



Neurology Outpatient Analysis

National Neurology Intelligence Network data briefing

Introduction

Neurology outpatient services should provide accurate and timely diagnoses of neurological symptoms and enable the management of the long term care of people with illnesses that range in severity from migraine to motor neuron disease.

This data briefing, produced by the Neurology Intelligence Network (NIN), is the first analysis of the number and location of neurology outpatient appointments in England. The aim is to inform the planning and commissioning of future services.

This briefing draws on national data^A to:

- provide an insight into neurological outpatient activity in England, with a particular focus on the provision of local services and variability in access to services defined by the rates of new appointment rates
- highlight data quality and data reporting issues relating to neurological outpatient activity in England
- showcase the Hospital Episode Statistics (HES) outpatient dataset made available by the NIN

Key messages:

- there is a 15 fold variation in rate of attended new consultant neurology diagnostic appointments across England
- there has been a 10,000 increase in the number of attended new consultant neurology diagnostic appointments since 2010/11
- a follow-up consultant appointment was received by 28% of individuals attending a new consultant appointment, while only 9% were reviewed more than once in 2012/13
- rates of nurse neurology appointments are highly variable across England, possibly due to reporting issues

The analysis of outpatient activity is presented in the first sections of this document, followed by a discussion section that explores the underlying issues of service provision

^A Outpatient Hospital Episode Statistics – copyright Health & Social Care Information Centre

and data quality. This briefing and associated suite of data tables are targeted at clinicians and commissioners responsible for the provision of adult neurological outpatient services in England. All resources associated with this data briefing are located on the NIN website via the link www.yhpho.org.uk/resource/view.aspx?RID=213049

Neurology outpatient activity in England

During the financial year 2012/13 there were 1,353,500 neurology outpatient appointments provided in England, covering both consultant and nursing provision¹. Consultant appointments accounted for 97% of the total provision included in the study, while there were a total of 46,100 nursing appointments. This is summarised in Table 1.

Consultant appointments

There were 382,800 new consultant appointments attended by individuals across England during the period, an age standardised rate of 898 per 100,000 population aged 20 years and over. 350,700 unique individuals attending a new consultant appointment during the year and 7.8% had more than one new appointment.

There were 598,700 consultant follow-up appointments attended during the period, with around 352,000 individuals being reviewed by a consultant in neurology.

During that year 98,900 (28%) individuals who attended a new appointment were also seen at a consultant follow up appointment. Most (67.9% or 67,100) of this group were only reviewed once in the period by the consultant^B.

Since 2010/11 the demand for new consultant appointments in England has increased by 2.7%, with around 10,000 additional new appointments being attended, equivalent to the capacity of ten neurologists. During the period, the number of new nursing appointments increased from 4,900 to 6,400.

^B Both new appointment and at least one review appointment occurring in 2012/13.

Box 1. Definitions of study group:

- all outpatient appointments in 2012/13
- valid England CCG code for treatment location and residence
- treatment specialty code 400 for neurology
- main specialty code 400 consultant staff - 950 nursing staff
- individual aged 18 years and over

New appointments:

- not previously seen a neurologist
- referred either by their GP or another specialist
- neurological conditions or cause of symptoms, yet to be investigated or diagnosed

Follow-up appointments:

- can be for specialist support and on-going management of chronic conditions
- can be for a single follow-up to the initial assessment to explain test results and/or plan further care

Table1. Summary statistics relating to adult neurology outpatient services	
All neurology outpatient appointments (consultant and nursing)(2012/13)	1,353,500
All consultant neurology outpatient appointments (2012/13)	1,307,400
New consultant appointments attended (2012/13)	382,800
Unique individuals attending a new consultant appointments (2012/13)	350,700
Follow-up consultant appointments attended (2012/13)	598,700
Unique individuals attending a follow-up consultant appointment (2012/13)	352,000
Unique individuals being followed up having had a new consultant appointment in the year during the period of study	98,900
All nursing neurology outpatient appointments (2012/13)	46,100
New nursing appointments attended (2012/13)	6,400
Unique individuals attending a new nursing appointment (2012/13)	5,900
Follow-up nursing appointments attended (2012/13)	29,400
Unique individuals attending a follow-up nursing appointment (2012/13)	15,900
NB data rounded to nearest 100	

Nursing appointments

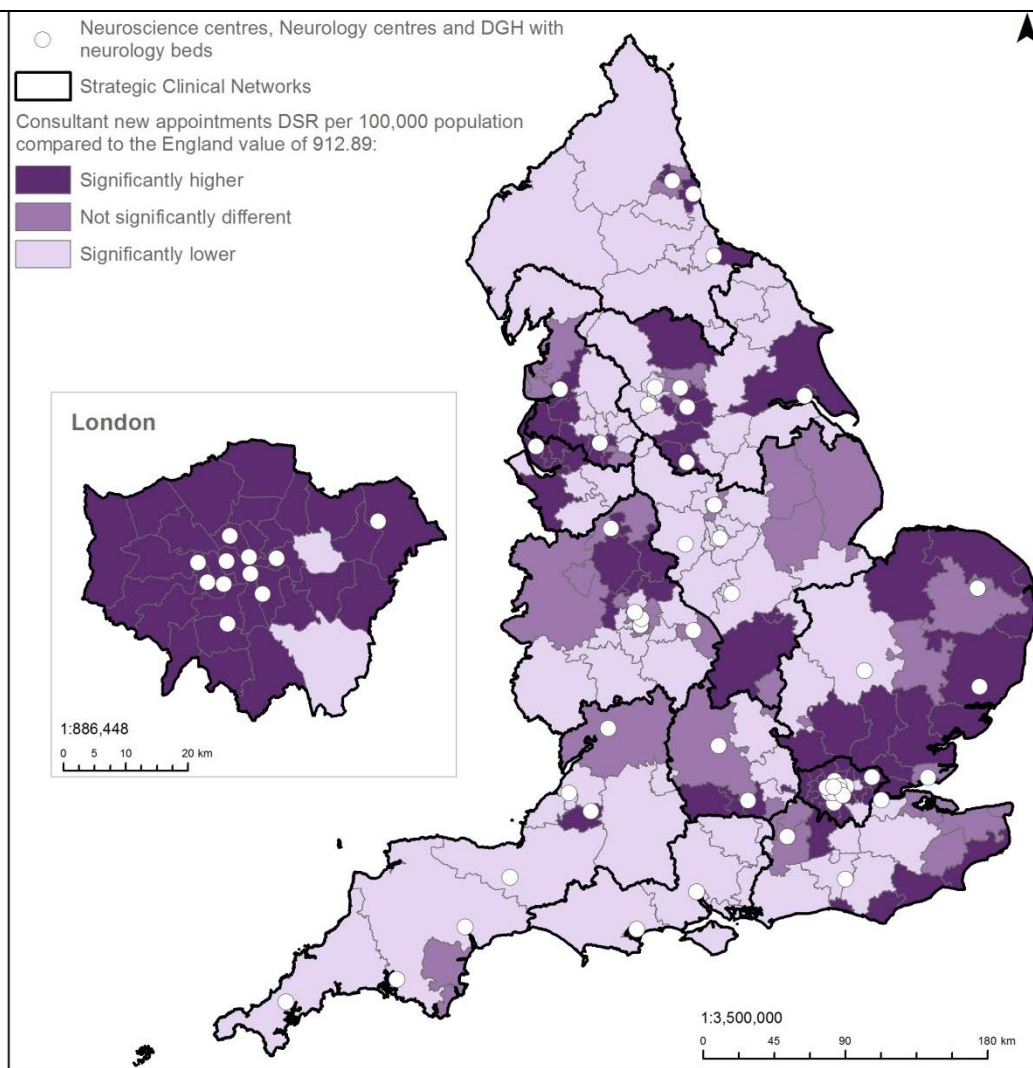
During 2012/13 there were 6,400 new nursing appointments attended, a crude rate of around 15 per 100,000 adult population. Around 5,900 unique individuals attended a new nursing appointment during the period, with 7.7% attending more than one new appointment.

Around 29,400 nursing review appointments were attended during 2012/13 by 15,900 unique individuals, with 53.5% (8,500) of who were only reviewed once in the period. Since 2010/11 the demand for new nursing appointments in England has increased by 30.3%, with around 1,500 additional new appointments being attended.

New neurology diagnostic appointments in England

Map 1 illustrates the distribution of the rate of new consultant adult neurology outpatient appointments from residents across the CCGs in England. The rate for England was 913 appointments per 100,000 resident population aged 20 years and over, with local rates varying from 165 (per 100,000 resident population) in Doncaster CCG to 2,531 in Camden.

Map 1. Population based rates for new consultant adult neurology outpatient appointments (per 100,000 population direct age standardised) by clinical commissioning groups in England – 2012/13



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There are 89 CCGs in England, around 42% of the all CCGs, with rates of appointments for specialist services that are significantly higher than the England average. Within the East of England and London SCNs the majority of CCGs have higher rates (75% and 94% respectively) than the national average. Conversely, there are 83 CCGs where the rates for new appointments are significantly below the national average. Lower appointments rates for new consultant appointments are more prominent in CCGs in the SCNs areas covering the South West, Wessex, East Midland and Northern England than the England average.

Map 1 also illustrates the locations of the 50 neuroscience centres, neurology centres and district general hospitals with neurology beds (NNDs) in England^C. The largest concentration of specialist services in England is in the London commissioning region, where 20% of the national provision is located. Nineteen of the 24 CCGs with the highest appointment rates for new consultant appointments in England serve residents in the London SCN. Conversely in the South West SCN where there are seven NND's (14% of national total) , the rates of new consultant neurology outpatient appointments are significantly below the national average in eight of the 11 CCGs (73%).

Provision of local diagnostic services

During 2012/13 local consultant neurology outpatient services were provided within 78% (166) of CCGs offering new consultant appointments. No local diagnostic provision was offered in 22% (45) of CCGs.

In CCGs that did provide services, there was a significant variation in the proportion of new appointments that were provided locally, ranging from 1% in a number of CCGs

including Swale, Wokingham and South East Kent to 99.3% in the Liverpool CCG. In 37 of the 211 CCGs in England the proportion of new appointments provided locally was in excess of 80%. In 27 CCGs, less than 20% of new appointments were provided locally.

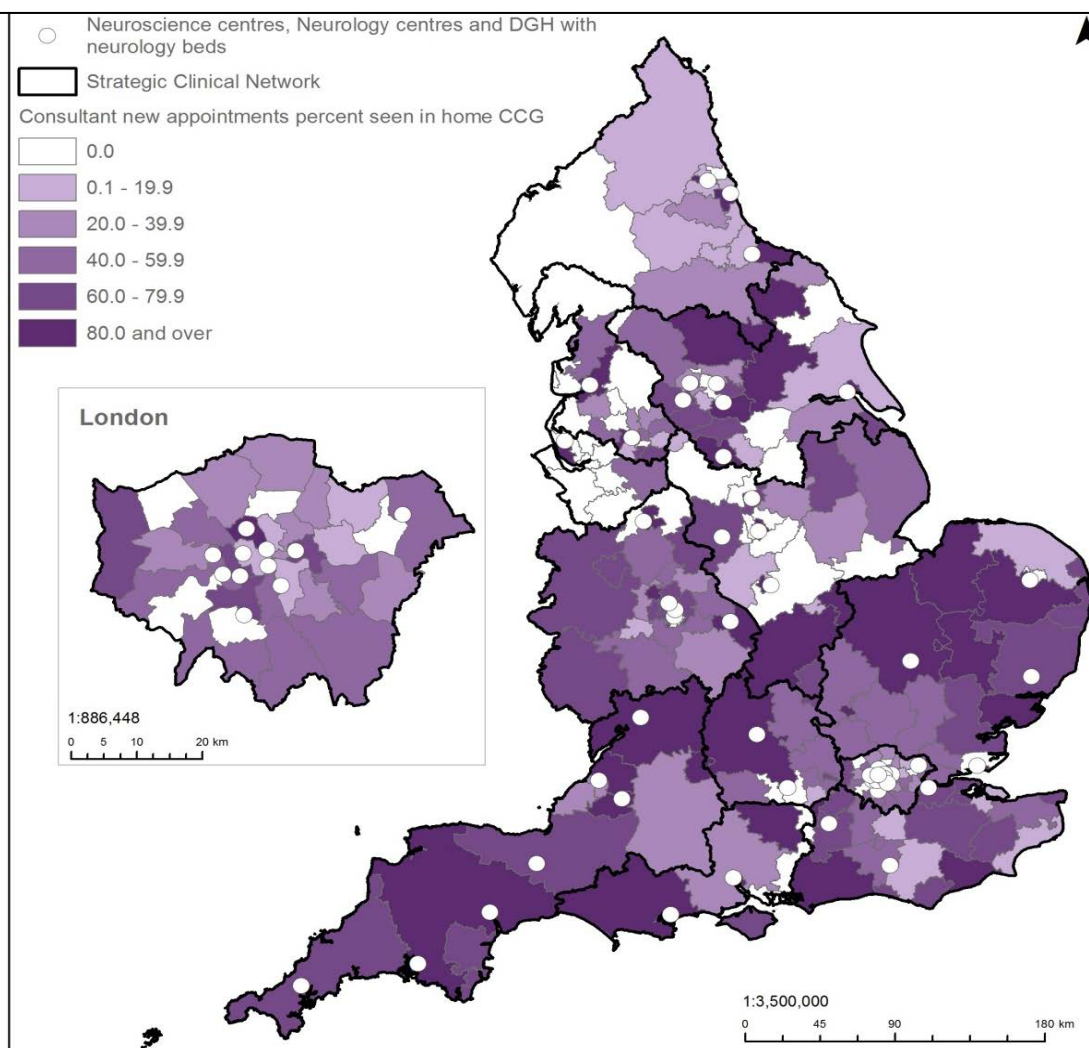
Map 2 illustrates the proportion of locally provided new consultant appointments by CCGs across England, along with the location of the 50 NNDS. In the SCNs covering southern England (South West, Wessex, South East Coast, Thames Valley, East of England and West Midlands) there is relatively good provision of local diagnostic services, whereas in large parts of the East Midlands and North West of England no local provision is reported at all. Where diagnostic local services are provided in northern England, the majority of individuals still need to travel to appointments outside their local CCG.

Box 2. Definition of local diagnostics services:

- diagnostic services defined as consultant neurologist outpatient appointments
- local services defined as those provided to the individual in their CCG of residence

^C List compiled with the assistance of the Association British Neurologists.

Map 2. Percentage of new consultant adult neurology outpatient appointments provided locally by clinical commissioning groups in England – 2012/13



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In CCGs where there are NHS trusts that provide neurology services i.e. where the NND are located, the provision of local services is greatly improved. Table 2 illustrates that at least 80% of new diagnostic appointments are provided locally in over half of CCGs with a NND compared to only 6% of the other CCGs. Around 92% of CCGs with a NND provide at least 60% of their new diagnostic appointments locally compared to only 20% of other all CCGs.

Table 2. Proportion of new consultant appointments provided locally

Proportion of new consultant appointments provided locally in the CCG of residence of the individual requiring the service.	CCGs with Neuroscience centres, neurology centres and district general hospitals with neurology beds (NND) within their boundaries.		Other CCG	
	Count	Percentage	Count	Percentage
80% and over	27	54%	10	6%
Between 60% and 79%	19	38%	23	14%
Between 40% and 59%	4	8%	33	20%
Between 20% and 39%	0	0%	23	14%
Under 20%	0	0%	72	45%

Provision of local follow-up and long term care

Consultant follow-up appointments

During the financial year 2012/13 there were around 598,700 follow-up consultant neurology outpatient appointments provided across England, attended by 352,000 individuals.

Map 3 illustrates the proportion of follow-up consultant appointments provided locally by CCGs across England. Nationally the proportion of follow-up appointments provided locally was 47.1%, with the values for CCGs ranging from 1.0% in the Scarborough and Ryedale CCG to 99.2% in the Liverpool CCG. During the period it was reported that no local consultant neurology follow-up outpatient appointments were provided in 42 of the 211 CCGs, with these CCGs being predominantly in the north western areas of England.

Box 3. Definition of local care services:

- defined as consultant follow-up appointments and all nursing appointments that are provided for an individual in their CCG of residence
- follow-up appointments can encompass a number of activities such as clinical monitoring and management plan; medication adjustment; information provision; support reviews including family and social care needs

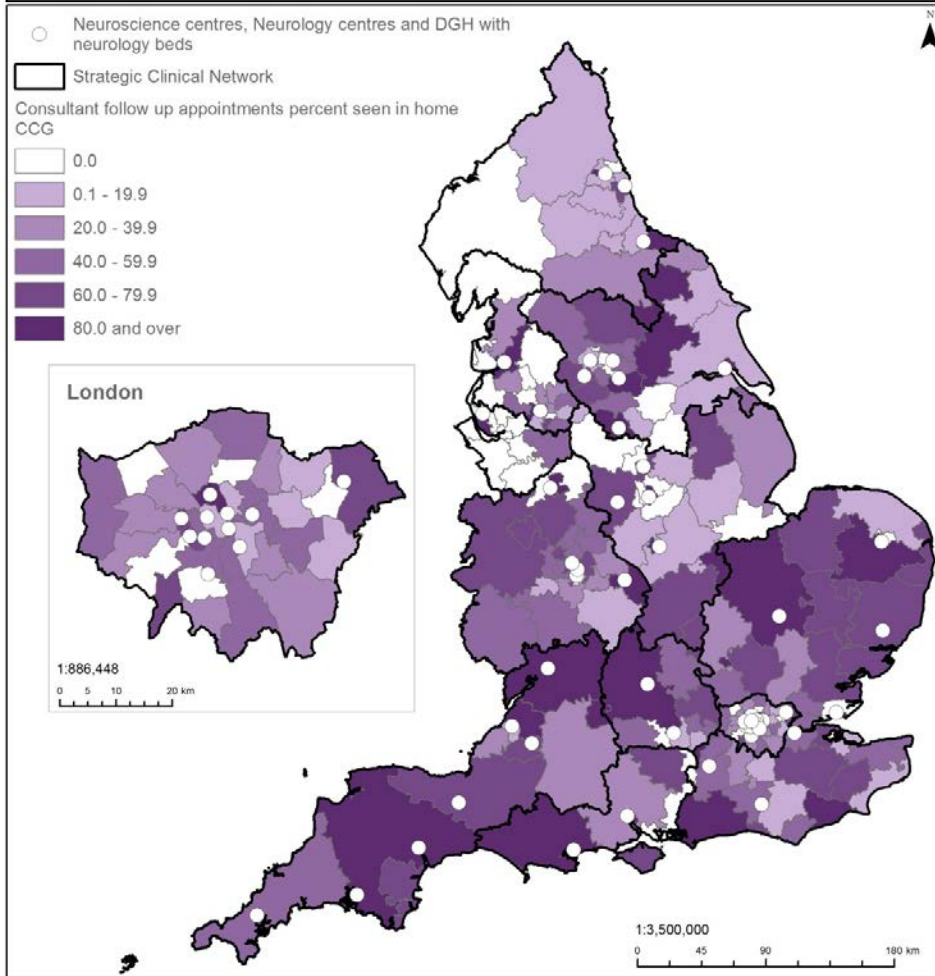
Nursing appointments (new and follow-up)

Around 6,400 new nursing appointments and 29,400 nursing follow-up appointments were attended during 2012/13 in England, with 65.4% of all appointments being provided locally.

Nursing neurology outpatient appointment services were provided in 188 CCGs across England during 2012/13, but only 87 areas had in excess of 50 appointments available during the period. 70 (33.6%) CCGs provided some appointments locally, but only 38 (18%) CCGs are providing in excess of 60% of all nursing appointments within the CCG of residence of the individual.

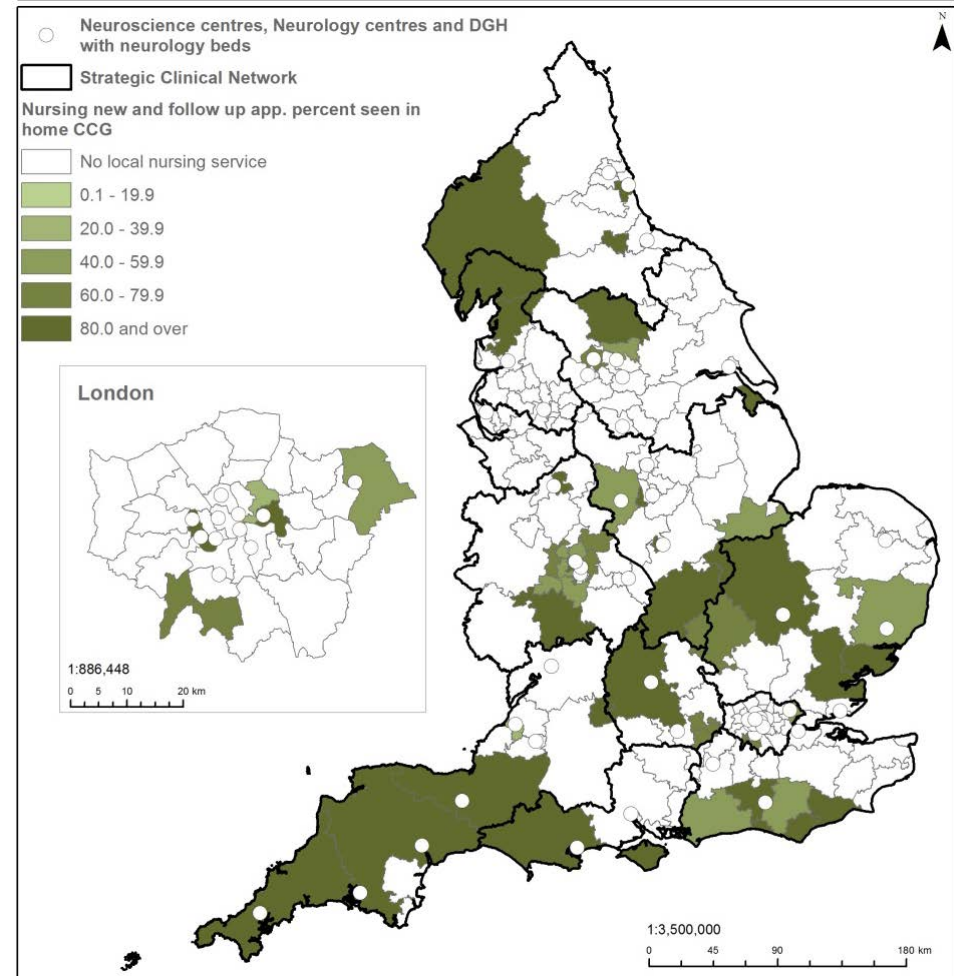
Map 4 illustrates the local provision of nursing neurology outpatient services across England by CCGs. Good local nursing provision is evident in areas covered by SCNs in South West England, a central belt across parts of Thames Valley, East Midland and East of England, parts of the West Midlands, South East Coast around the Leeds area and in Cumbria.

Map 3. Percentage of follow-up consultant adult neurology outpatient appointments provided locally by clinical commissioning groups in England – 2012/13



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Map 4. Percentage of new and follow-up nursing adult neurology outpatient appointments provided locally by clinical commissioning groups in England – 2012/13



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Discussion

In 2011 a working party report² of the Royal College of Physicians and the Association of British Neurologists into local adult neurology services recommended that scheduled outpatient care should achieve national access targets and should also be delivered close to the patient's home. Understanding and investigating existing neurology outpatient services can help improve services for patients with neurological conditions. In particular, understanding the real demand for services, in terms of quantitative volumes, clinical need and care outcomes is essential to ensure that the capacity and capability of provision is appropriately commissioned. However little integrated data is currently available to support service planning. This briefing is an initial attempt to provide some insight into current neurology outpatient activity in England.

Reliance on consultant focussed services

The majority (97%) of neurology outpatient activity is recorded as consultant team activity, with much less independent nursing activity reported. Provisional discussion suggests that some of the HES outpatient dataset does not reflect accurately the actual activity undertaken by service providers due to reporting inconsistencies. These inconsistencies may include independent nursing activity not being included in the HES dataset, or nursing activity coded under consultant activity.

Variation in the use of neurology diagnostic services

This study shows significant variation across England in the rate of new diagnostic appointments attended in 2012/13. There are a number of causes for the variation in this figure for diagnostic services. Where rates are above the England average, underlying reasons may include: a local high prevalence of neurological conditions; services with greater capacity for assessing those with neurological problems; a higher proportion of referrals that could have been directed along alternative assessment pathways.

Conversely in areas where the rates are below the England average, the underlying explanations may include: a local low prevalence of neurological symptoms and illness; fewer of those with neurological symptoms and illness being referred for specialist opinion; more neurological symptoms and illness being managed in primary care with the support of specialist neurology opinion (that may not have been counted here). In all likelihood in any one CCG there will be a combination of factors, and so the datasets need to be considered only within the context of local knowledge.

In general it appears that from the analysis of the data that the presence of a NND stimulates the referrals for new consultant appointments. Further investigation is required into the role that NNDs have in their locality and the impact this has on the care and the treatment of residents with neurological conditions in the surrounding areas.

Provision of local services – diagnostic and care

In 2012/13 the local neurology diagnostic services were available in 78% (166) of CCGs in England, with 45 areas reporting no local services at all, however only in 37 (18%) of CCGs do the majority (greater than 80%) of appointments occur locally (in the CCG of residence). The data illustrates that the majority of new patients are seen locally in the large majority of these CCGs with NNDs, however of the remaining CCGs where there are no NNDs, the data illustrates that in 80% of these the majority (60% and more) of individuals requiring new consultant appointments have to travel outside their CCG of residence for assessment. Therefore providing neurology services through district general hospitals (DGH), that are not currently NNDs, would have a substantial benefit in meeting the local demand.

Significant expansion and dissemination of service provision is needed before the diagnostic neurology outpatient provision can be called a national provision of local services with equity of access across England.

The majority (in excess of 60%) of nursing appointments are provided locally in only one-fifth (38) of CCGs in England, while in one-in-two (112) CCGs^D there is little or no nursing provision reported at all. This may not be an accurate reflection of the actual nursing service provision in England. Significant improvements are required in the recording of nursing activity to ensure the true provision is reflected in the dataset.

Data quality and completion issues

This briefing uses the Hospital Episode Statistics dataset for outpatient activity, filtered with treatment specialty code for neurology (400) and main specialty code (400 and 950) relating to consultant staff and nursing staff. A number of queries relating to data quality and data completeness have been raised following preliminary discussions about the findings of the study.

Some of the variation is likely to be due to how activity is recorded and submitted to the HSCIC. A recommended approach would be for an audit of the current returns and the development of national standards for the data collection and submission for neurology outpatient activity in England.

^D Due to the current reporting methods.

Supporting project outputs

A number of outputs have been created to support to data briefing and they are available on the resource page on the NIN website

www.yhpho.org.uk/resource/view.aspx?RID=213049:

:

- dataset illustrating the demand for neurology outpatient appointments and locality of provision by CCG and SCN
- a data chart illustrating the (age standardised) rate of attended new consultant neurology outpatient appointments per 100.000 population by CCG in England
- neurology services domain on the Neurology Profiles web tool illustrating a number of indicators used in the briefing

References

1. HES Data Dictionary - HSCIC www.hscic.gov.uk/article/3967/HES-Outpatient-Data-Dictionary
2. Local adult neurology services for the next decade: Report of a working party – Royal College of Physicians June 2011 www.theabn.org/media/docs/ABN_publications/Local_adult_neurology_services_for_the_next_decade.pdf

Find out more:

The Neurology Intelligence Network (NIN) identifies, collates and interprets nationally available indicators on all adult neurological conditions. The NIN is part of National Mental Health Dementia and Neurology Intelligence Network and a member of the Health Intelligence Network family sponsored by Public Health England and NHS England.

The Neurology Intelligence Network website contains more information and resources related to neurology intelligence www.yhpho.org.uk/default.aspx?RID=198139

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