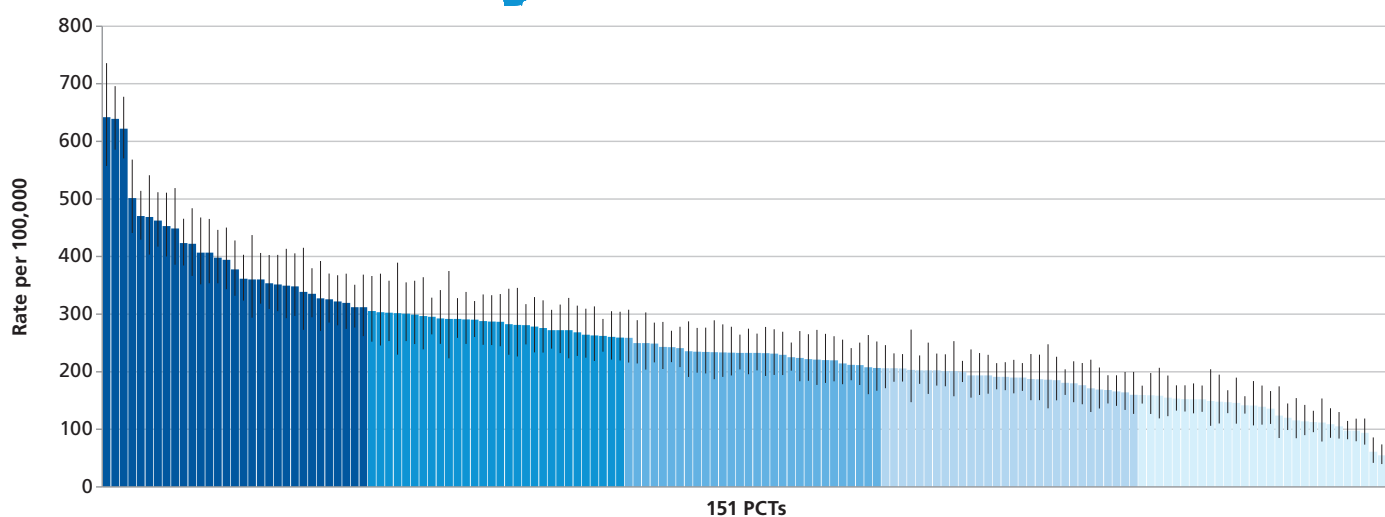
Domain 4: Ensuring that people have a positive experience of care



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Context

Asthma is the commonest long-term medical condition in childhood. Emergency admissions should be avoided whenever possible.

Unplanned hospitalisation for asthma, diabetes and epilepsy in children and young people under 19 years is a national quality indicator in the NHS Outcomes Framework 2011/12.

Magnitude of variation

For PCTs in England, the emergency admission rate for children with asthma per 100,000 population aged 0–17 years ranged from 25.9 to 641.9 (25-fold variation). When the five PCTs with the highest emergency admission rates and the five PCTs with the lowest emergency admission rates are excluded, the range is 97.6–468.5 per 100,000 population aged 0–17 years, and the variation is 4.8-fold.

In 2008/09, the variation was sixfold, and after exclusions it was almost fourfold (see Map 17, Atlas 1.0). This increase in the magnitude of variation may not necessarily represent an overall deterioration in care. The greater magnitude of variation may reflect improvements in care in the best-performing PCTs, rather than deterioration in the worst.

However, it does highlight an increasing inequity in the management of asthma services, which requires urgent redress.

Variation in the rate of emergency admission may be due to a variety of reasons:

- suboptimal symptom management and secondary prevention in the community;
- suboptimal emergency care in the Accident and Emergency (A&E) department;
- differences in admission criteria for paediatric clinicians.

Options for action

Commissioners can use the ChiMat DMIT tool to identify unwarranted variation in the local management of long-term conditions such as asthma (see “Resources”).

A management pathway for asthma would help to reduce unwarranted variation.

Every child with asthma should have an Asthma Care Plan according to the British Thoracic Society/Scottish Intercollegiate Guidelines Network (BTS/SIGN) guideline on management of asthma (see “Resources”).

Commissioners should ensure that the BTS/SIGN guidelines form the basis of local clinical asthma pathways for which they are responsible.

As the causes of asthma are multifactorial, action to reduce emergency admission requires a whole pathway approach, including public health, and primary and secondary care. Parental education and school medication management are also vital aspects of the overall care of the child with asthma.

RESOURCES

- ChiMat DMIT tool. <http://atlas.chimat.org.uk/IAS/dmit>
- British Thoracic Society/Scottish Intercollegiate Guidelines Network (BTS/SIGN). British Guideline on the Management of Asthma. May 2008; revised May 2011. <http://www.brit-thoracic.org.uk/guidelines/asthma-guidelines.aspx>

This indicator is from the Child Health Themed Atlas



See what Right Care is doing about asthma on page 32