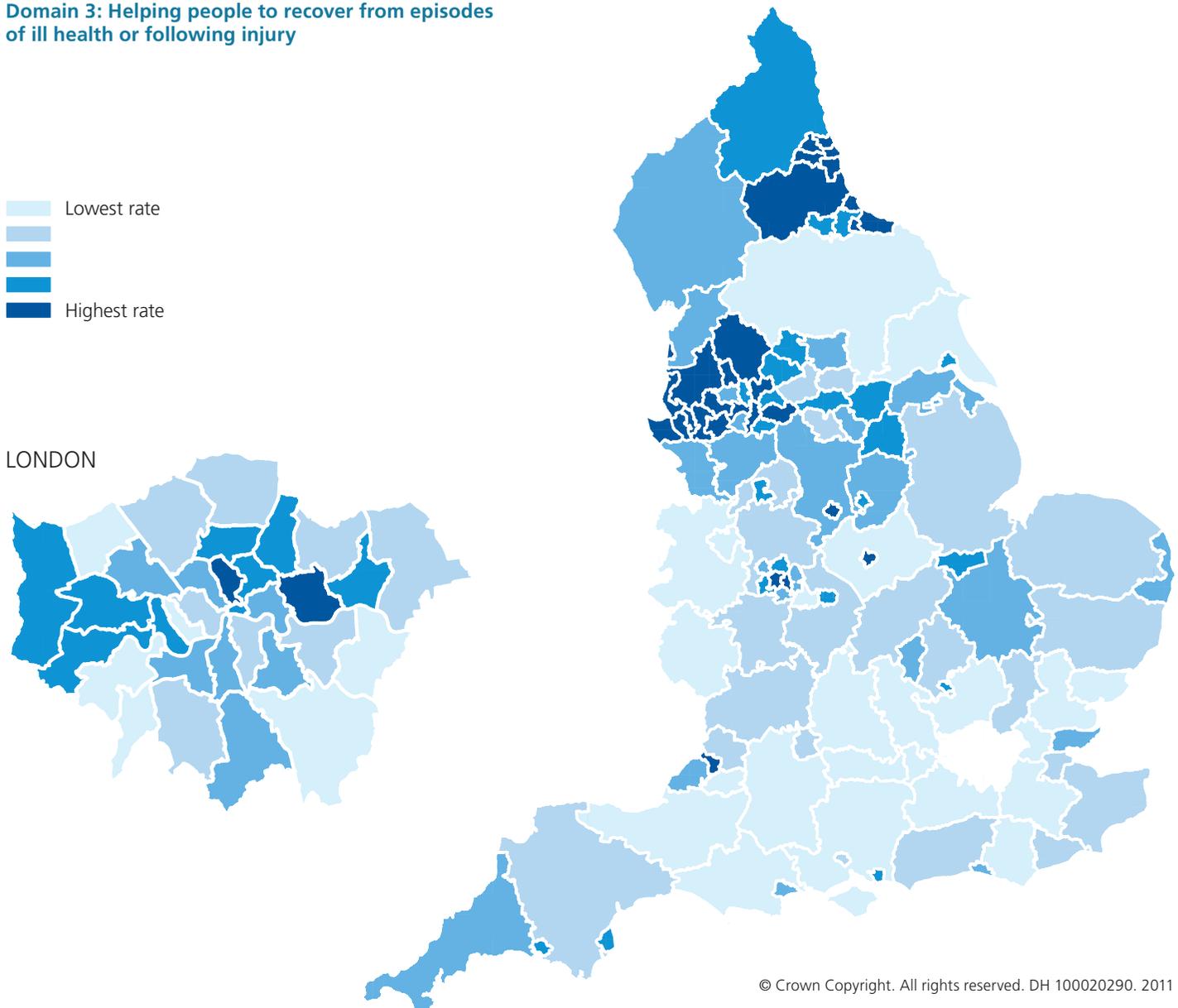


CARE OF ALCOHOL-RELATED CONDITIONS

Map 61: Rate of alcohol-related admissions per population by PCT

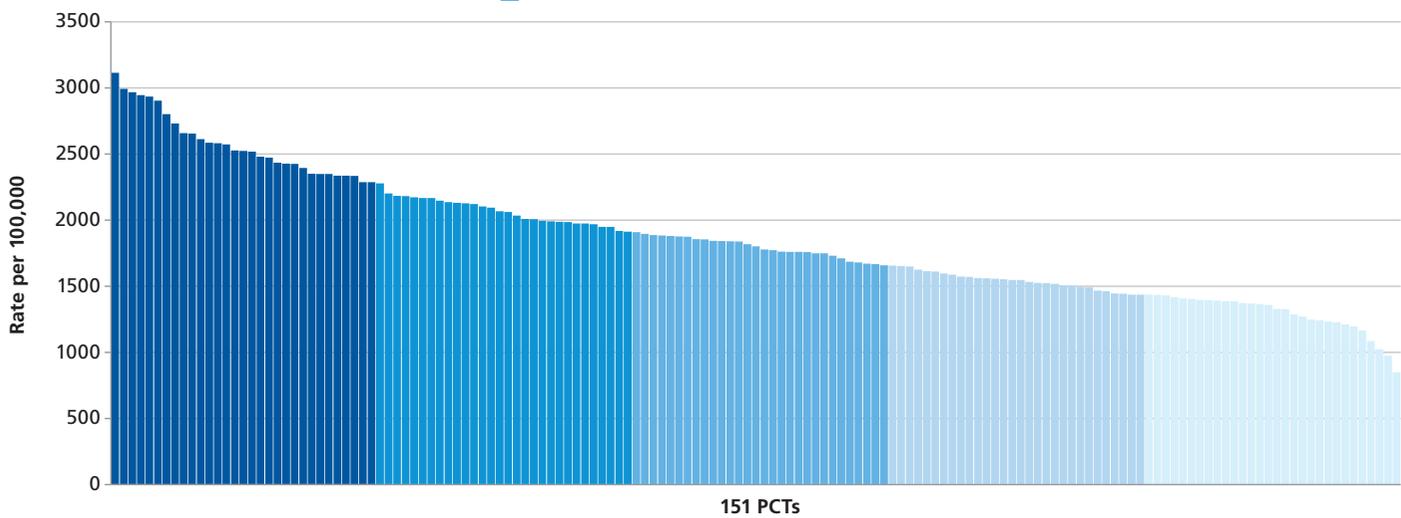
Directly standardised rate 2009/10

Domain 3: Helping people to recover from episodes of ill health or following injury



LONDON

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Context

Alcohol misuse is thought to cost the country £20 billion a year.¹ In 2008, the Department of Health estimated that the cost to the NHS of alcohol-related harm was £2.7 billion at 2006/07 prices (a breakdown of these costs is shown in Table 61.1).²

Table 61.1: Cost to the NHS of alcohol-related harm

Hospital inpatient and day visits:	Estimated cost (£ million)
Directly attributable to alcohol	167.6
Partly attributable to alcohol	1,022.7
Hospital outpatient visits	272.4
Accident and emergency visits	645.7
Ambulance services	372.4
GP consultations	102.1
Practice nurse consultations	9.5
Dependency prescribed drugs	2.1
Specialist treatment services	55.3
Other healthcare costs	54.4
Total	2,704.1

Hospital admissions with a primary diagnosis of a condition related to alcohol consumption have increased by 37% in the last 7 years,³ and death rates doubled between 1992 and 2008.⁴ The conditions associated with alcohol use include injuries and trauma (some associated with alcohol-related violence or road traffic accidents), gastro-intestinal disease including liver disease, cancers, stroke, heart diseases, respiratory diseases, and co-existing mental health problems.

Magnitude of variation

For PCTs in England, the rate of alcohol-related admissions per 100,000 population ranged from 849.5 to 3114.3 (3.7-fold variation). When the five PCTs with the highest rates and the five PCTs with the lowest rates are excluded, the range is 1196.1–2903.7 per 100,000 population, and the variation is 2.4-fold.

Some or much of the variation in alcohol-related admission rates is likely to be due to differences in the rates of alcohol use across England, although other factors such as differences in coding for association with alcohol could also explain some of the variation.

Options for action

Commissioners and primary and secondary care providers need:

- To consider working on and implementing the seven “High Impact Changes”, with particular attention to numbers 4, 5, and 6, identified by the Department of Health to be the most effective actions for local areas that have

prioritised a reduction in alcohol-related harm (Box 61.1; see “Resources”);

- To review the current patterns of acute service provision and ascertain whether alternatives to hospital admission are available when appropriate;
- To learn from the initiatives undertaken in other local services, such as the Alcohol Liaison Service at the Royal Free Hospital, London, as part of NHS Evidence (see “Resources”);
- To explore the opportunities for early detection within the health service;
- To develop a local alcohol treatment pathway (see “Resources”).

Box 61.1: High Impact Changes

1. Work in partnership
2. Develop activities to control the impact of alcohol misuse in the community
3. Influence change through advocacy
4. Improve the effectiveness and capacity of specialist treatment
5. Appoint an Alcohol Health Worker
6. Identification and brief advice (IBA) – provide more help to encourage people to drink less
7. Amplify national social marketing priorities

RESOURCES

- NICE Guidance PH24. Alcohol-use disorders – preventing harmful drinking. <http://guidance.nice.org.uk/PH24>
- NICE Guidance CG115. Alcohol dependence and harmful alcohol use. Alcohol-use disorder: diagnosis, assessment and management of harmful drinking and alcohol dependence. <http://www.nice.org.uk/guidance/CG115>
- NICE Guidance CG100. Alcohol-use disorders – physical complications. <http://guidance.nice.org.uk/CG100>
- Alcohol Learning Centre. <http://www.alcohollearningcentre.org.uk/>
- High Impact Changes. <http://www.alcohollearningcentre.org.uk/Topics/Browse/HIC/>
- Royal Free Hospital, London, Alcohol Liaison Service. http://www.royalfree.nhs.uk/pip_admin/docs/ALS_1234.pdf
- NICE Pathway on alcohol-use disorders. <http://pathways.nice.org.uk/pathways/alcohol-use-disorders>
- Department of Health. Local Routes: Guidance for developing alcohol treatment pathways. http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_110423
- North West Public Health Observatory (NWPHO) Local Alcohol Profiles for England, available in two geographies: Local Authorities; PCTs (24 indicators). <http://www.lape.org.uk/>

1 Crome I, Chambers C with Frisher M, Bloor R, Roberts D (2008) SCIE Research briefing 30: The relationship between dual diagnosis: substance misuse and dealing with mental health issues. <http://www.scie.org.uk/publications/briefings/briefing30/references.asp#44>

2 Department of Health, Health Improvement Analytical Team (2008) The cost of alcohol harm to the NHS in England – An update to the Cabinet Office (2003) study, July 2008.

3 DH analysis of Hospital Episode Statistics (HES), NHS Information Centre.

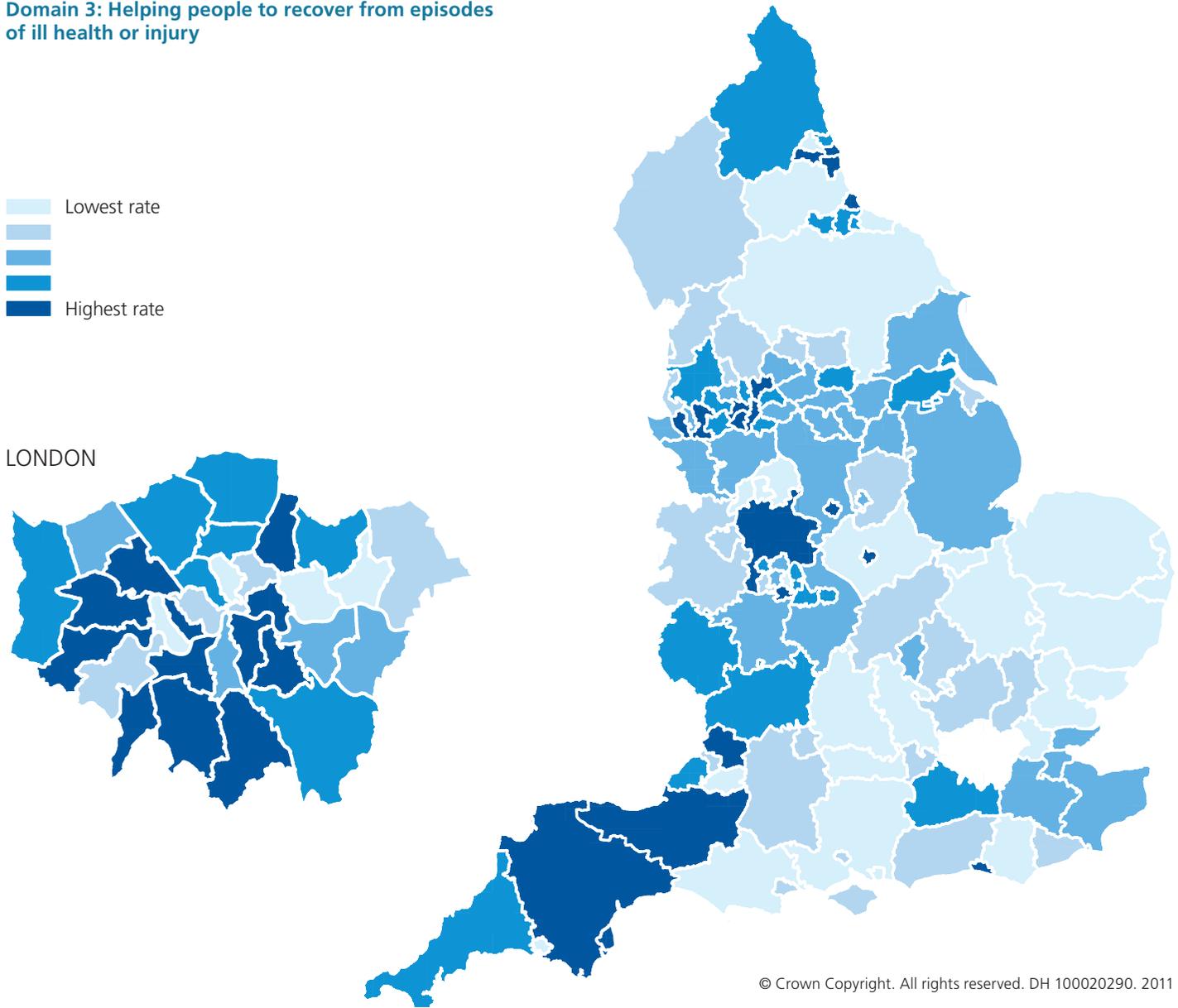
4 Office for National Statistics (ONS). Alcohol-related deaths in England and Wales, 1991 to 2009.

EMERGENCY CARE

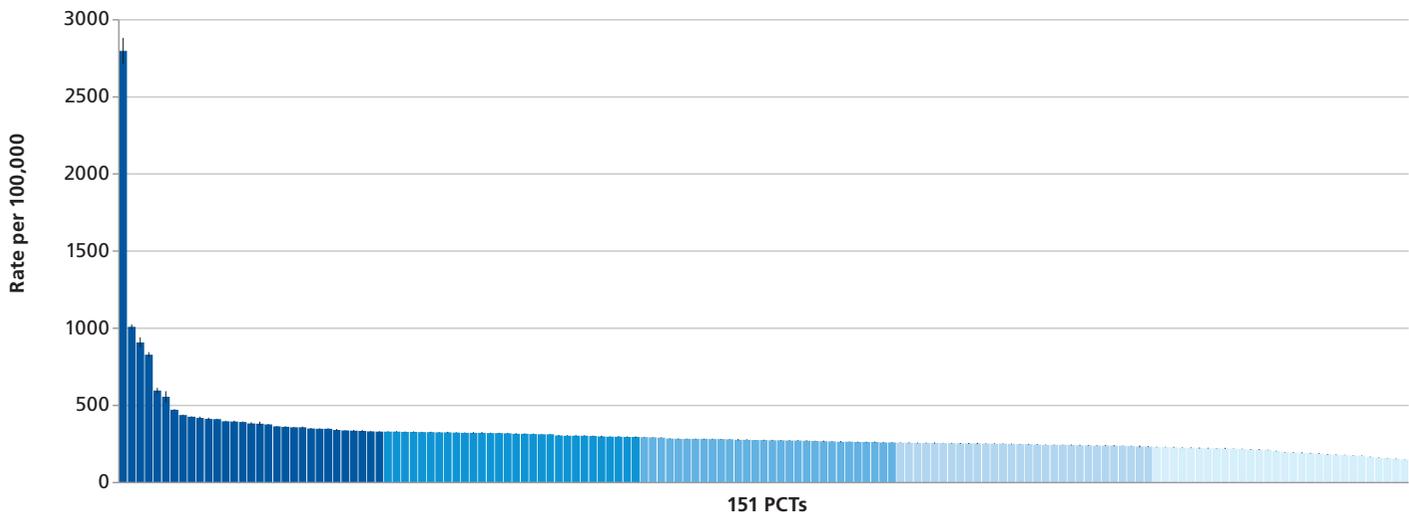
Map 62: Rate of accident and emergency (A&E) attendances per population by PCT

Directly age-, sex- and deprivation-standardised rate 2010

Domain 3: Helping people to recover from episodes of ill health or injury



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Context

In England, there were about 21.4 million attendances at all departments in 2010/11. On average, a person attends accident and emergency (A&E) once every five years. Rate of attendance is higher for people during the first and the last five years of life. Reasons for attendance at A&E vary with age:

- › Children attend for illness and injury;
- › Young people attend usually by reason of an accident, which may be related to sport or alcohol consumption in those aged 15–30 years;
- › Older people attend for acute episodes of illness or because of deterioration in functional ability often related to multisystem failure.

Magnitude of variation

For PCTs in England, the rate of A&E attendances per 100,000 population ranged from 148.9 to 2798.2 (19-fold variation). When the five PCTs with the highest rates and the five PCTs with the lowest rates are excluded, the range is 174.8–556.0 per 100,000 population, and the variation is 3.2-fold.

Reasons for variation include differences in:

- › Health profiles of populations, including the number of people with chronic disease;
- › Injury rate in different areas;
- › The way different groups choose to access healthcare.

Reasons for unwarranted variation include differences in:

- › Ease of access to primary care and alternative urgent care services;
- › Access to other services and facilities in the community, e.g. community nurses for the management of long-term conditions;
- › Re-attendance rates (although some variation is warranted when patients are advised to return);
- › The proportion of 999 calls closed with telephone advice or managed without transport to A&E where clinically appropriate.

Options for action

To prevent attendances related to chronic disease, commissioners and providers need to review chronic

disease and case management for the local population, with the emphasis on care being available in the community.

To prevent attendances by older people in nursing or residential care homes, commissioners and providers need to explore the options that would enable older people to remain in the home, rather than be taken to hospital (see Map 65), or to die in their usual place of residence (see Map 66).

To reduce the overall number of attendances, commissioners and providers could use the A&E quality indicator on re-attendance to ascertain the reasons for re-attendance. Effective case management and ensuring patients receive the right care first time will also improve patient experience and outcomes.

To reduce the number of 999 calls resulting in conveyance by ambulance to A&E, commissioners and ambulance trusts should collaborate to ensure that best use is made of telephone advice, definitive treatment at scene and conveyance to community services where appropriate.

To increase access to primary care, commissioners, providers and GPs could:

- › implement the Doctor First Programme, developed in East Midlands SHA, an evidence-based method of reversing the rising trend of A&E attendances and emergency admissions through access to GPs by telephone; it also reduced the number of surgery consultations by one-third;¹
- › consult the work of the Primary Care Foundation on Urgent Care in General Practice (see “Resources”).

To simplify access to alternative urgent care services, commissioners, providers and GPs need to ensure the provision of a coherent 24/7 service, together with in-hours GP services, that patients find easy to navigate. Roll-out of the NHS 111 service will support easier navigation.

RESOURCES

- › Primary Care Foundation (2009) Urgent Care in General Practice (report). A web-based tool to help practices write capacity plans to ensure effective resource use and improve the management of urgent care is in development.
<http://www.primarycarefoundation.co.uk/urgent-care-in-general-practice.html>

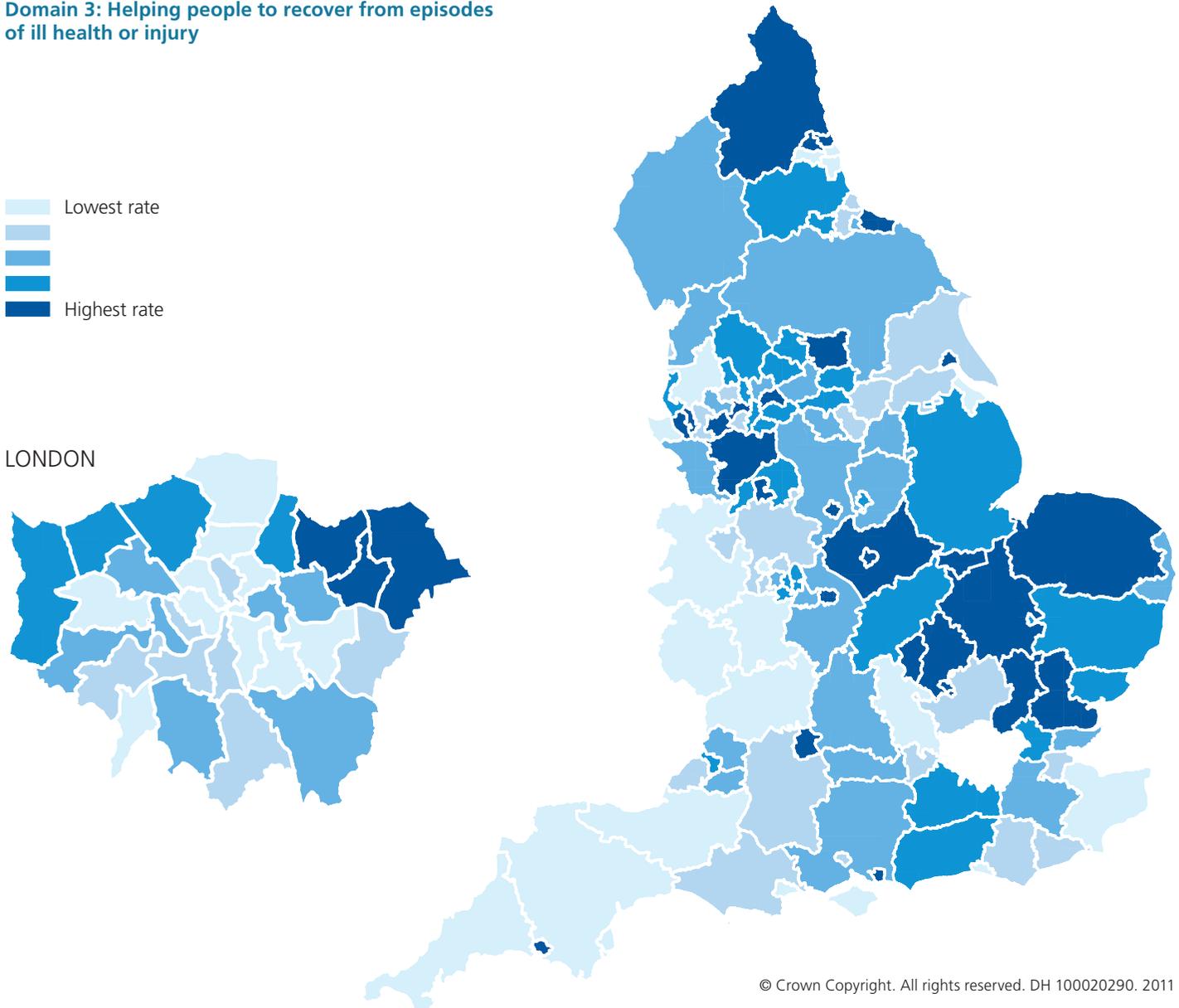
¹ <http://healthcareinnovationexpo.com/sha-nhseastmidlands-transformingurgentcare.asp>

EMERGENCY CARE

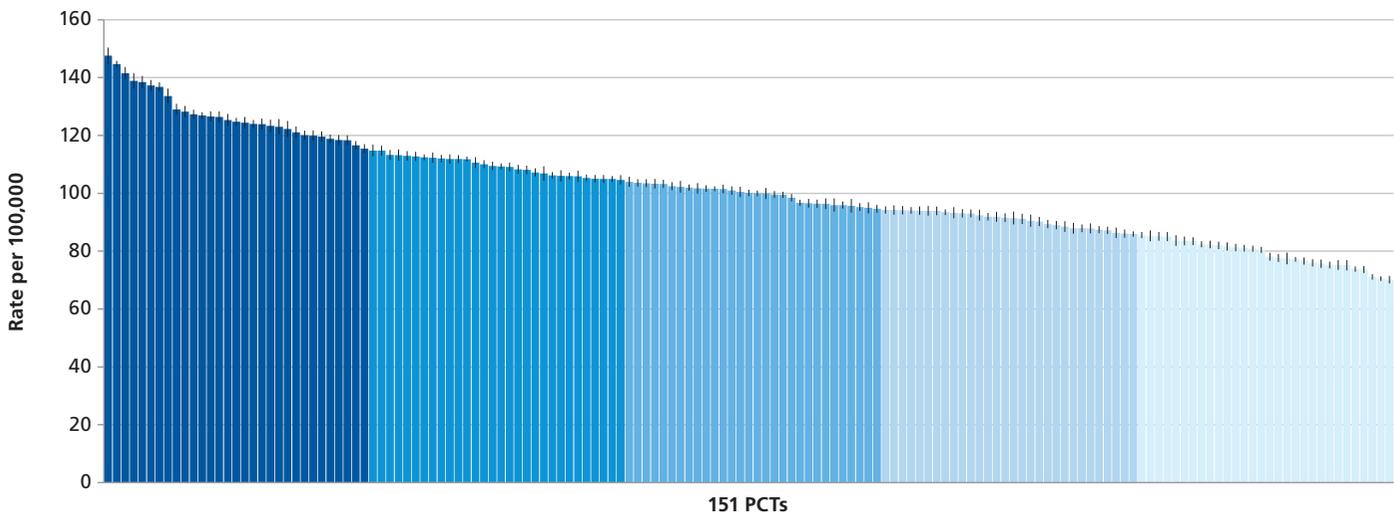
Map 63: Rate of conversion from accident and emergency (A&E) attendance to emergency admissions by PCT

Directly age-, sex- and deprivation-standardised rate 2010

Domain 3: Helping people to recover from episodes of ill health or injury



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Context

The majority of conversions of accident and emergency (A&E) attendances to admissions are medical; only a minority are related to major trauma.

The conversion of an A&E attendance to an admission has a considerable impact on the cost of care.

Magnitude of variation

For PCTs in England, the rate of conversion from A&E attendance to admissions per 100,000 population ranged from 70.1 to 147.6 (2.1-fold variation). When the five PCTs with the highest rates and the five PCTs with the lowest rates are excluded, the range is 75.1–137.3 per 100,000 population, and the variation is 1.8-fold.

Although the degree of variation for this indicator is less than that seen for A&E attendances (see Map 62), the cost of conversion to admission is much greater than that for A&E attendance. Thus, the financial implications of variation in this indicator are of greater concern, but offer an opportunity for maximising value for patients and local populations by improving the quality of care.

Reasons for variation include differences in:

- › Access to primary and community services for long-term conditions;
- › Service models for urgent and emergency care, and, in particular, the availability of ambulatory emergency care;
- › Disease case-mix in different populations.

Although there are differences in case-mix, variation is still observed across the country in conversions for the same condition in the same age-group. This would indicate that there is some unwarranted variation in the conversion of A&E attendances to admissions.

Another reason for unwarranted variation could be differences in access to good-quality primary and community care for long-term conditions at the time of need, which means that for some patients their condition declines to the point that a hospital stay is required.

Once a patient's condition requires an emergency response, the availability of ambulatory emergency care services, in which the patient can be treated without the need for admission to hospital, can have a considerable impact on variation (see Map 64).

Options for action

Commissioners and providers need to review the case-mix seen at A&E, and the conversion of A&E attendance to admissions, and ascertain the reasons for the rate observed locally. For instance:

- › conversion rates could appear to be high if A&E departments deal with only major cases, and minor injuries are dealt with in community hospitals;
- › conversion rates could appear to be low if minor injuries are dealt with at A&E.

A key element in the review is to investigate short-stay admissions, and assess whether people are being admitted for assessment rather than being assessed then admitted, although advances in medical practice have led to some reductions in length of stay.

Commissioners and providers should consider:

- › The ways in which unplanned admissions to hospital can be reduced [see table on page 33 of Ham (2006) under "Resources" for a summary of evidence about interventions to reduce unplanned admissions and length of stay];
- › The role ambulatory emergency care can play in treating patients effectively without the need for hospital admission (see Map 64).

RESOURCES

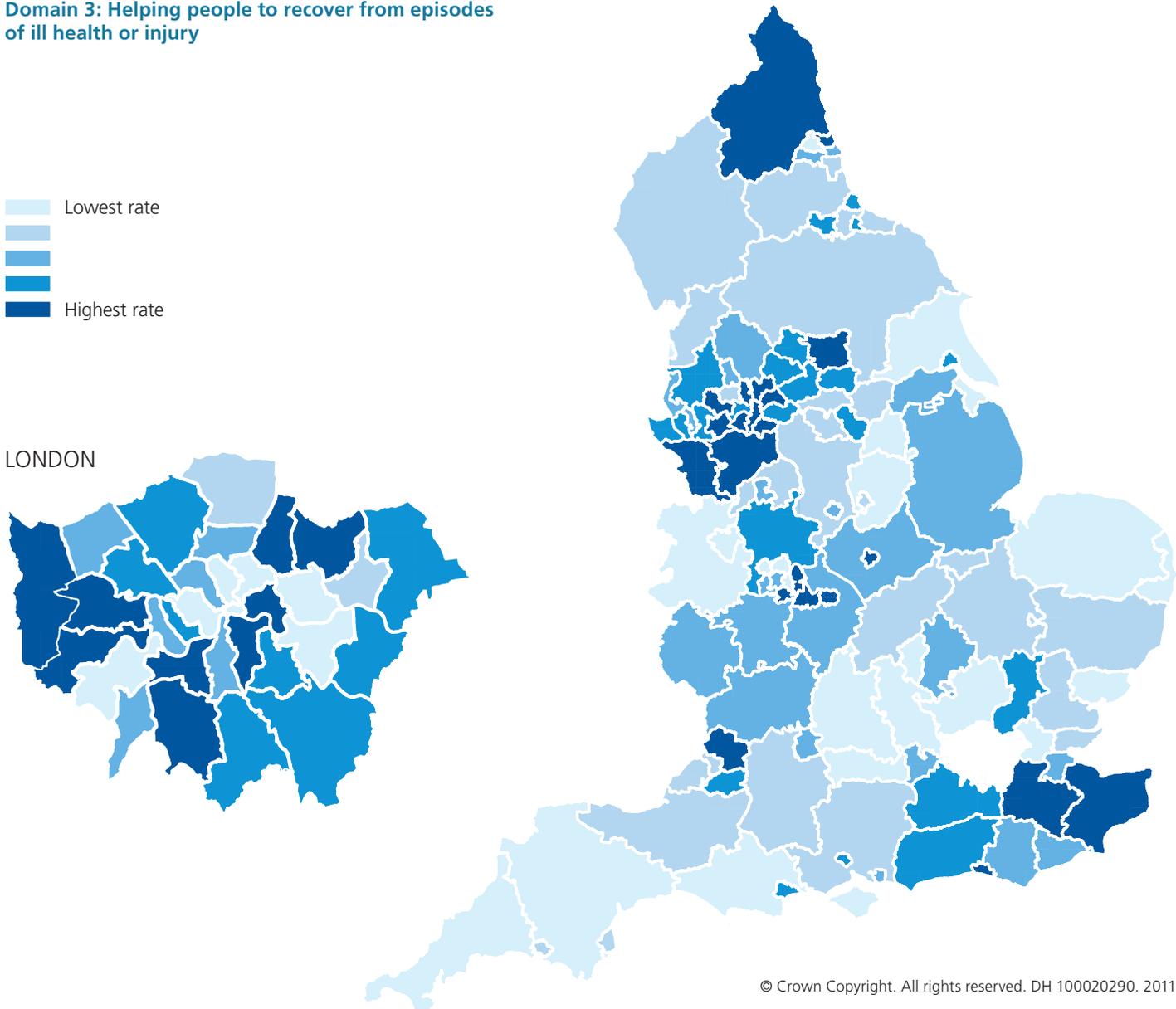
- › Ham C (2006) Reducing unplanned hospital admissions. HSMC, University of Birmingham.
<http://www.birmingham.ac.uk/Documents/college-social-sciences/social-policy/HSMC/publications/2006/Reducing-unplanned-hospital-admissions.pdf>
- › The College of Emergency Medicine.
<http://www.collemergencymed.ac.uk/>

EMERGENCY CARE

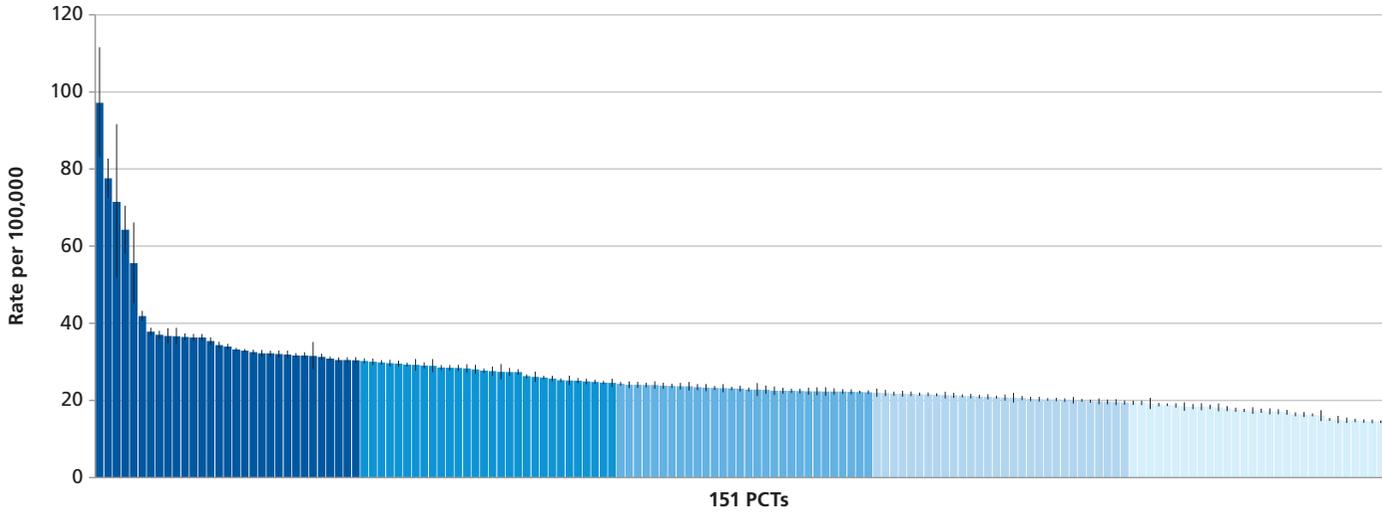
Map 64: Rate of admissions with emergency ambulatory care conditions (EACCs) per population by PCT

Directly age-, sex- and deprivation-standardised rate 2010

Domain 3: Helping people to recover from episodes of ill health or injury



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Context

Admissions to hospital beds can be reduced by introducing ambulatory emergency care models, which avoid unnecessary overnight stays for emergency patients. This change in medical practice, with a shift towards treating people outside the acute hospital setting, has occurred for several reasons:

- › Improving patient outcomes;
- › Patient preference not to be hospitalised;
- › Reduced healthcare costs.

The NHS Institute has compiled a Directory of 49 emergency conditions and clinical scenarios that have the potential to be managed on an ambulatory basis (see “Resources”). Furthermore, the NHS Institute has estimated that reducing variation in the rates of admission with EACCs in England could save £170–£250 million.¹

The King’s Fund has made managing ambulatory care-sensitive conditions one of its 10 priorities for commissioners to transform the healthcare system (see “Resources”).

Magnitude of variation

For PCTs in England, the rate of admissions with EACCs per 100,000 population ranged from 14.5 to 97.2 (7-fold variation). When the five PCTs with the highest rates and the five PCTs with the lowest rates are excluded, the range is 15.0–41.9 per 100,000 population, and the variation is 2.8-fold.

Reasons for variation include differences in:

- › The number of admissions to hospital that are necessary;
- › Co-morbidities patients may have;
- › The social circumstances of some patients – can they cope with the condition at home or do they need to be cared for in hospital?

Possible reasons for unwarranted variation include:

- › The organisation of local services, including the availability of community services and facilities;

- › The capacity and level of expertise among healthcare personnel in the local community, such as nurses able to administer intravenous drugs;
- › The level of collaborative working among accident and emergency departments, ambulance services, primary care, and different secondary care specialities;
- › Access, including rapid access, to diagnostic services.

Options for action

Commissioners and providers need to work together to:

- › Review the range of chronic conditions for which active disease management can be used to prevent acute exacerbations and reduce the need for emergency hospital admissions in the local population, e.g. diabetes (see Maps 6, 7 and 9), epilepsy (see Map 20), chronic obstructive pulmonary disease (COPD; see Map 36) and asthma (see Maps 38 and 39), taking into account local capacity;
- › Develop care pathways for relevant EACCs;
- › Learn from the work of other services.

A best practice tariff for Ambulatory Care is starting in 2012. Commissioners and providers could take this opportunity to negotiate appropriate tariffs for EACCs, and ensure there is not a perverse financial incentive to admit patients.

RESOURCES

- › NHS Institute for Improvement and Innovation. Ambulatory emergency care – manage your emergencies as day cases, including the Emergency Care Innovation Delivery Network (which will run for 12 months), The Directory of Ambulatory Emergency Care for Adults (2007), Increasing Day Case Rates for Emergency Care (dataset of Q1 and Q2 2010 data), and How to Implement Ambulatory Emergency Care (2010). https://www.institute.nhs.uk/index.php?option=com_content&task=view&id=1530&Itemid=4009
- › The King’s Fund. Managing ambulatory care sensitive conditions, including a link to a risk stratification tool that uses inpatient data to identify patients at risk of re-hospitalisation within 1 year. http://www.kingsfund.org.uk/current_projects/gp_commissioning/ten_priorities_for_commissioners/acs_conditions.html

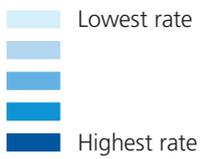
¹ <http://www.productivity.nhs.uk/Indicator/608/For/National/And/25th/Percentile>

CARE OF OLDER PEOPLE

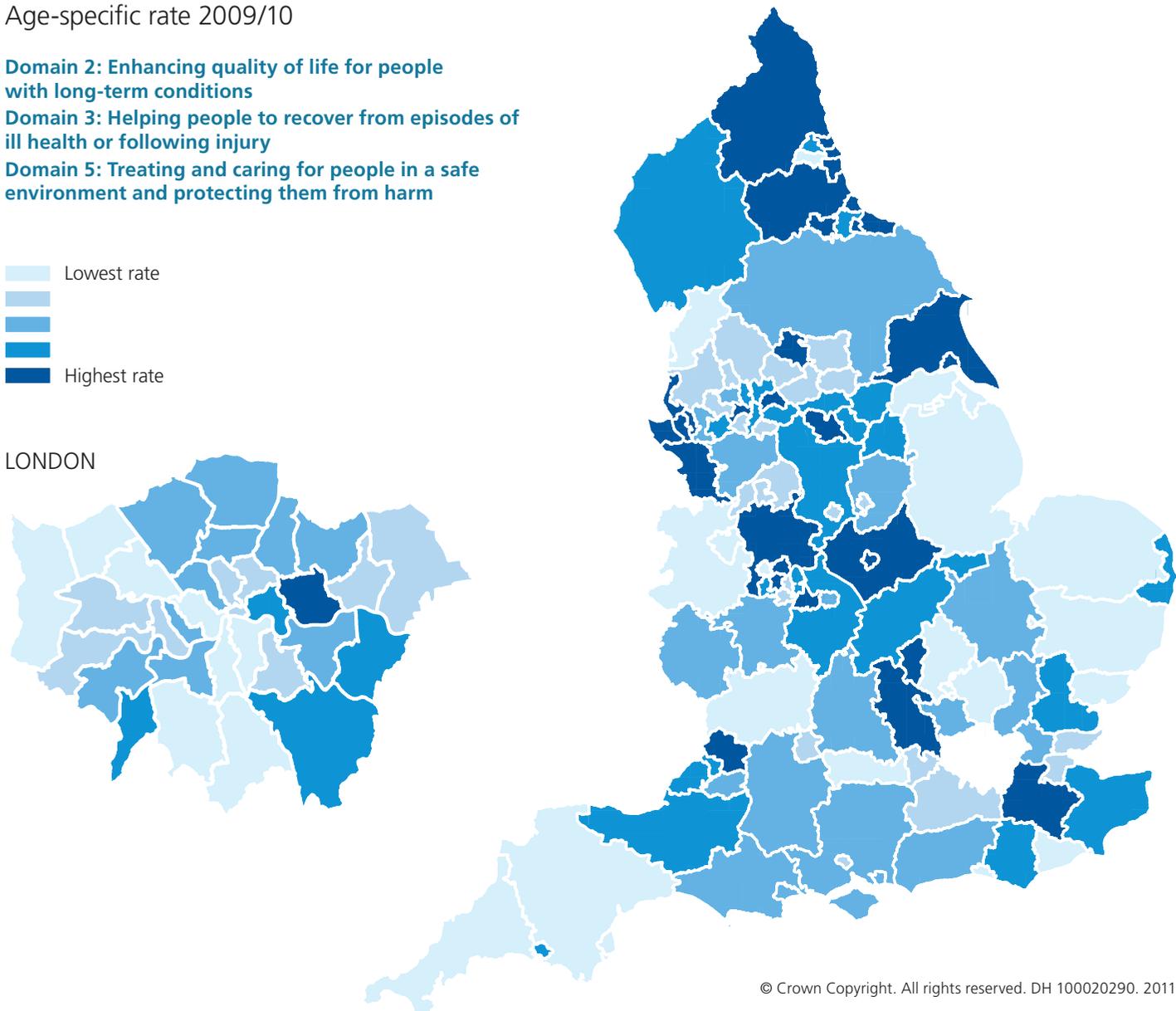
Map 65: Admission rate for people aged >74 years from nursing home or residential care home settings per population by PCT

Age-specific rate 2009/10

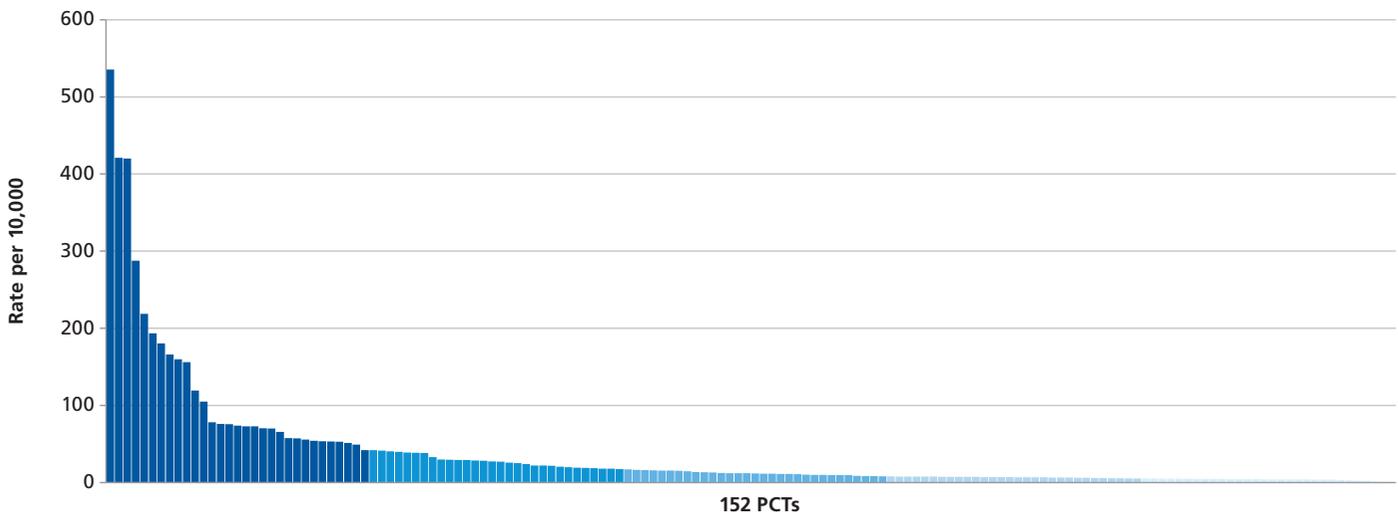
- Domain 2: Enhancing quality of life for people with long-term conditions
- Domain 3: Helping people to recover from episodes of ill health or following injury
- Domain 5: Treating and caring for people in a safe environment and protecting them from harm



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Context

There are about 380,000 people living in nursing or residential care homes in England, who are increasingly old and vulnerable with multiple medical co-morbidities and receiving several medications.

Access to healthcare – GPs, pharmacists, and hospital specialists and therapies – is more variable for older people in some long-term care settings than for older people living in their own homes.

People in nursing or residential care homes can frequently be admitted to hospital for one of several reasons:

- › End-of-life care, although with advanced care planning and support many older people could receive dignified end-of-life care in the long-term care setting;
- › Acute medical illness, particularly out of hours when the person's usual medical practitioner is not on call;
- › Complications of medication use;
- › Accidental falls – 1 in 5 hip fracture admissions are from the nursing or residential care home sector.

Hospital admission can be distressing and disorientating for older people, leading to deterioration. A greater level of pro-active and responsive healthcare planning can prevent hospital admission of older people from nursing or residential care homes.

Magnitude of variation

For PCTs in England, the admission rate for people aged >74 years from nursing home or residential care home settings ranged from 0.7 to 535.4 per 10,000 population (767-fold variation). When the five PCTs with the highest rates and the five PCTs with the lowest rates are excluded, the range is 2.8–193.4 per 10,000 population, and the variation is 69-fold.

Reasons for this considerable variation, with very high admission rates in several locations, could be due to differences in the management of care for older people (e.g. greater concentration of local authority-funded care homes or greater use of care homes as temporary residential placements). In addition, it is highly likely there are differences in coding accuracy of the admission "source".

Possible reasons for unwarranted variation include differences in:

- › Access to health services for people in long-term care settings;

- › Quality of management of older people who are vulnerable with multiple medical co-morbidities;
- › Capacity and skills of staff working in longstay care.

Options for action

Commissioners and providers need to understand the scale of the problem locally, and explore options that would enable older people to remain in nursing or residential care homes rather than be admitted to hospital, including:

- › Pro-active medication reviews and medication adjustment;
- › Advanced care planning for end-of-life care, with access to community palliative care support;
- › Programmes to reduce falls and fractures, such as case management by nurse specialists and dedicated GP input, especially for high-risk residents;
- › Hospital-at-home teams, especially for administration of intravenous fluids and antibiotics.

RESOURCES

- › Quest for quality. British Geriatrics Society Joint Working Party Inquiry into the Quality of Healthcare Support for Older People in Care Homes 2011. http://www.bgs.org.uk/campaigns/carehomes/quest_quality_care_homes.pdf
- › Care and compassion. Report of the Health Service Ombudsman on ten investigations into NHS care of older people. http://www.ombudsman.org.uk/__data/assets/pdf_file/0016/7216/Care-and-Compassion-PHSO-0114web.pdf
- › Care Quality Commission Review. Meeting the health care needs of people in care homes. <http://www.cqc.org.uk/public/reports-surveys-and-reviews/reviews-and-studies/meeting-health-care-needs-people-care-homes>
- › Barber ND et al (2009) Care homes' use of medicines study: prevalence, causes and potential harm of medication errors in care homes for older people. *Qual Saf Health Care* 18: 341-6.
- › The Health Foundation (2011) Learning report: Making care safer. Improving medication safety for people in care homes: thoughts and experiences from carers and relatives. <http://www.health.org.uk/public/cms/75/76/313/2568/Making%20care%20safer%20learning%20report.pdf?realName=EyZfIQ.pdf>
- › Department of Health (2009) Falls and fractures. Effective interventions in health and social care. http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/@pg/documents/digitalasset/dh_109122.pdf

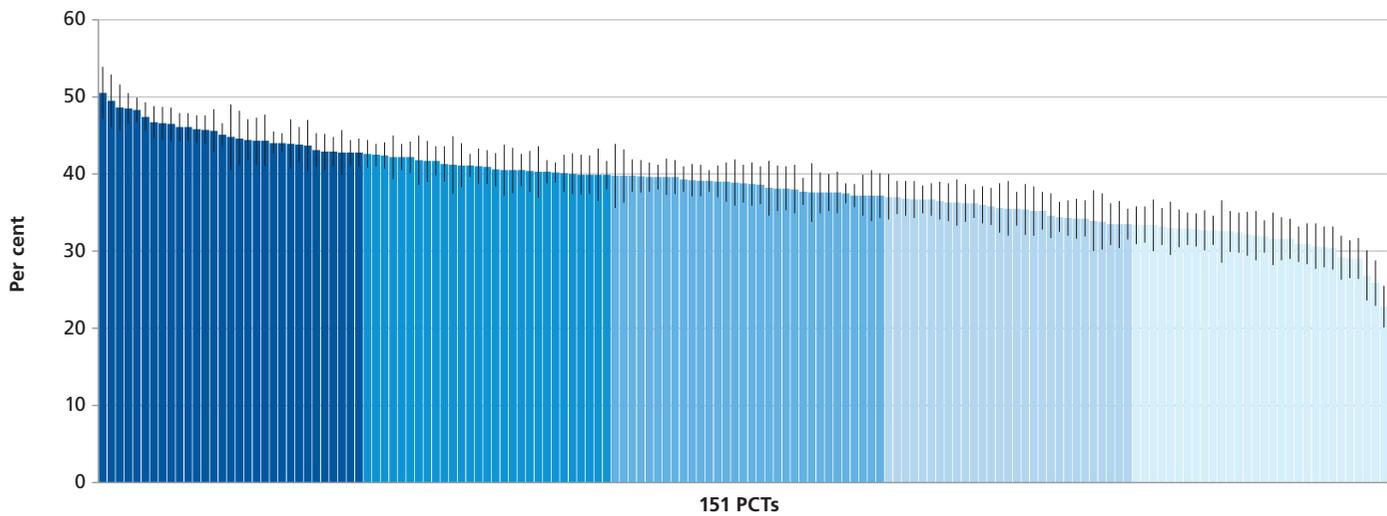
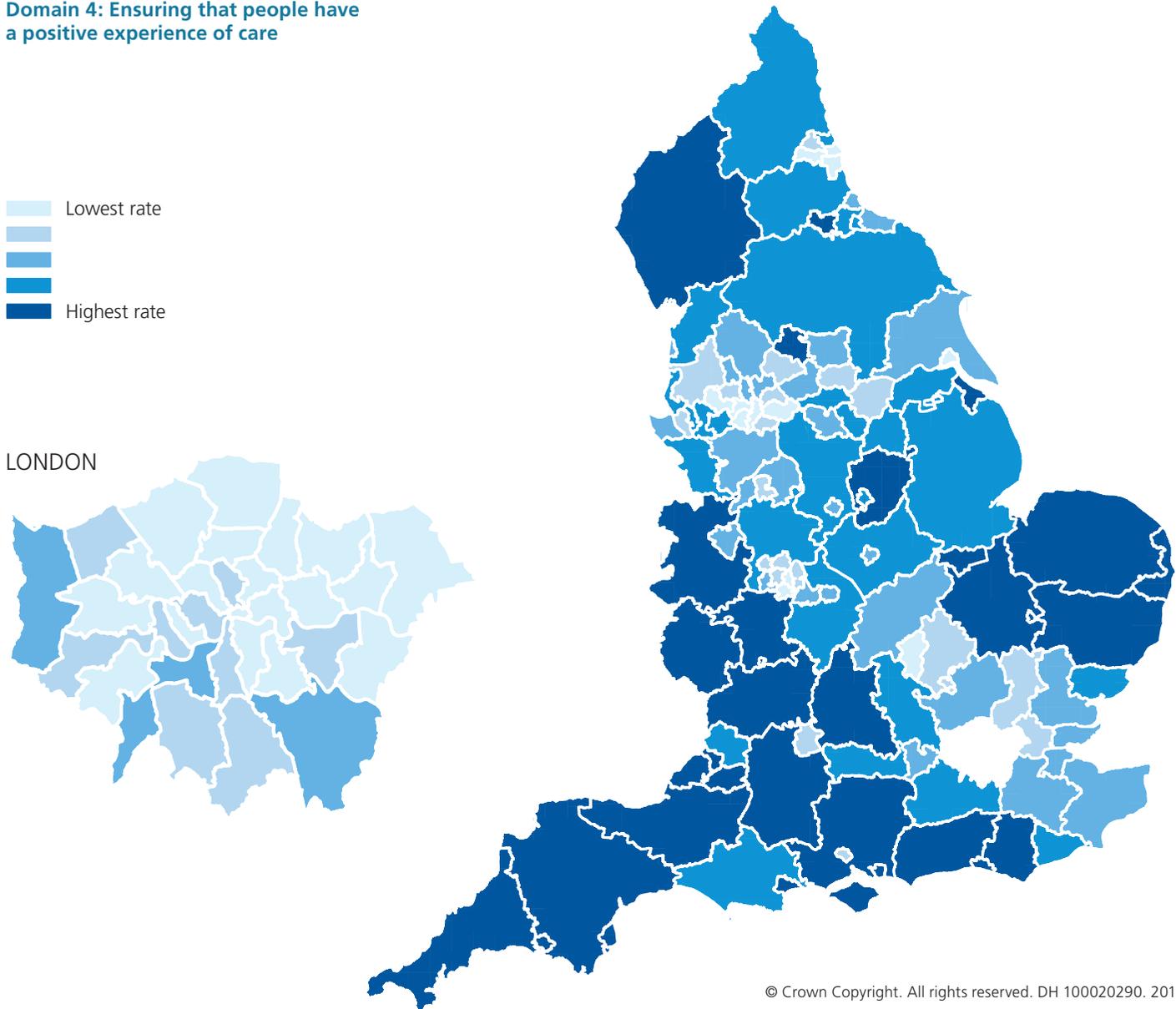
 **See what Right Care is doing on services for the frail elderly on page 31**

END-OF-LIFE CARE

Map 66: Percentage of all deaths at usual place of residence by PCT

2010

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



Context

Over 450,000 people die in England each year, 40% of whom die in their usual place of residence (defined as own home or care home). Several places qualify as “home”, not only a private house, but also a residential care or nursing home.

Almost two-thirds of deaths occur in people over 75 years. Elderly people are more likely to have multiple morbidities at death, but even very elderly people with multiple conditions can be helped to die at home.

Most deaths occur in hospital; most of the deaths at home are actively supported by the NHS or its providers. Social services plays a critical role in personal care. Voluntary organisations and hospices actively support many people and their families with respite and care, although less than 10% of deaths occur in hospices.

Magnitude of variation

For PCTs in England, the percentage of all deaths at usual place of residence ranged from 22.8% to 50.5% (2.2-fold variation). When the five PCTs with the highest percentages and the five PCTs with the lowest percentages are excluded, the range is 29.2–47.4%, and the variation is 1.6-fold.

In 2010, 40% of all deaths occurred in people’s usual place of residence, which although similar to the proportion in 2006–2008 (see Map 29, Atlas 1.0) the improvement of 2% represents almost 9000 people. However, in nearly two-thirds of PCTs, less than 40% of people die at their usual place of residence.

Possible reasons for variation include differences in the proportion of people over 75 years, but this does not explain the degree of variation observed. Likely factors are:

- › Proximity to a hospital;
- › Availability of 24-hour telephone and other community support;
- › Existence of a clear end-of-life care plan;
- › Professional and family understanding that a patient is in a palliative phase.

Options for action

Commissioners should consider:

- › Assertive identification and planning with people in the last year of life through active primary care registration and management;
- › Reviewing investment to ensure 24/7 resilience and response in community services to cover 1% of the population;
- › Information sharing and flagging (with consent) such that individual plans and status are visible to relevant agencies;
- › Working with social services to adopt and implement the fast-track continuing healthcare assessment process for all people identified as at end of life.

Providers, particularly GPs, should consider which people may be in or approaching the last year of life (support available from Dying Matters and the Gold Standard Framework; see “Resources”). A discussion needs to take place with each person to identify a preferred place of death, and to develop a plan to support the realisation of that preference, which should be made available to the GP, community services, ambulance services, accident and emergency and personal care, as relevant.

Current models of unplanned care are expensive. Emerging good practice suggests that effective community teams working with clearly identified patients who have a plan ensure better experiences for people at end of life, and their families, while reducing or not increasing cost to the local system.

RESOURCES

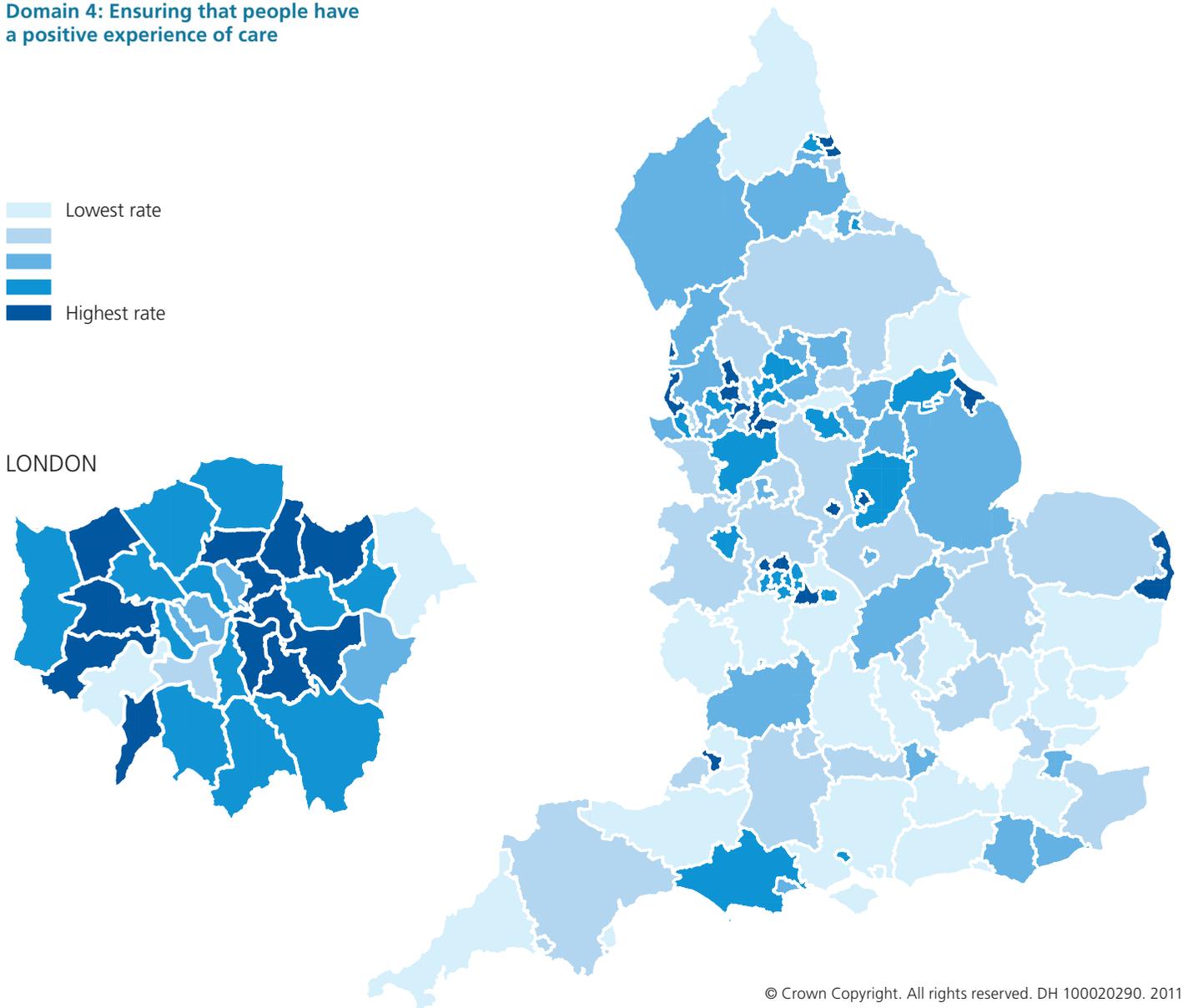
- › National End of Life Care Programme. <http://www.endoflifecareforadults.nhs.uk/>
- › Dying Matters. <http://www.dyingmatters.org/>
- › National End of Life Care Intelligence Network. <http://www.endoflifecare-intelligence.org.uk/home.aspx>
- › Gold Standards Framework. Enabling a gold standard of care for all people nearing the end of life. <http://www.goldstandardsframework.org.uk/>
- › Department of Health (2008) End of Life Care Strategy – promoting high quality care for all adults at the end of life. http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_086277
- › Electronic Palliative Care Coordinating System pilots. <http://www.endoflifecareforadults.nhs.uk/publications/localities-registers-report>

END-OF-LIFE CARE

Map 67: Percentage of all deaths that occur in hospital for children aged 0–17 years with life-limiting conditions by PCT

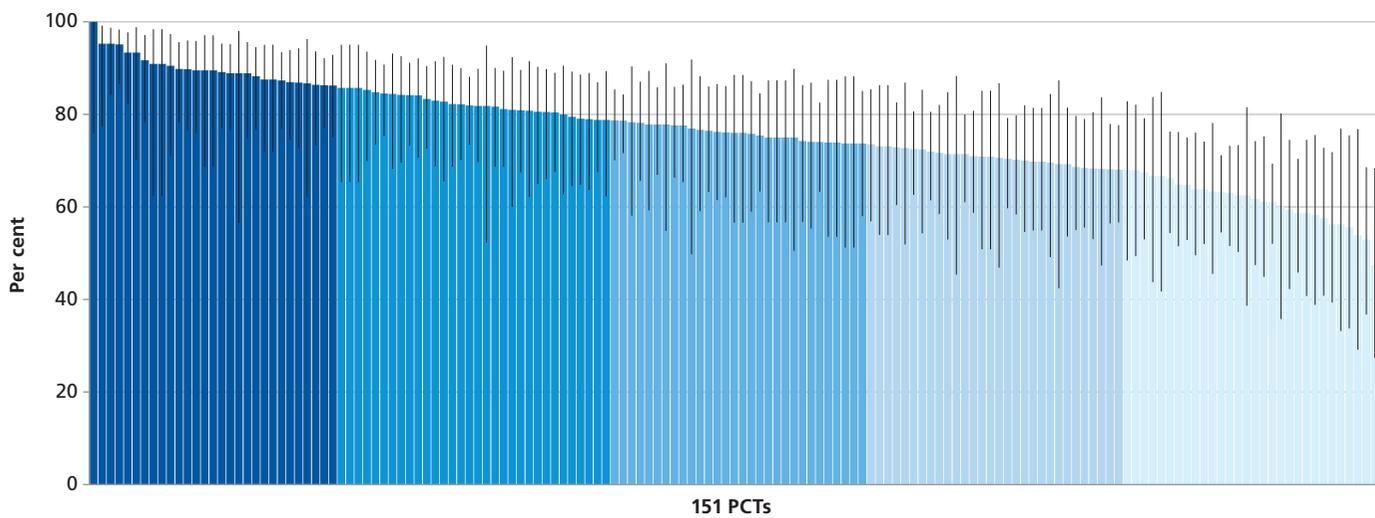
2005–2009

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



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Context

Life-limiting conditions are those in which no reasonable hope of cure exists and from which children or young people will die prematurely. Most children with life-limiting conditions and their families express a preference for death to take place at home. However, even when that is medically possible, lack of community support can prevent this preference being realised.

This indicator is one of many showing the quality of palliative care services. Palliative care is not simply about “end of life” care. It is an active process that encompasses physical, emotional and social support to maximise quality of life for children from the moment of diagnosis to providing support for families during the bereavement process.

Magnitude of variation

For PCTs in England, the percentage of all deaths that occur in hospital for children aged 0–17 years with life-limiting conditions ranges from 47.4% to 100% (2.1-fold variation). When the five PCTs with the highest percentages and the five PCTs with the lowest percentages are excluded, the range is 56.3–93.3%, and the variation is 1.7-fold.

The corollary is that after exclusions the percentage of children dying out of hospital (at home or in a hospice) ranges from 6.7% to 43.7%, a variation of 6.5-fold.

The relatively high percentage of children dying in hospital may reflect the nature of service provision and level of support available to families outside hospital.

Options for action

Commissioners and clinicians should consider the proportion of children dying in local hospitals and investigate whether this reflects family choice. The care team should work with the family to clarify the family's wishes for end-of-life care, in terms of the type of care and place of care. Families should be provided with the support and resources they need to enable their child to die in the place of their choice.

Commissioners should review other indicators relating to the quality of palliative care provided for families and children with life-limiting conditions, such as:

- › the number of children who have an end-of-life plan;
- › whether choice in place of death is offered to the child's family;
- › whether there are adequate resources to provide care and support 24 hours a day 7 days a week within the child's home or other preferred place of death, such as a children's hospice.

Commissioners should ascertain whether the workforce have the skills, knowledge and expertise to support children at end of life together with their families (see “Resources”).

The availability of efficient and effective end-of-life care to children and young people depends on strong clinical leadership, with local networks of service providers working together to make 24-hour palliative care a reality.

RESOURCES

- › Department of Health guidance “Better Care: Better Lives – Improving outcomes and experiences for children, young people and their families living with life-limiting and life-threatening conditions” (2008) provides a framework for the level of service that commissioners and clinicians should be delivering for children's palliative care. http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_083106.
- › ACT provides a range of information and resources for professionals, children and families. <http://www.act.org.uk>
- › Skills for health has identified the workforce functions mapped to the specific National Occupational Standards required to care for children with life-limiting and life-threatening conditions. <http://www.skillsforhealth.org.uk/about-us/news/caring-for-children-with-life%11limiting-and-life%11threatening-conditions/>

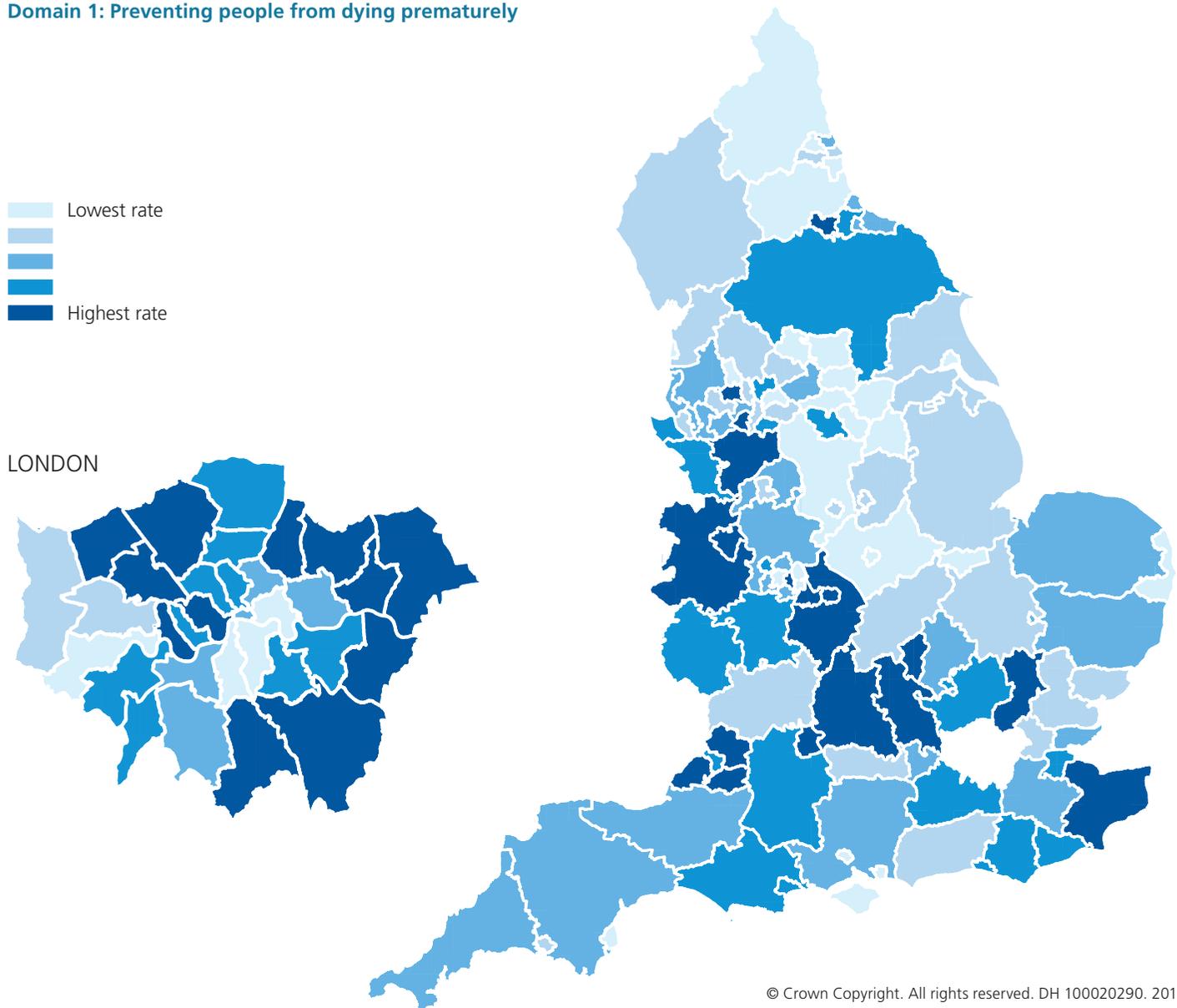
This indicator is from the Child Health Themed Atlas

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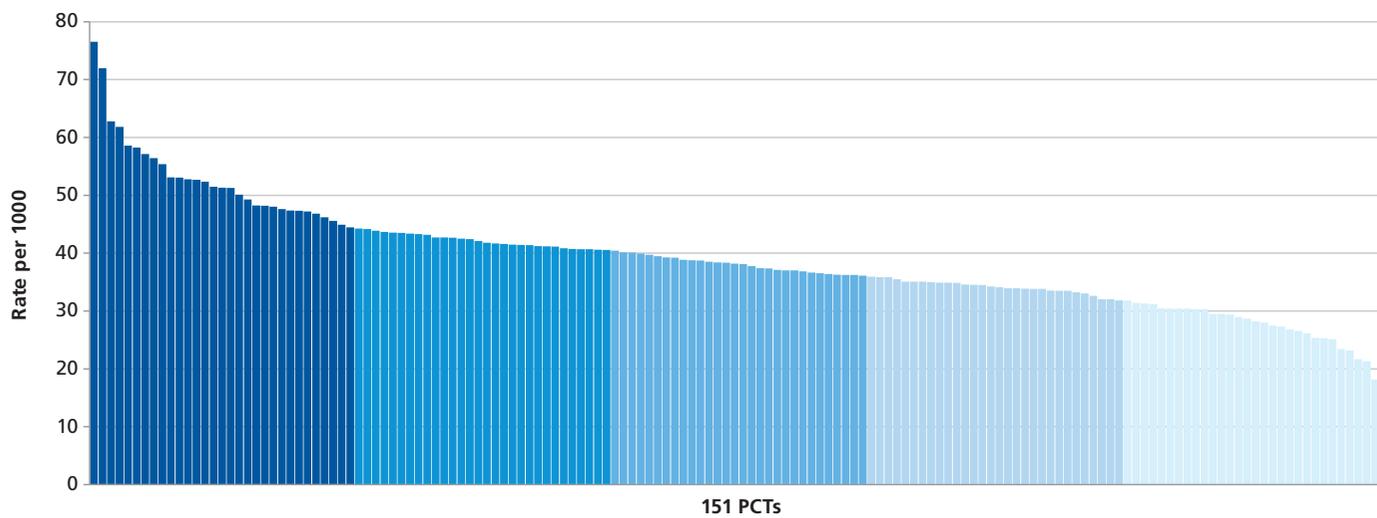
Map 68: Rate of magnetic resonance imaging (MRI) activity per weighted population by PCT

2010/11

Domain 1: Preventing people from dying prematurely



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Context

Magnetic resonance imaging (MRI) is similar to a CT scan, but it does not use X-rays. Instead, MRI uses magnetism and radio waves to build up a series of cross-sectional images. As MRI pictures can be very precise, they can often provide as much information as looking at the tissues directly, which is why MRI has the potential to reduce the number of diagnostic procedures that need to be performed. The cost of MRI equipment means that it is used primarily at centres where it is kept most busy.¹

Magnitude of variation

For PCTs in England, the rate of MRI activity per 1000 weighted population ranged from 18.1 to 76.5 (4.2-fold variation). When the five PCTs with the highest rates and the five PCTs with the lowest rates are excluded, the range is 25.1–58.3 per 1000 population, and the variation is 2.3-fold.

In 2009/10, the variation was fourfold (see Map 31, Atlas 1.0), and after exclusions it was slightly greater than twofold. The degree of variation among PCTs in the rate of MRI activity per 1000 population has persisted.

Although some of this variation can be attributed to the availability of both equipment and workforce, much of the variation could be due to local clinical practices that have evolved over time, which may need re-assessing.

There is concern about the increasing use of MRI because of incidental findings, that is, findings unrelated to the original reason for undertaking MRI. Incidental findings can lead to unnecessary investigation and anxiety. In one systematic review and meta-analysis, the authors conclude that:

“Incidental findings on brain MRI are common, prevalence increases with age, and detection is more likely using high-resolution MRI sequences than standard resolution sequences. These findings deserve to be mentioned when obtaining informed consent for brain MRI in research and clinical practice.”²

Options for action

Commissioners and providers should collaborate to review rates of MRI activity in the local area to identify whether there is any unwarranted variation.

To address unwarranted variation, commissioners and providers need to work together to apply evidence-based practice at a local level, including:

- › Using evidence-based patient pathways for diagnostics;
- › Promoting research to understand the benefits and harms resulting from different rates of MRI investigation, and promoting audit to identify both under-use and over-use.

The Royal College of Radiologists plays a leading role in the education of all clinicians. Providers need to ensure that education and skills development are available to the relevant clinicians.

RESOURCES

- › Guidelines for diagnostic imaging have been produced for commissioners (NB: at the time of writing, contents were under review): <http://www.improvement.nhs.uk/CommissioningAWorldClassImagingService/tabid/65/Default.aspx>
- › Royal College of Radiologists produces referral guidelines (MBUR6) entitled “Making best use of clinical radiology services” (6th edition, 2007; 7th edition due for publication December 2011), which should be used to apply evidence-based practice and resolve any unwarranted variation in imaging activity. <http://www.rcr.ac.uk/content.aspx?PageID=995>

 **See what Right Care is doing on Imaging Services on page 32**

1 The Royal College of Radiologists. FAQs in radiology. <http://www.rcr.ac.uk/content.aspx?PageID=504>

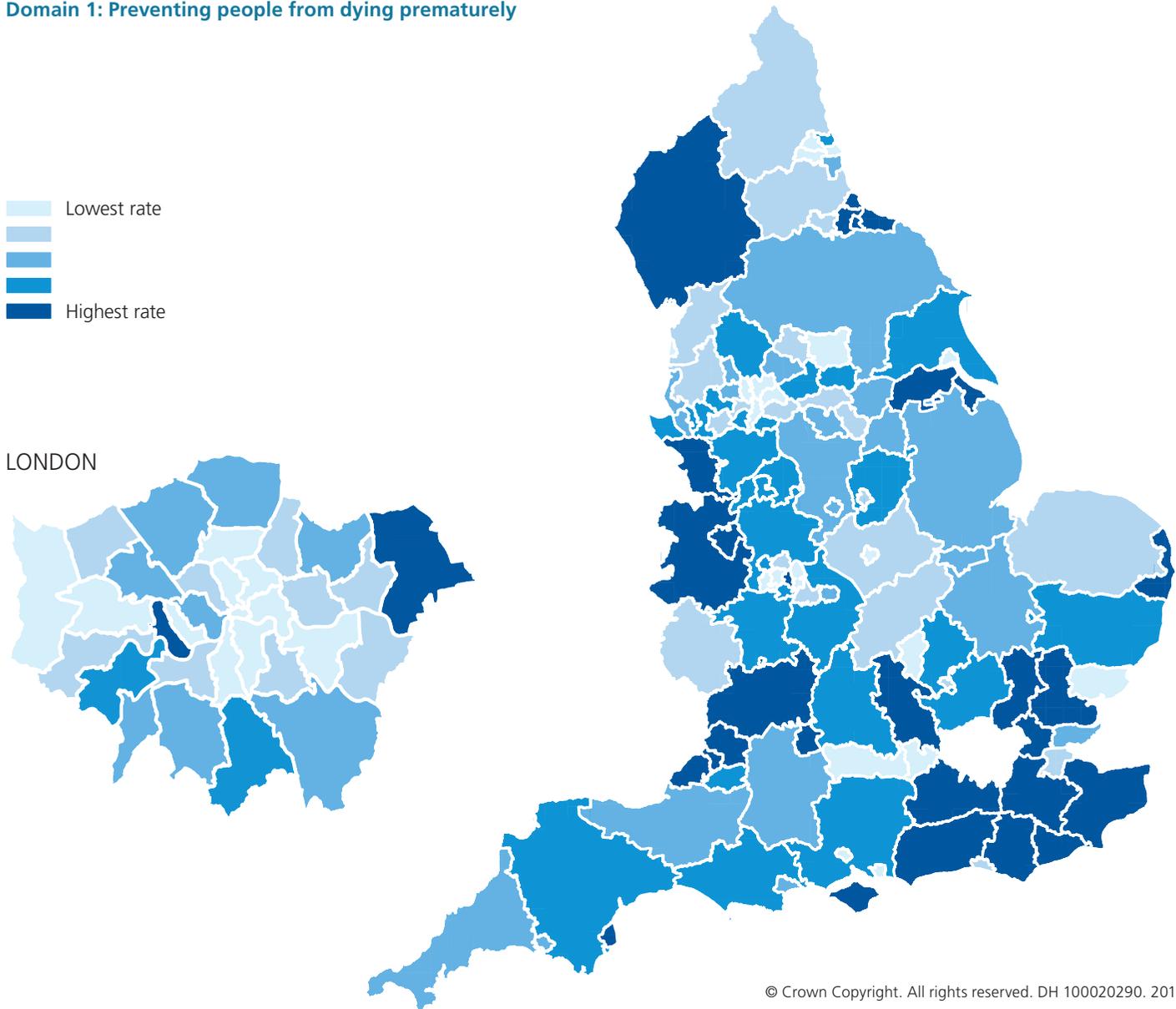
2 Morris Z, Whiteley WN, Longstreth WT Jr et al (2009) Incidental findings on brain magnetic resonance imaging: systematic review and meta-analysis. *BMJ* 339:doi:10.1136/bmj.b3016 (Published 17 August 2009).

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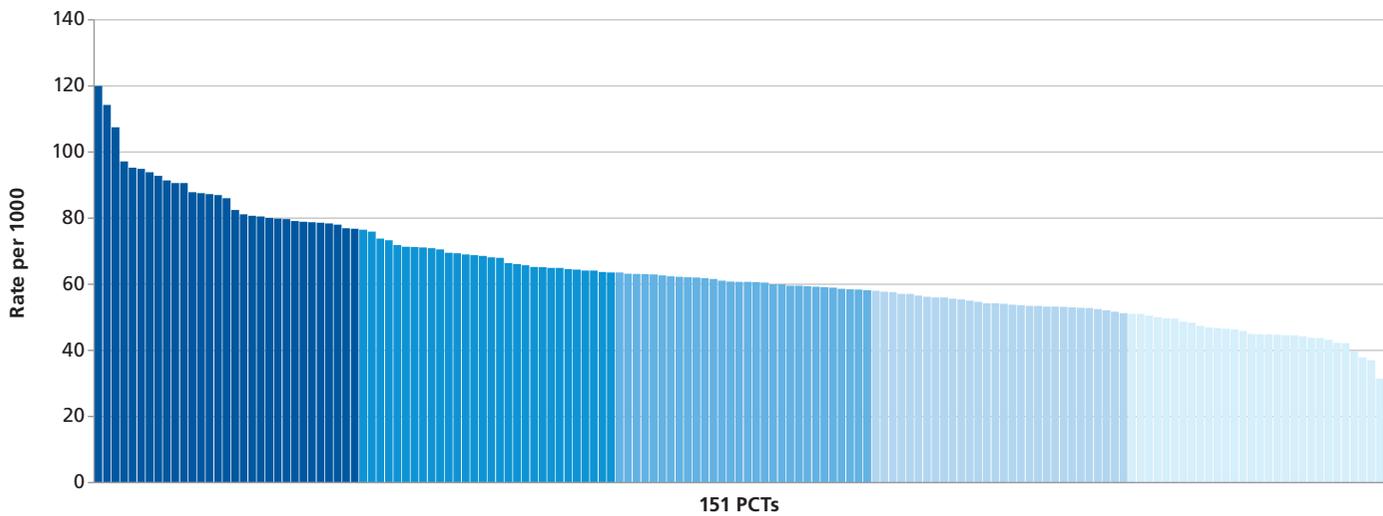
Map 69: Rate of computed axial tomography (CT) activity per weighted population by PCT

2010/11

Domain 1: Preventing people from dying prematurely



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Context

Computed axial tomography (a CAT or CT scan) is an X-ray technique using a scanner that takes a series of pictures across the body allowing a radiologist to view the images in a two- or three-dimensional form.¹

It complements and supplements information obtained from MRI (see Map 68), and other imaging modalities such as ultrasound.

Magnitude of variation

For PCTs in England, the rate of CT activity per 1000 weighted population ranged from 31.4 to 120.0 (3.8-fold variation). When the five PCTs with the highest rates and the five PCTs with the lowest rates are excluded, the range is 42.2–94.9 per 1000 population, and the variation is 2.2-fold.

In 2009/10, the variation was threefold (see Map 32, Atlas 1.0), and after exclusions it was greater than twofold. This would seem to indicate that the spread has increased but the degree of variation has persisted once outlying PCTs have been excluded.

Although some of this variation can be attributed to the availability of both equipment and workforce, much of the variation could be due to local clinical practices that have evolved over time, which may need re-assessing.

From the patient's perspective, it is important to reduce any unwarranted variation, especially in CT activity, because unlike MRI this intervention carries a heavy radiation burden, which is to be avoided whenever possible because of the potential harm it could inflict.

The over-use of CT in the United States of America is now a major public health concern, and articles published in the *New England Journal of Medicine* warn of the dangers:

*"our findings that in some patients worrisome radiation doses from imaging procedures can accumulate over time underscores the need to improve their use"*²

*"we have to adopt a public health mind set ... and talk explicitly about the elements of danger in exposing our patients to radiation".*³

Although this is less of an issue in England, partly due to the leadership of the Royal College of Radiologists, whole-body screening is being promoted by independent providers, which is of no benefit to the individuals concerned while increasing the level of radiation to which they are exposed, and generating referrals to the NHS.

Options for action

Commissioners and providers should collaborate to review rates of CT activity in the local area to identify whether there is any unwarranted variation.

To address unwarranted variation, commissioners and providers need to work together to apply evidence-based practice at a local level, including:

- Using evidence-based patient pathways for diagnostics;
- Promoting research to understand the benefits and harms resulting from different rates of CT investigation, and promoting audit to identify both under-use and over-use.

RESOURCES

- Guidelines for diagnostic imaging have been produced for commissioners (NB: at the time of writing, contents currently under review): <http://www.improvement.nhs.uk/CommissioningAWorldClassImagingService/tabid/65/Default.aspx>
- Royal College of Radiologists produces referral guidelines (MBUR6) entitled "Making best use of clinical radiology services" (6th edition, 2007; 7th edition due for publication December 2011), which should be used to apply evidence-based practice and resolve any unwarranted variation in imaging activity. <http://www.rcr.ac.uk/content.aspx?PageID=995>

 **See what Right Care is doing on Imaging Services on page 32**

1 The Royal College of Radiologists. FAQs in radiology. <http://www.rcr.ac.uk/content.aspx?PageID=504>

2 Fazel R et al. Exposure to low dose ionizing radiation from medical imaging procedures. *New England Journal of Medicine* 2009; 361:849-857.

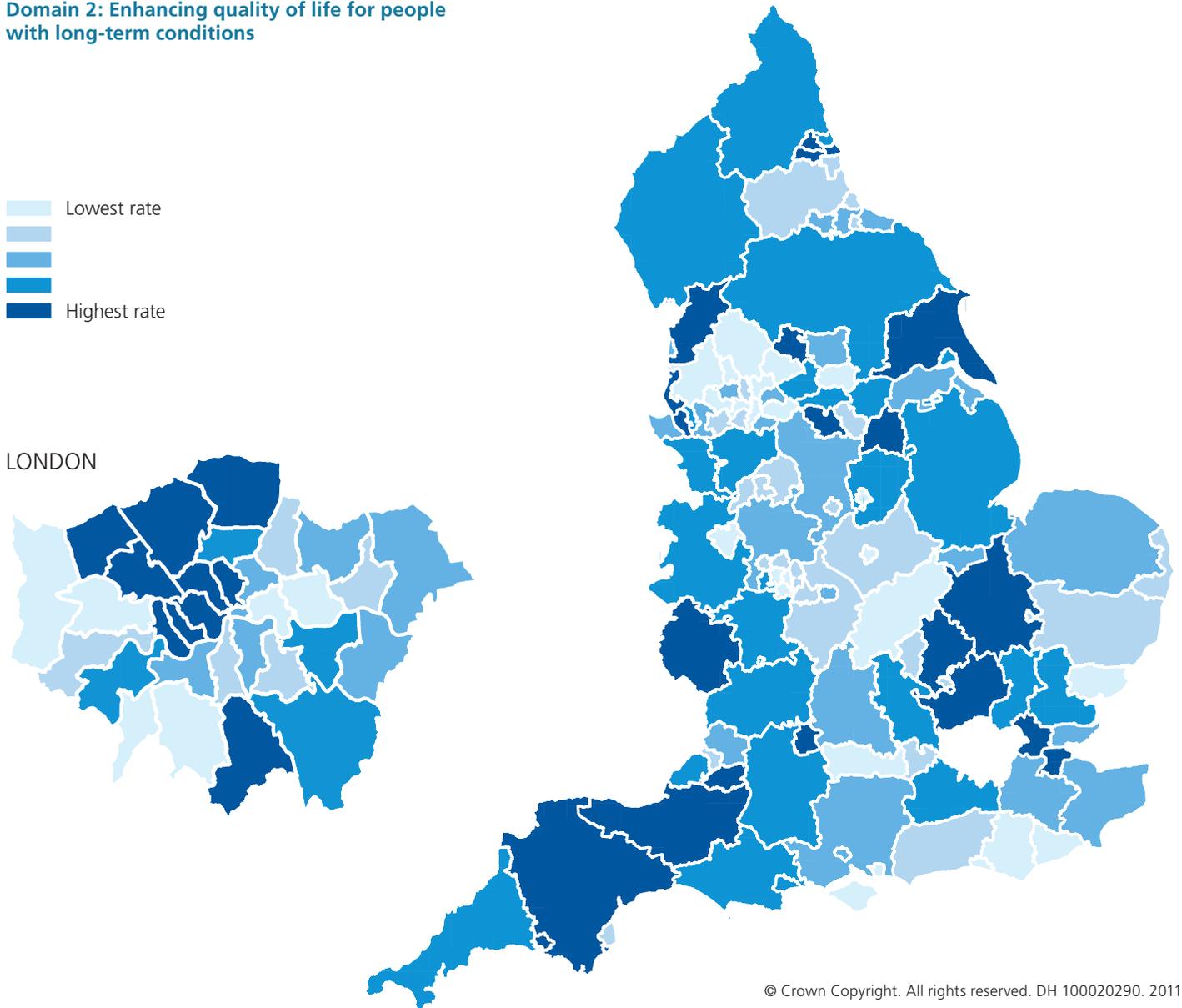
3 Lauer MS. Elements of danger – the case of medical imaging. *New England Journal of Medicine* 2009; 361:841-842.

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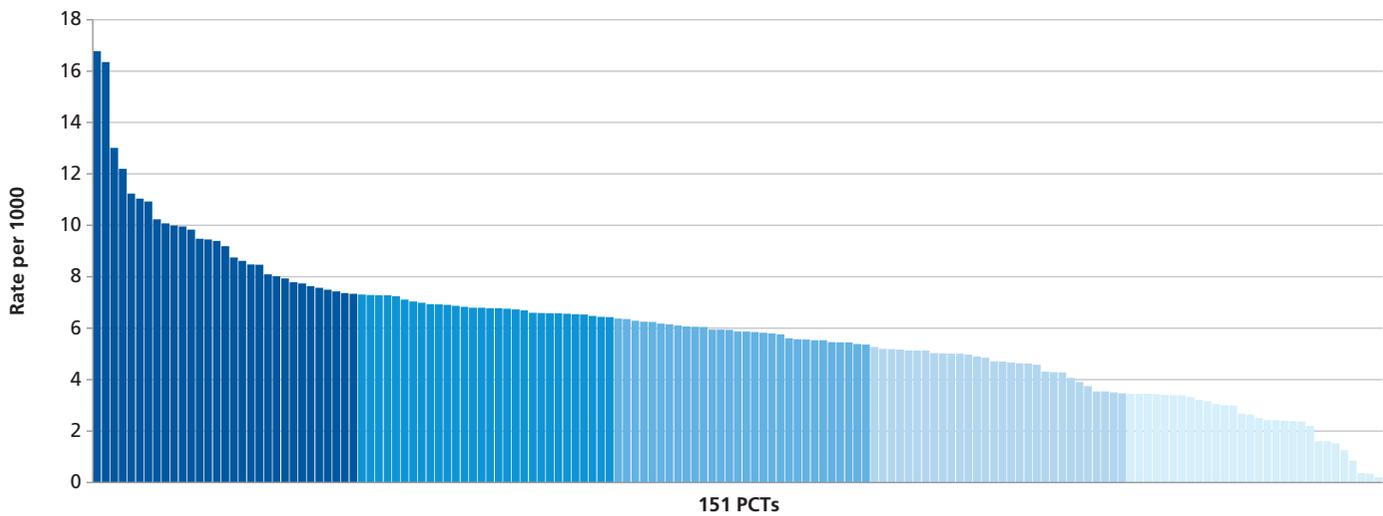
Map 70: Rate of dual-energy X-ray (DEXA) scan activity per population by PCT

2010/11

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



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Context

Dual-energy X-ray (DEXA) scans are a type of X-ray used to measure the amount of the mineral calcium in bones. It is one of several techniques known as bone densitometry that can be used to measure the density of bones.

When measuring low bone density, a DEXA scan is more sensitive than a normal X-ray. It is also safer in that it delivers a much lower dose of radiation, which is equivalent to less than one day's exposure to natural background radiation.

There are two types of DEXA scan:

- › Axial or central DEXA scan, in which a scanning arm passes over the body to measure bone density in the centre of the skeleton;
- › Peripheral DEXA (pDEXA) scan, in which a scanning arm or portable device measures bone density in peripheral parts of the body, such as the wrist or heel.

Measurements of bone density are used for several purposes:

- › In the diagnosis of osteoporosis;
- › To assess the risk of osteoporosis developing;
- › To monitor the effectiveness of treatment for conditions such as osteoporosis;
- › In the diagnosis of other bone disorders, such as osteopenia.

DEXA Scans can also be used to measure the relative amount of body fat and muscle. However, the most common use is in the measurement of bone density.

In addition to structural changes, osteoporosis involves a gradual loss of calcium from the bones which results in the bones becoming thinner, more fragile and more likely to break. Osteoporosis is most commonly seen in women following the menopause, although it can affect men. The risk of a fragility fracture is affected by age, weight, prior history, family history, smoking habit and excessive consumption of alcohol.

Magnitude of variation

For PCTs in England, the rate of DEXA scan activity ranged from 0.2 to 16.8 per 1000 population (83-fold variation). When the five PCTs with the highest rates

and the five PCTs with the lowest rates are excluded, the range is 1.5–11.0 per 1000 population, and the variation is sevenfold.

Possible reasons for variation include differences in:

- › The use of other tests to measure bone density;
- › Population composition in different areas – populations with a greater proportion of older people may have higher rates of activity;

However, it is unlikely that these reasons for warranted variation explain the degree of variation observed.

Possible reasons for unwarranted variation include differences in:

- › Availability of imaging services;
- › Development of integrated systems for fracture prevention.

Options for action

Commissioners and providers need to review the prevention of falls and fractures in local populations, including issues ranging from excessive prescribing to the prevention of fragility fractures. Commissioners and providers may find the Department of Health's Impact Assessment of fracture prevention interventions useful in this review.¹

RESOURCES

- › Guidelines for diagnostic imaging have been produced for commissioners (NB: at the time of writing, contents currently under review): <http://www.improvement.nhs.uk/CommissioningAWorldClassImagingService/tabid/65/Default.aspx>
- › Royal College of Radiologists produces referral guidelines (MBUR6) entitled "Making best use of clinical radiology services" (6th edition, 2007; 7th edition due for publication December 2011), which should be used to apply evidence-based practice and resolve any unwarranted variation in imaging activity. <http://www.rcr.ac.uk/content.aspx?PageID=995>

 **See what Right Care is doing on Imaging Services on page 32**

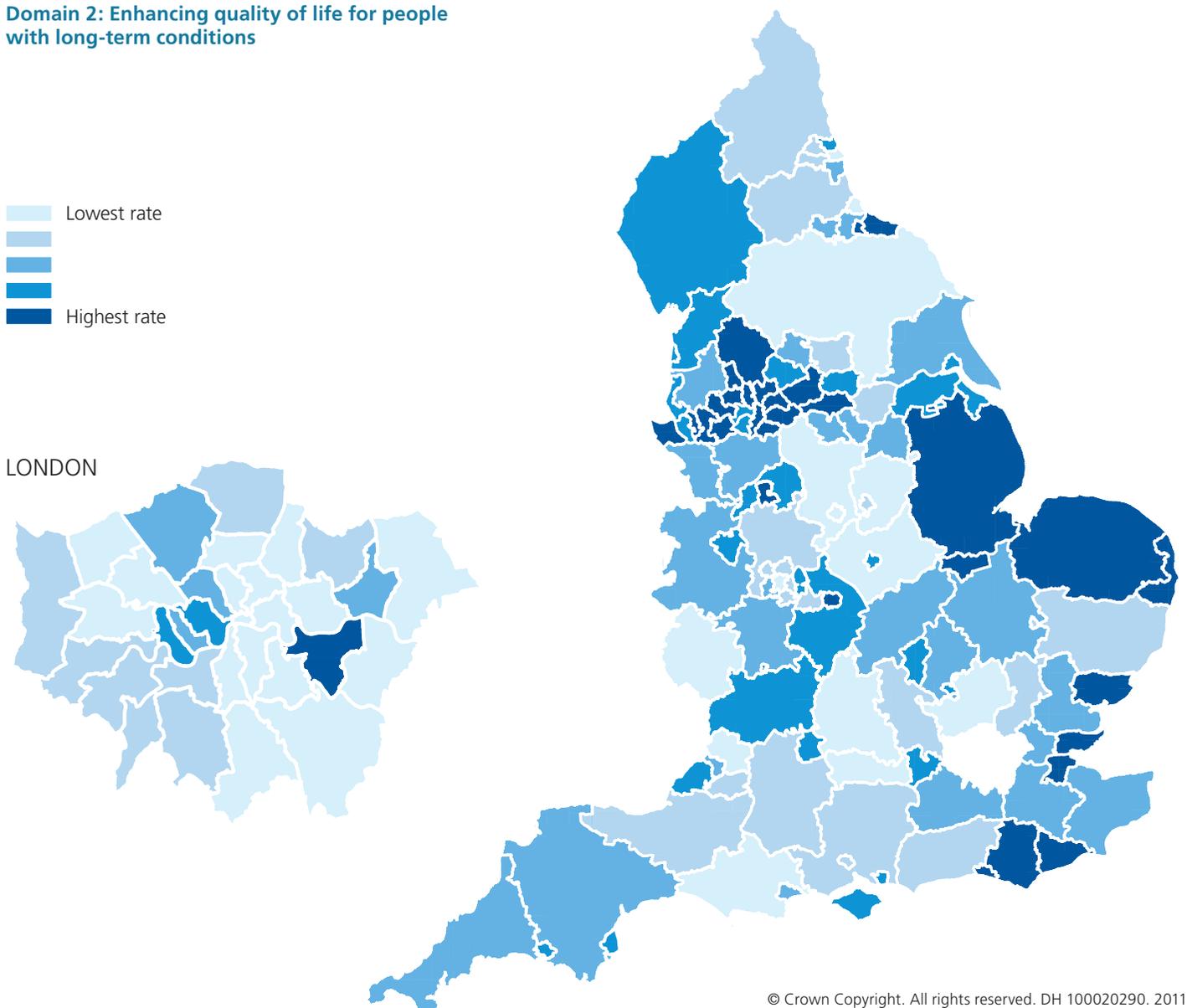
¹ Department of Health (2009) Impact Assessment of fracture prevention interventions. http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_106379.pdf

PRESCRIBING

Map 71: Hypnotics drug items prescribed per weighted population (STAR-PU) in primary care by PCT

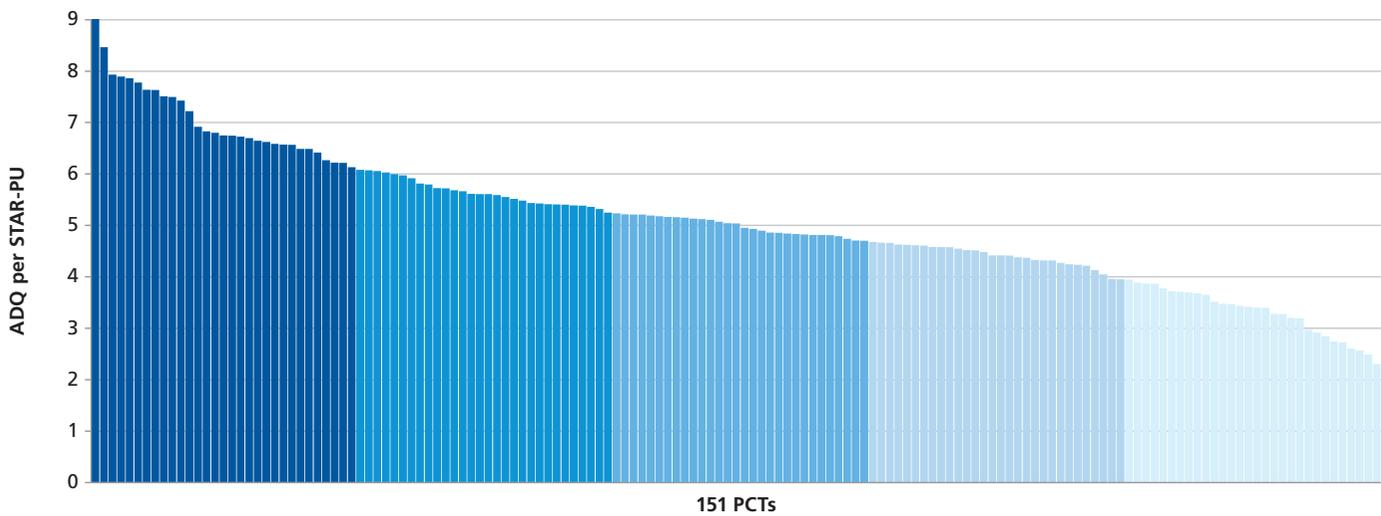
2009/10

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



LONDON

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Context

Hypnotics are medications that encourage sleep for people with insomnia, but they are recommended for short-term treatment (up to 4 weeks) only, and tend to be prescribed only after non-drug therapies, such as “sleep hygiene” and cognitive behavioural therapy (CBT), have been tried and failed. The drugs include benzodiazepines (Temazepam or Loprazolam) and the “Z medicines” (Zalepon, Zolpidem or Zopiclone; see “Resources” for NICE guidance).

There are several concerns about the use of hypnotics:

- As they tend to be prescribed for people with clinical insomnias, most of which are chronic, most hypnotics may be prescribed for periods longer than four weeks;
- People may become psychologically dependent on them;
- The drugs lose effectiveness over time.

Insomnia and sleep problems are treated primarily as psychological problems, although there is rarely a clear-cut criterion for diagnosing whether a person has an underlying psychological disorder. A person with sleep problems may present with tiredness or any one of a range of physical symptoms, but they will often ask for help with sleeping.

Except for people with sleep apnoea, there are very few specialist services to which people with sleep problems can be referred. GPs may not have the time or capacity to explore all the behavioural approaches with people who present at the surgery, and it is likely that many GPs do not know how their peers manage sleep disorders.

Data for the numerator of this indicator are expressed as average daily quantities (ADQ), a measure of prescribing volume based upon prescribing behaviour in England: it represents the assumed average maintenance dose per day for a drug used for its main indication in adults (it is an analytical unit and not a recommended dose).¹ The patient denominator is expressed as Specific Therapeutic group Age-sex weightings Related Prescribing Units (STAR-PU).²

Magnitude of variation

For PCTs in England, hypnotics drug items prescribed per weighted population in primary care ranged from 2.3 to 9.2 ADQ per STAR-PU (4-fold variation). When the five PCTs with the highest ADQ per STAR-PU and the five PCTs with the lowest ADQ per STAR-PU are excluded, the range is 2.7–7.8 ADQ per STAR-PU, and the variation is 2.8-fold.

As hypnotics are prescribed mainly for people presenting with sleep problems, this degree of variation probably represents widely differing approaches to managing this common problem.

Options for action

More research is needed into the management of sleep disorders using non-drug therapies.

Tools that would be helpful in primary care include:

- A care pathway on sleep disorders;
- Decision support software for people presenting with sleep disorders, including a warning of the risk of becoming dependent on hypnotics;
- Capacity to deliver cognitive and behavioural support for people with sleep disorders over the Internet;
- Public information and education about good “sleep hygiene”.

In the mean time, commissioners and GPs could collaborate to review the prescribing of hypnotics to ascertain whether:

- It is in accordance with guidance (see “Resources”), and that non-drug therapy options are explored first in the management of sleep disorders;
- It matches need and prevalence of clinical insomnia in the local population.

RESOURCES

- NICE Guidance TA77. Insomnia – newer hypnotic drugs. Zalepon, zolpidem and zopiclone for the management of insomnia. <http://guidance.nice.org.uk/TA77>
- Royal College of Psychiatrists. Information for patients. <http://www.rcpsych.ac.uk/mentalhealthinformation/mentalhealthproblems/sleepproblems.aspx>

1 <http://www.ic.nhs.uk/services/prescribing-support-unit-psu/using-the-service/reference/measures/volume-measures/average-daily-quantities-adq>

2 <http://www.ic.nhs.uk/services/prescribing-support-unit-psu/using-the-service/reference/measures/patient-denominators/star-pus>

