

Variation in Paediatric Care in the Oxford AHSN region 2015/16 data

Oxford AHSN Children's Network

June 2017



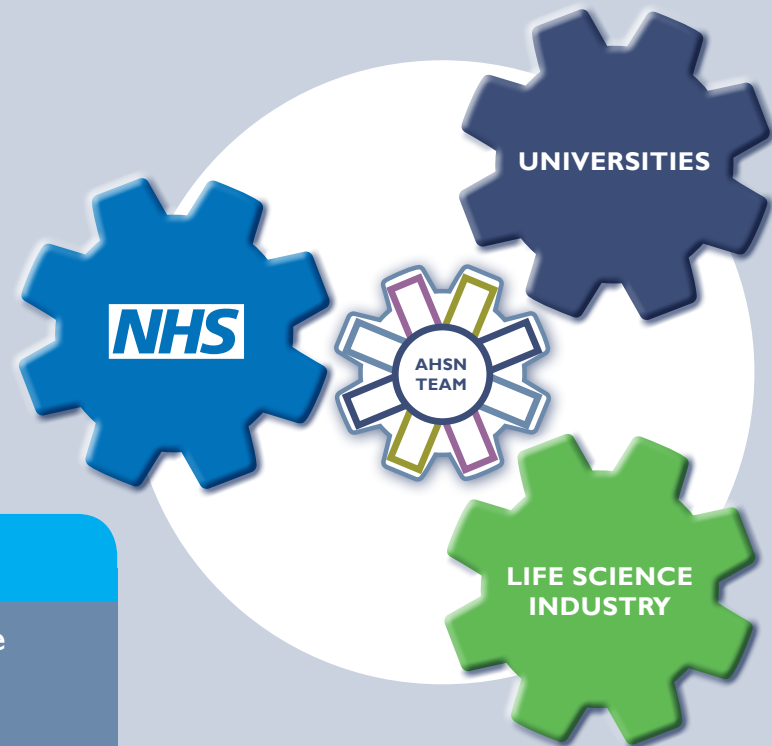
What is the Oxford AHSN?

Oxford Academic Health Science Network

The Oxford Academic Health Science Network brings together NHS providers, commissioners, universities and life science companies to improve health and prosperity in Bedfordshire, Berkshire, Buckinghamshire, Milton Keynes and Oxfordshire. Success comes from collaborative working by the partners and stakeholders across the region.



3 million people



Benefits of collaboration across the whole system:

- Make the region healthier
- Improve patient safety across the region practice and expertise to improve outcomes
- Make the region more attractive for inward investment and product development
- Improve region's attractiveness for commercial research
- Scale innovation adoption
- Evaluate new innovations
- Enable data sharing, operational, patients and research – improve outcomes
- Learn from each other – clinical standards, models of care, commercial models

Our programmes and themes facilitate shared work across all partners:

- Patient Safety
- Best Care Clinical Networks
- Clinical Innovation & Adoption
- Research & Development
- Wealth Creation
- Patient and Public Involvement, Engagement and Experience
- Informatics

Accelerating health and economic gains by working together

Variation in Paediatric Care in the Oxford AHSN region 2015/16 data




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Acknowledgement

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Section 1 EXECUTIVE SUMMARY

Executive summary

For a variety of reasons, both intended and unintended, there are local and regional variations in the way in which healthcare is delivered and in the outcomes that are achieved as a result.

This third report on variation in paediatric admissions across the Oxford AHSN region uses Hospital Episode Statistics to determine differences in admission rates grouped by Clinical Commissioning Group (CCG). In addition, data have been gathered on variation in length of stay between CCGs and on differences in the source of admission.

	Asthma		Viral induced wheeze		Fever/Sepsis		Newborn Sepsis	Gastroenteritis (0-4)		Gastroenteritis (5-17yrs)		Bronchiolitis		Pneumonia		Epilepsy	
	All	LoS >0	All	LoS >0	All	LoS >0	All	All	LoS >0	All	LoS >0	All	LoS >0	All	LoS >0	All	LoS >0
Milton Keynes	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Bracknell and Ascot	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Chiltern	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Newbury and District	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
North and West Reading	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Oxfordshire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Slough	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
South Reading	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Aylesbury Vale	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Windsor, Ascot and Maidenhead	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Wokingham	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Swindon	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Variation in Admission rate	2.9		2.58		3.35		3.32		3.46		3.29		3.09		1.62		5.4

Key

- **RED** = Significantly (>3 SDs) HIGHER admission rate vs regional average. There is only a 1:1000 chance that this variation is due to chance.
- **AMBER** = Significantly (between 2-3 SDs) HIGHER admission rate vs regional average. There is only a 1:40 chance that this variation is due to chance.
- **GREEN** = consistent with regional average – lies within +/- 2 SDs of the regional average.
- **BLUE** = Significantly (between 2-3 SDs) LOWER admission rate vs regional average. There is only a 1:40 chance that this variation is due to chance.
- **GREY** = Significantly (>3 SDs) LOWER admission rate vs. regional average. There is only a 1:1000 chance that this variation is due to chance.

Zero length of stay admissions

There was significant variation in the number of patients who were discharged within 1 day of admission with each of the conditions studied:

CONDITION	Minimum	Maximum	Oxford AHSN region
Asthma	22%	54%	41%
Viral Induced Wheeze	30%	63%	39%
Fever / Sepsis (1-17yrs)	21%	70%	49%
Gastroenteritis (0-4)	31%	69%	52%
Gastroenteritis (5-17)	30%	77%	57%
Bronchiolitis	21%	61%	36%
Pneumonia	6%	34%	21%
Epilepsy	33%	74%	53%

Source of admissions

There was variation in the proportion of patients admitted directly from A&E with each of the conditions studied:

CONDITION	Minimum	Maximum	Oxford AHSN region
Asthma	62%	97%	72%
Viral Induced Wheeze	62%	98%	75%
Fever / Sepsis (1-17yrs)	32%	76%	47%
Gastroenteritis (all ages)	30%	86%	50%
Bronchiolitis	43%	95%	63%
Pneumonia	30%	89%	60%
Epilepsy	19%	83%	55%

Next steps

Since the Children's Clinical Network's first two reports into variation in paediatric care in the Oxford AHSN region we have begun the process of identifying the reasons for such variation as well as embarking on work to address variation, focusing on engagement, education and guideline harmonisation.

- We have worked closely with paediatric consultant clinical guideline leads from hospitals across the region, setting up a Guideline Group which meets quarterly. This has already shared guidelines for a range of conditions which are now being commonly adopted in each hospital. The Guideline Group will continue to meet once funding for the Children's Clinical Network ends in June 2017. It is hoped that work to identify and reduce variation will continue with support from other funding sources.
- We have met Children's Commissioners to engage their help in reducing unwarranted variation and will continue this relationship in the coming year.
- We have begun to identify the underlying causes of unwarranted variation in outcomes through a series of regional audits.
- We are exploring the potential for innovations in addressing unwarranted variation, especially Point of Care testing devices that may reduce both admissions to hospital and diagnostic times in Children's Emergency Departments/Clinical Decision Units (ED/CDUs).

Section 2

INTRODUCTION

Introduction

Variation in the NHS

In 2014 the Oxford AHSN Children's Clinical Network published its first report¹ into variation in children's outcomes across the Oxford AHSN region¹. The report explored the differences in admission rates and length of stay for common paediatric conditions across the Oxford AHSN region. A second report² followed in 2015/16 which included added additional conditions.

This third report builds on the findings of the first two. It also examines further conditions and provides a greater depth of analysis, including 4 year comparisons and an analysis of each condition by non-zero length of stay admissions. It also describes the steps the Children's Clinical Network has taken to address variation in children's outcomes.

There is an ongoing need to examine variation in admission rates in order to prevent unnecessary admissions to hospital and to find new ways of working which focus on care outside the hospital. This work requires collaboration between commissioners and providers and should take place on a foundation of comparative outcome data firstly to decide on areas of priority, and then to monitor performance year on year and it is hoped that at least some of this work will continue once funding of the Children's Clinical Network ceases in June 2017.

It is necessary to distinguish *warranted* variation, which reflects patient-centredness and clinical responsiveness to local health needs, from *unwarranted* variation, which may reflect differences in the quality, equity and efficiency of care. Once this distinction has been made, it will be possible to promote the former while reducing the latter.

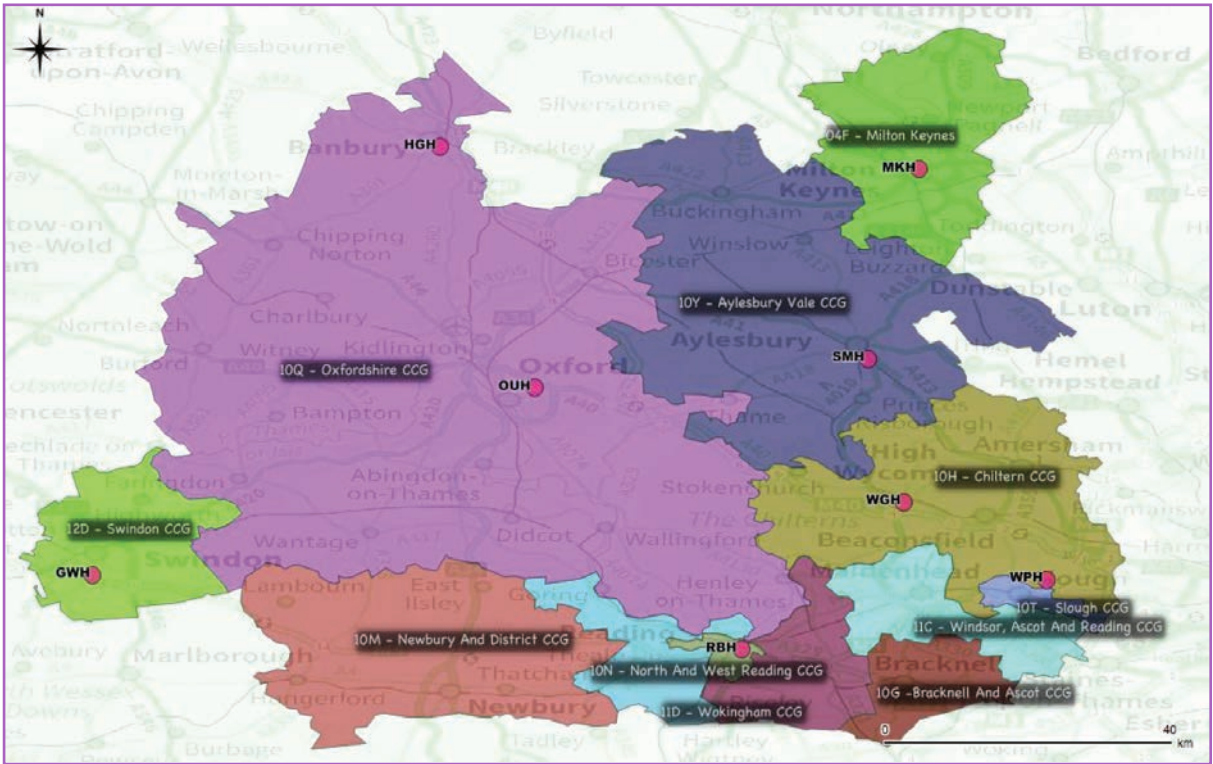
Much variation remains inevitable. Patient choice, socio-economic status and ethnicity are some unavoidable reasons that patients may end up receiving different care for the same condition. Some conditions vary by geography because of variations in local population makeup. For example, sickle cell disease is commoner in areas with a higher Afro-Caribbean population. There may also be variations in prescribing from one Trust to another due to local microbiological sensitivity resulting in different antibiotic prescribing practices within a region. Variation may be deemed unwarranted where there are differences in clinical practice or deviation from evidence based practice.

This report serves as an update on variation within the Oxford AHSN region and as a progress report on the work that the Oxford AHSN Children's Clinical Network is undertaking to tackle the underlying causes of variation. It is hoped that this report will be used by commissioners and providers across the Oxford AHSN region to continue to engage in discussions about potential opportunities for change and to explore whether the performance of services across the region shows:

- Variation due to local factors outside the control of clinicians and commissioners
- Unwanted variation which requires further investigation

CCGs & hospitals in the Oxford AHSN region

The Oxford AHSN region consists of 12 CCGs commissioning care for more than half a million children. Inpatient children's hospital admissions are provided by Oxford University Hospitals (OUH) at the John Radcliffe Hospital in Oxford and at the Horton General Hospital (HGH) in Banbury, Milton Keynes University Hospital (MKH), Stoke Mandeville (SMH) in Aylesbury, Wexham Park Hospital (WPH) in Slough, the Great Western Hospital (GWH) in Swindon and the Royal Berkshire Hospital (RBH) in Reading. The area is shown below:



Similar codes were identified and the search extended to include these codes, as shown below.

1: Gastroenteritis

ICD10	Sub-codes included	Description
A08	A080, A081, A082, A083, A084, A085	Viral and other specified intestinal infections
A09	A090, A099, A09X	Other gastroenteritis and colitis of infectious and unspecified origin
K52	K520, K521, K522, K523, K528, K529	Other non-infective gastroenteritis and colitis

2: Bronchitis

ICD10	Sub-codes included	Description
J20	J200, J201, J203, J205, J208, J209	Acute bronchitis
J21	J210, J211, J218, J219	Acute bronchiolitis

3: Fever / Sepsis

ICD10	Sub-codes included	Description
A41	A412, A413, A413, A414, A414, A415, A415, A418, A418, A419	Other sepsis
R50	R502, R508, R509	Fever of other and unknown origin

4: Newborn Sepsis

ICD10	Sub-codes included	Description
P36	P362, P363, P364, P368, P369	Bacterial sepsis of newborn

5: Asthma

ICD10	Sub-codes included	Description
J45	J450, J451, J459	Asthma
J46	J46X	Status asthmaticus

6: Viral Induced Wheeze

ICD10	Sub-codes included	Description
B34.9 AND R06.2		[Viral infection, unspecified] AND [Wheezing]

7: Pneumonia

ICD10	Sub-codes included	Description
J12	J120, J121, J122, J123, J128, J129	Viral pneumonia, not elsewhere classified
J13	J13X	Pneumonia due to Streptococcus pneumoniae
J14	J14X	Pneumonia due to Haemophilus influenzae
J15	J150, J151, J152, J153, J154, J155, J156, J157, J158, J159	Bacterial pneumonia, not elsewhere classified
J17	J170, J171, J172, J173, J178	Pneumonia in diseases classified elsewhere
J18	J180, J181, J182, J188, J189	Pneumonia, organism unspecified

8: Epilepsy

ICD10	Sub-codes included	Description
G40		Epilepsy
G41		Status Epilepticus

For each of the above conditions, HES data were analysed looking at all admissions where these conditions were either primary diagnosis or where they were a secondary diagnosis. For children admitted with asthma and with epilepsy, only those with that condition as the primary reason for admission were included.

The ages of the children at diagnosis were noted and admissions were grouped into appropriate ranges. Only specific age ranges were included, depending on the condition in question. For example, only children aged between 0-2 years were included for bronchiolitis admissions and only children under the age of 1 were counted in the newborn sepsis section. They were grouped by CCGs.

Population

Population data for each CCG were then used to calculate the rates of admission per 100,000 population for each condition for each of the CCGs. The population data for 0-17 year olds can be seen below:

CCG	1213	1314	1415	1516
CCG – NHS Milton Keynes	63,959	65,112	66,193	67,244
CCG – NHS Bracknell and Ascot	31,518	31,699	31,949	32,209
CCG – NHS Chiltern	72,634	73,070	73,503	73,945
CCG – NHS Newbury and District	24,227	24,348	24,487	24,592
CCG – NHS North & West Reading	22,923	23,135	23,338	23,527
CCG – NHS Oxfordshire	136,451	137,384	138,451	139,356
CCG – NHS Slough	38,290	38,922	39,552	40,107
CCG – NHS South Reading	22,560	22,845	23,057	23,280
CCG – NHS Aylesbury Vale	44,904	45,167	45,485	45,825
CCG – NHS Windsor, Ascot and Maidenhead	30,003	30,320	30,728	31,089
CCG – NHS Wokingham	35,981	36,238	36,620	37,023
CCG – NHS Swindon	48,596	49,094	49,615	50,121
Grand Total	572,046	577,334	582,978	588,318

Populations were then broken down into appropriate age ranges (see Appendix I).

Calculation of rates

For each condition, admission rates for each CCG were calculated along with upper and lower 95% confidence intervals. These data were then displayed on maps using QGIS software (Quantum Geographic Information Software – www.QGIS.org). The map was shaded by quartile, with the darkest colour representing the highest rate of admission.

Funnel plots

To compare individual CCGs against the regional average, funnel plots were constructed utilising a template from Public Health England³. Funnel plots are an effective way of displaying variation across different institutions. In funnel plots, an observed measure, in this case admission rate, is plotted against a measure of its precision. In such a plot sample size (in this case, population) is displayed along the x axis (see fig 3). Lines showing +/- 2 standard deviations (SD) and then +/- 3 SD are then plotted. These lines form a funnel as with smaller and smaller sample sizes the size of these confidence limits get larger and larger.

For example, below that the average admission rate across the region (red line) for this condition is approximately 800 admissions per 100,000 population per year. For CCGs with smaller populations the lines showing +/- 2 SD or +/- 3 SD form a funnel. Four CCGs are shown. The colours are as follows:

- **RED** = Significantly (>3 SDs) HIGHER admission rate vs regional average. There is only a 1:1000 chance that this variation is due to chance.
- **AMBER** = Significantly (between 2-3 SDs) HIGHER admission rate vs regional average. There is only a 1:40 chance that this variation is due to chance.
- **GREEN** = consistent with regional average – lies within +/- 2 SDs of the regional average.
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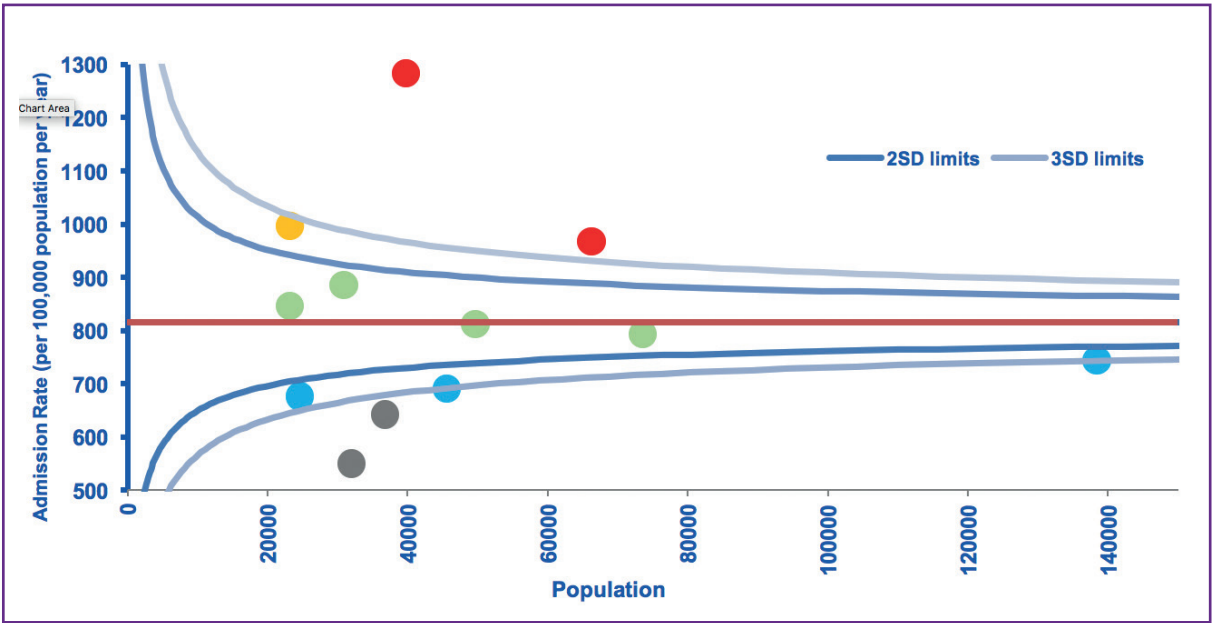


Figure 2: Example funnel plot

Rates over time

To examine the changing rate over time, admission rates for these conditions were calculated for the financial years 2012/13, 2013/14, 2014/15 and 2015/16. 95% confidence intervals for each of the admission rates were calculated. For differences in admission rates between years, non-overlapping 95% confidence intervals were taken to represent significant differences. Admission rates over time were then plotted with confidence intervals.

Source of admission

Using the HES database, the source of individual admission was noted. There are a variety of codes for admission source within HES which are shown below:

CODE	Meaning
21	A&E or dental casualty department of the Health Care Provider
22	GENERAL PRACTITIONER: after a request for immediate admission has been made direct to a Hospital Provider
13	Planned
28	Other means
11	Waiting list
24	Consultant Clinic, of this or another Health Care Provider
23	Bed bureau
12	Booked

Admissions via A&E (Code 21) and admissions via the patients' general practitioner (code 22) were the most common. The remaining admission paths were added together under "other sources of admission".

Length of stay

Within the HES database length of stay is recorded in whole number of days. Patients admitted and discharged on the same calendar day have a zero length of stay, whereas patients whose admission crosses midnight are recorded as a one day length of stay. This makes averaging length of stay data very difficult.

It would be more useful when comparing paediatric admissions if the HES data base were to note both the date and time of each admission / discharge, which would allow the calculation of length of stay in hours, rather than in whole days.

In view of this possible confusion, length of stay is represented in whole days and average length of stay is not calculated.

Non-zero LoS admissions

Variation in acute care pathways can potentially lead to variation in calculated admission rates. For example, in some hospitals a children's A&E department may be staffed primarily by paediatricians. Children who attend this type of A&E department and are seen and discharged are coded as A&E attendances. In other hospitals in the region, children who attend A&E are seen by non-paediatric staff.

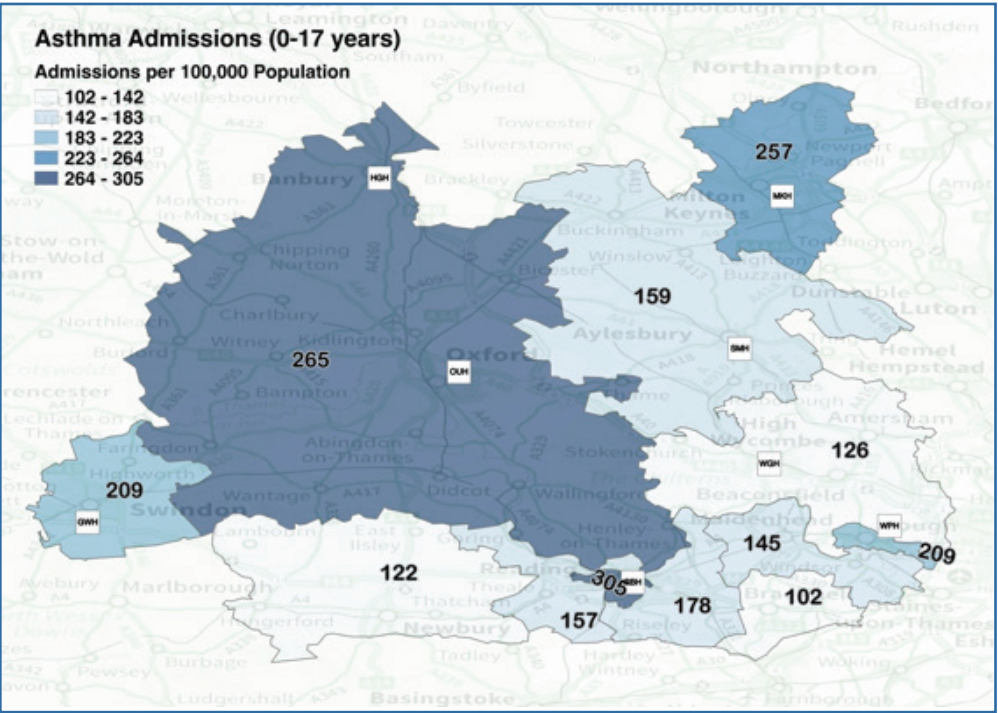
A referral for paediatric review within this type of A&E department may (in some centres, but not all) then be coded as an admission, particularly if this involves a short e.g. 4-6-hour period of observation and assessment. Identifying and removing the variation in non-zero length of stay admissions allows us to eliminate this factor. As a result, for each condition in this report, in addition to "all admissions" rates, the rates of admissions lasting >0 days were calculated. This allowed us to compare actual admissions rather than just attendances. Rates for both "All admissions" and "Non-zero LoS" are given.

Section 3 RESULTS

Asthma

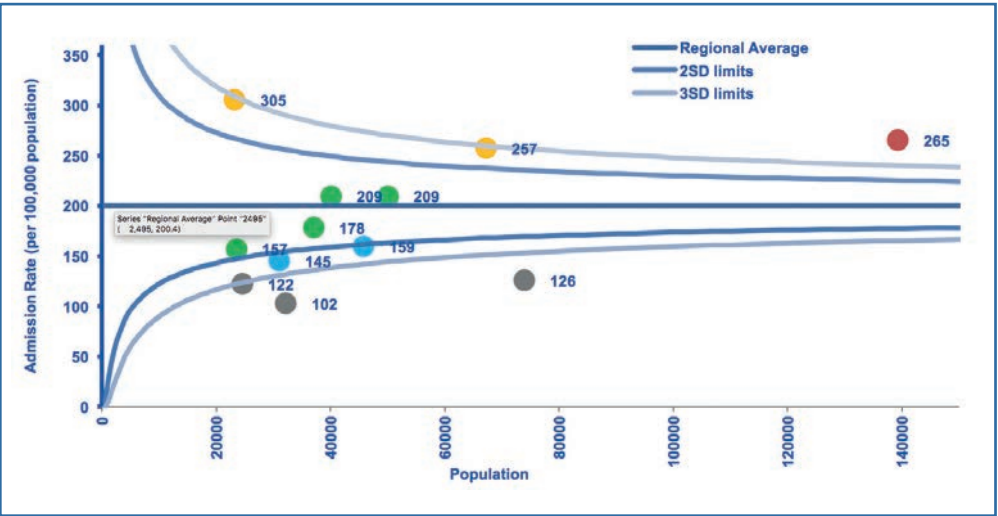
Admission rates

In 2015/16, the admissions of children with asthma were as follows:



The rate of admission of children (0-17 yrs) with asthma in 2015/16 varied from 102 per 100,000 (95% CI 71-144 per 100,000) for Bracknell and Ascot CCG to 305 per 100,000 (95% CI 238-385 per 100,000) for South Reading CCG. This represents a 3-fold variation between the lowest and highest rates of admission. The regional average admission rate was 200 per 100,000 population.

The funnel plot is shown below:

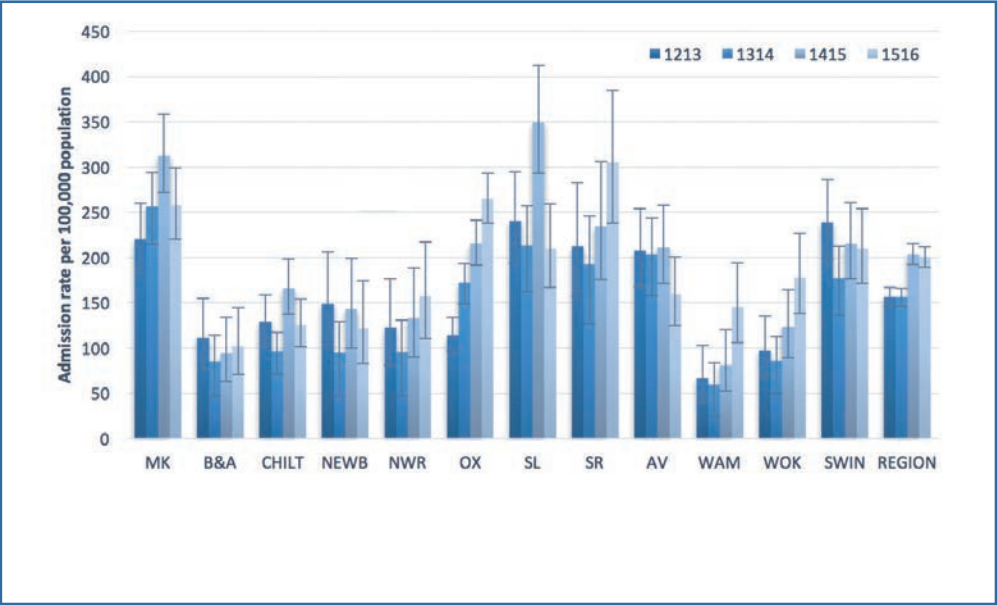


Oxfordshire CCG has an admission rate greater than 3SD above the regional average. Milton Keynes CCG and South Reading CCG have admission rates between 2-3 standard deviations above the regional average. Although the admission rate is higher in South Reading CCG than in Oxford, because of the larger population in Oxford the +/- 3 standard deviation lines are narrower. This means that Oxford falls above 3 standard deviations above the regional average.

For the three CCGs with admission rates >2 SD higher than the regional average, the total reduction in admissions required to bring the rate down to a) the regional average or b) within 2 standard deviations of the regional average (for that CCGs population) were calculated:

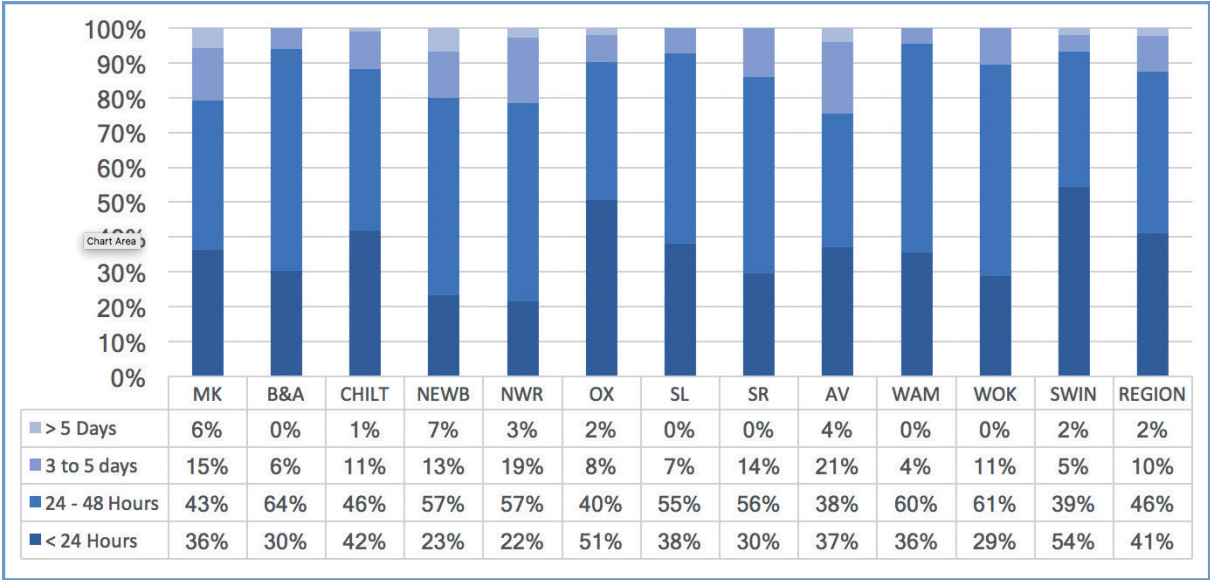
CCG	Admissions (per 100,000)	Number of admissions	To fall within 2 SD's of regional average	To match regional average
Oxfordshire CCG	265	369	55 fewer admission p.a.	90 fewer admissions p.a.
Milton Keynes CCG	257	173	13 fewer admissions p.a.	38 fewer admissions p.a.
South Reading CCG	305	71	9 fewer admission p.a.	24 fewer admissions p.a.

The change in admissions over time is shown below. Error bars represent 95% confidence intervals.



Across the region, there was a fall of 2% in admissions between 2014/15 and 2015/16. There was a significant fall of 40% in the admission rate in Slough CCG between 2014/15 and 2015/16. The previous year had seen a rise of 64% in admissions. This reduction may be related to the concentrated focus on asthma by Slough CCG, including the appointment of two specialist asthma nurses. There were no other significant changes noted between 2014/15 and 2015/16. There has been a steady rise in asthma admission rates in Oxfordshire CCG over the past 4 years. Although the rise between one year and the next has not been statistically significant, the rate has risen over the past 4 years from 114 per 100,000 (95% CI 97-134 per 100,000) in 2013/14 to 265 per 100,000 (95% CI 238-293 per 100,000). This represents a 2.3 fold increase in admission rates over the past 4 years.

Length of stay



Regionally, 41% (486/1179) of children admitted with a primary diagnosis of asthma were discharged within 24 hours. This varies from 22% (8/37) in North West Reading CCG to 54% (57/105) in Swindon CCG. Admissions lasting greater than 5 days vary from 0% in various CCGs to 7% (3/45 admissions) in Newbury & District CCG. The regional average is 2% (26/1179).

Excluding zero length of stay admissions

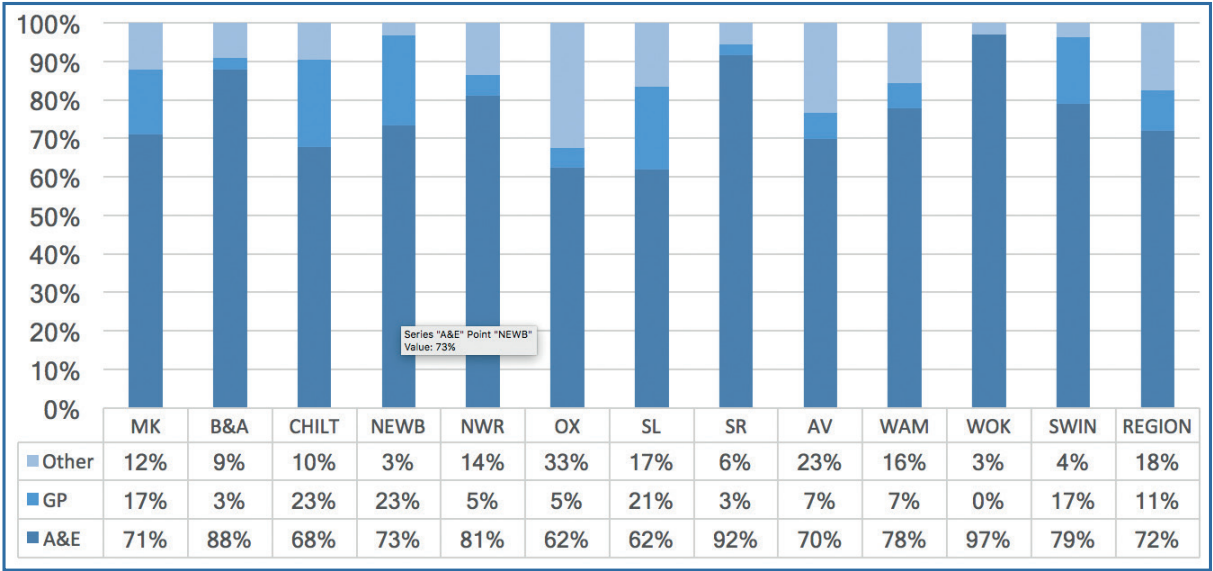
Examining only the admissions lasting longer than 0 days, the admission rates for 2015/16 were calculated. These data were then plotted on a new funnel plot and the CCGs falling outwith 2 or 3 standard deviations were noted. The admission rate (per 100,000 population) traffic light status for all admissions and for non-zero LoS admissions are shown in the table below:

	Non-zero LoS Admission Rate 2015/16	95% Confidence interval	All LoS	LoS >0
MK	164	(134-197)	●	●
B&A	71	(45-107)	●	●
CHILT	73	(55-95)	●	●
NEWB	94	(59-140)	●	●
NWR	123	(83-177)	●	●
OX	131	(112-151)	●	●
SL	130	(97-170)	●	●
SR	215	(159-283)	●	●
AV	100	(73-134)	●	●
WAM	93	(62-134)	●	●
WOK	127	(93-169)	●	●
SWIN	96	(71-127)	●	●
REGION	118	(134-197)		

For non-zero LoS admissions, Milton Keynes CCG remains an outlier with an admission rate between 2-3 standard deviations above the regional average. South Reading CCG remains an outlier, with an admission rate more than 3 standard deviations above the regional average.

Oxfordshire CCGs admission rate (all LoS) was >3SD higher than the regional average, and lies within 2SD of the regional average when only non-zero LoS are counted. This suggests that most of the rise in admissions has been in zero-LoS admissions.

Source of admission

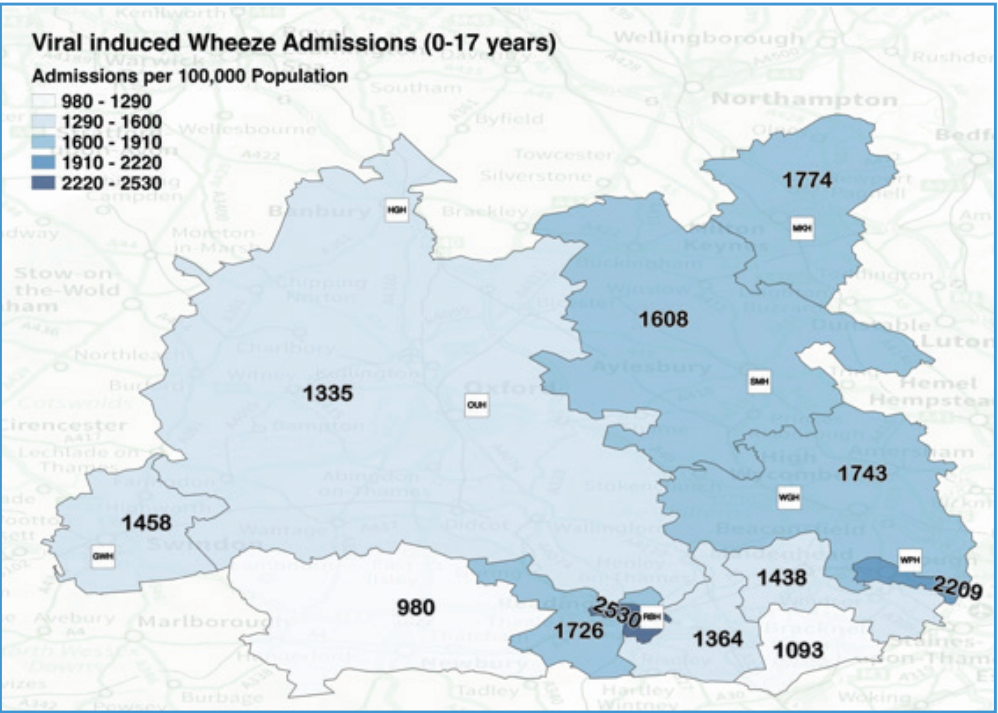


Across the region 72% (847/1,179) of children admitted to hospital with a diagnosis of asthma were admitted through A&E. This varied from 62% of admissions in Slough CCG (52/84) and Oxford (230/369) up to 97% (64/66) in Wokingham CCG.

Viral Induced Wheeze

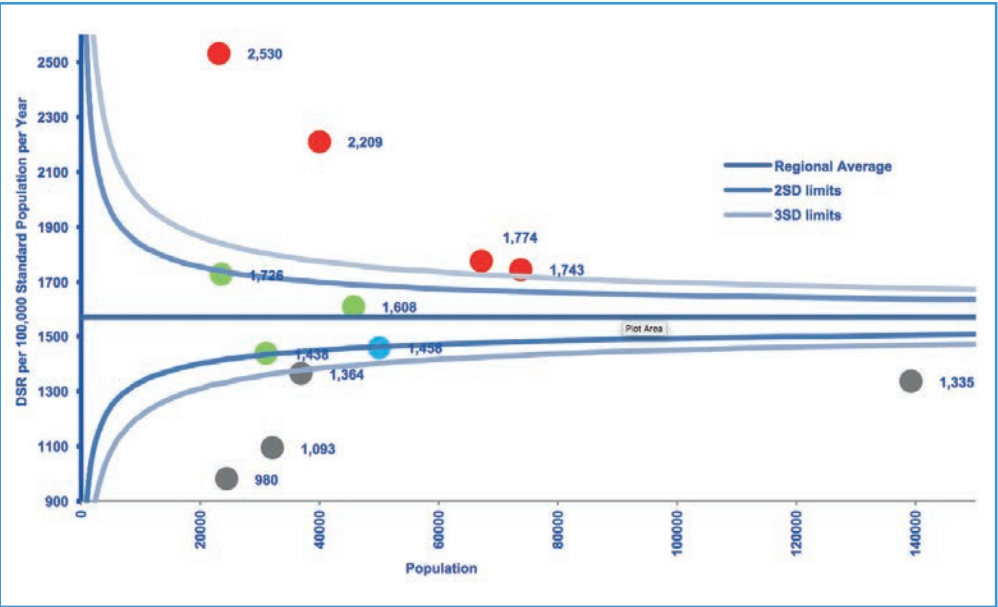
Admission rates

In 2015/16 the admissions of children with viral induced wheeze were as follows:



The rate of admission of children (0-17 yrs) with viral induced wheeze in 2015/16 varied from 2,530 per 100,000 (95% CI 2330-2743 per 100,000) for South Reading CCG to 980 per 100,000 (95% CI 860-1112 per 100,000) for Newbury & District CCG. This represents a 2.6-fold variation between the lowest and highest rates of admission. The regional average admission rate was 1,570 admissions per 100,000.

The funnel plot is shown below:

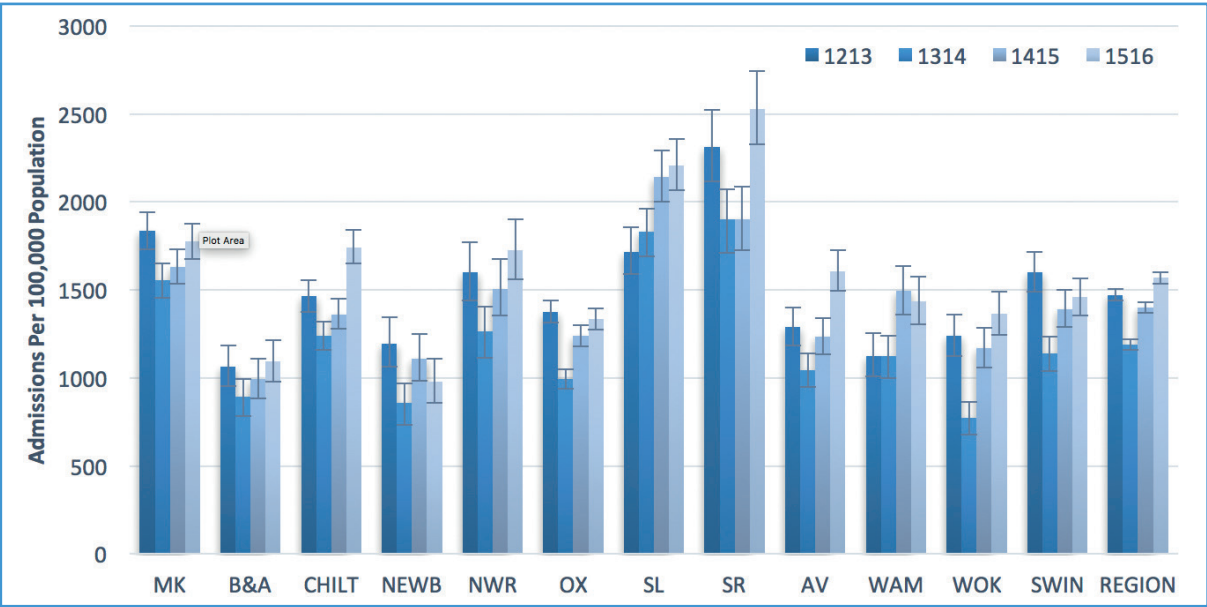


Milton Keynes, Chiltern, Slough and South Reading CCGs all have significantly (>3 SD) higher admission rates than the regional average.

For these four CCGs, the total reduction in admissions required to bring the rate down to a) the regional average or b) within two standard deviations of the regional average (for that CCG's population) were calculated:

CCG	Admissions (per 100,000)	Number of admissions	To fall within 2SD's of regional average	To match regional average
Slough CCG	2209	886	205 fewer admissions p.a.	256 fewer admissions p.a.
South Reading CCG	2530	589	184 fewer admission p.a.	224 fewer admissions p.a.
Milton Keynes CCG	1774	1193	72 fewer admissions p.a.	137 fewer admissions p.a.
Chiltern CCG	1743	1230	59 fewer admissions p.a.	128 fewer admissions p.a.

The change in admissions over time is shown below. Error bars represent 95% confidence intervals.



There was a significant rise of 28% in admission rates between 2014/15 and 2015/16 in Chiltern CCG. There were also significant rises in South Reading (33%) and Aylesbury Vale CCGs (30%). This was set against an overall rise in admissions of 12% across the region.

Comparing the admission rates for viral induced wheeze between this report and last year's report, the overall number of admissions is higher in this current report. This is explained by the inclusion of an additional code as part of the "secondary diagnosis" in this year's search which was not included in the previous report. The four years of data shown here allow comparison of the trend using the updated search strategy.

Length of stay

Excluding zero length of stay admissions

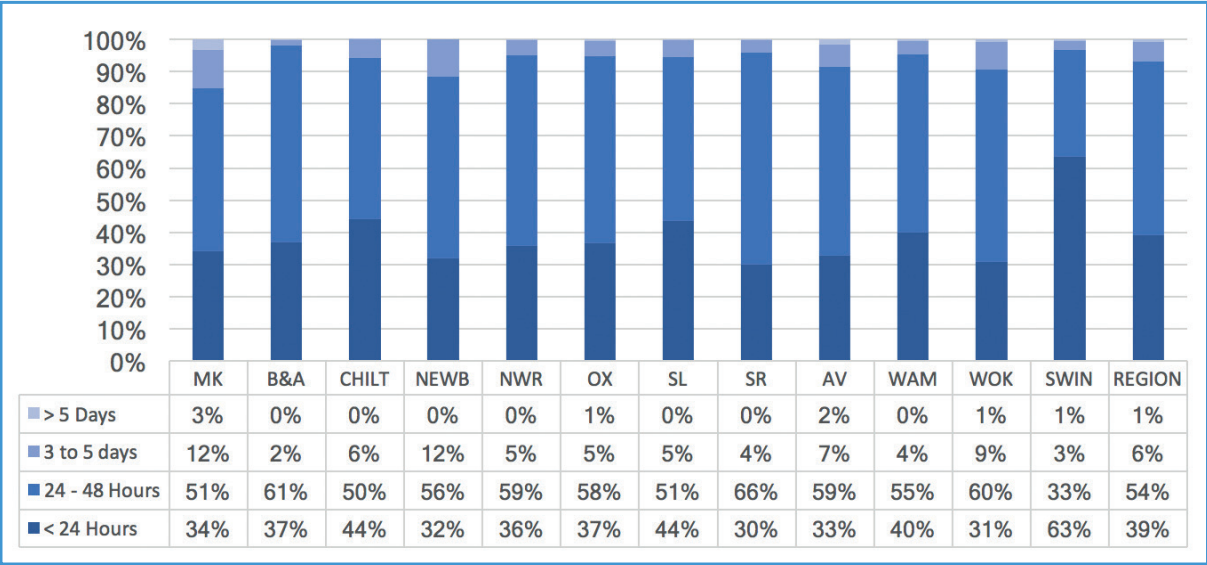
Examining only the admissions lasting longer than 0 days, the admission rates for 2015/16 were calculated. These data were then plotted on a new funnel plot and the CCGs falling outwith 2 or 3 standard deviations were noted. The non-zero LoS admission rate (per 100,000 population), traffic light status for all admissions and for non-zero LoS admissions are shown in the table below:

	Non-zero LoS Admission Rate 2015/16	95% Confidence interval	All LoS	LoS >0
MK	1166	(1086-1250)	●	●
B&A	689	(602-786)	●	●
CHILT	976	(906-1050)	●	●
NEWB	667	(569-777)	●	●
NWR	1109	(979-1252)	●	●
OX	846	(798-896)	●	●
SL	1244	(1137-1358)	●	●
SR	1770	(1603-1949)	●	●
AV	1082	(989-1182)	●	●
WAM	862	(762-972)	●	●
WOK	943	(846-1047)	●	●
SWIN	533	(471-601)	●	●
REGION	956	(931-981)		

For non-zero LoS admissions Milton Keynes CCG, Slough CCG and South Reading CCG all remain outliers with an admission rate >3 standard deviations above the regional average.

Chiltern CCG, whose admission rates (all LoS) were >3SD higher than the regional average, lies within 2SD of the regional average when only non-zero LoS are counted. This suggests that most of the rise in admissions has been in zero-LoS admissions.

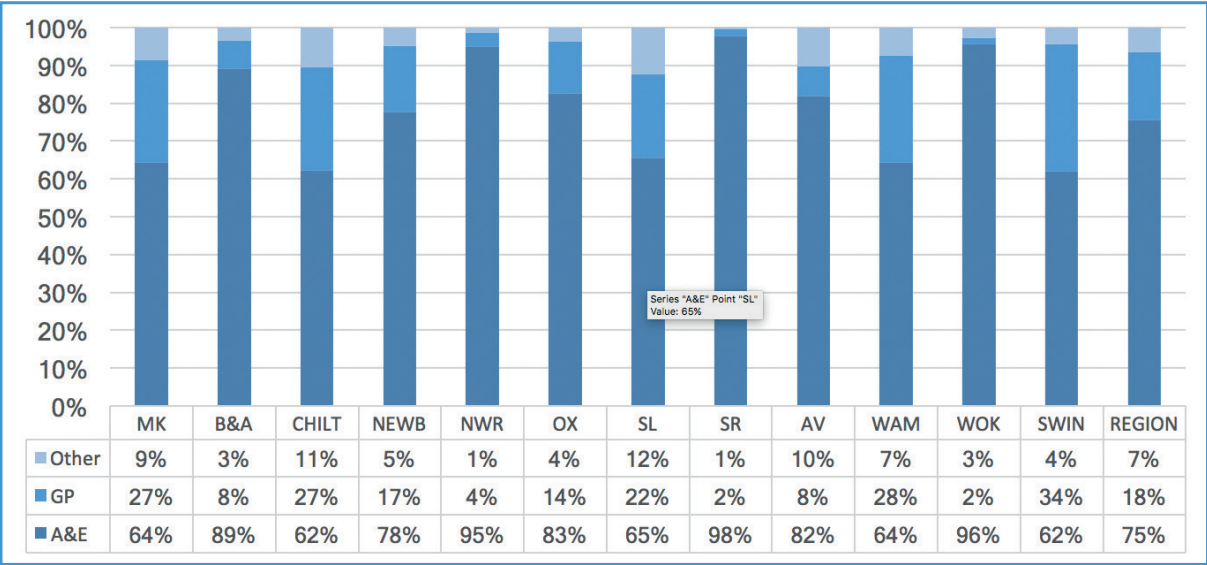
In North West Reading CCG and Aylesbury Vale CCG, the admission rate for all LoS lies within 2 SD of the regional average. When only non-zero LoS are considered these two CCGs become outliers with admission rates between 2-3 SD above the regional average.



Regionally, 39% (3,613/9,236) of children admitted with a diagnosis of viral induced wheeze were discharged within 24 hours. This varied from 30% (177/589) in South Reading CCG to 63% (464/731) in Swindon CCG.

Admissions lasting greater than 5 days vary from 0% in several CCGs to 3% (39/1193) in Milton Keynes. The regional average is 1% (81/9,236).

Source of admission

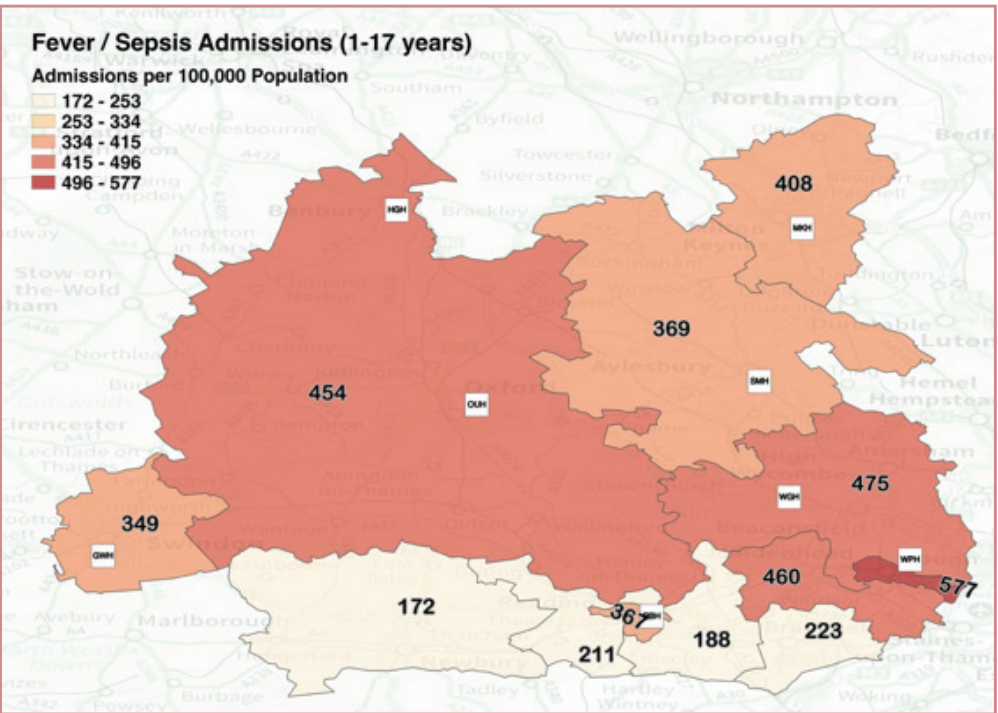


Across the region, 75% (6,966/9,236) of children admitted to hospital with diagnosis of viral induced wheeze were admitted through A&E. This varied from 98% (575/589) of admissions in South Reading down to 62% in Chiltern CCG (800/1,289) and Swindon CCG (452/731).

Fever & Sepsis

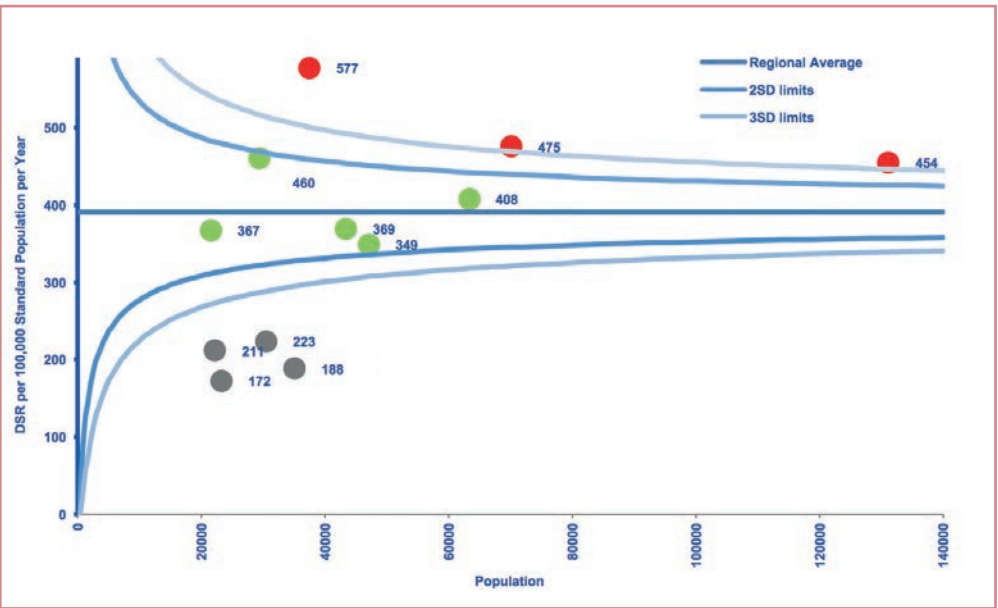
Admission rates

In 2015/16, the admissions of children with fever/sepsis were as follows:



The rate of admission of children (1-17yrs) with fever/sepsis in 2015/16 varied from 172 per 100,000 (95% CI 123 - 234 per 100,000) in Newbury and District CCG to 577 per 100,000 (95% CI 502 - 659 per 100,000) in Slough CCG. This represents a 3.4-fold variation between the lowest and highest rates of admission. The regional average admission rate was 390 per 100,000 (95% CI 374 - 407 per 100,000).

The funnel plot is shown below:

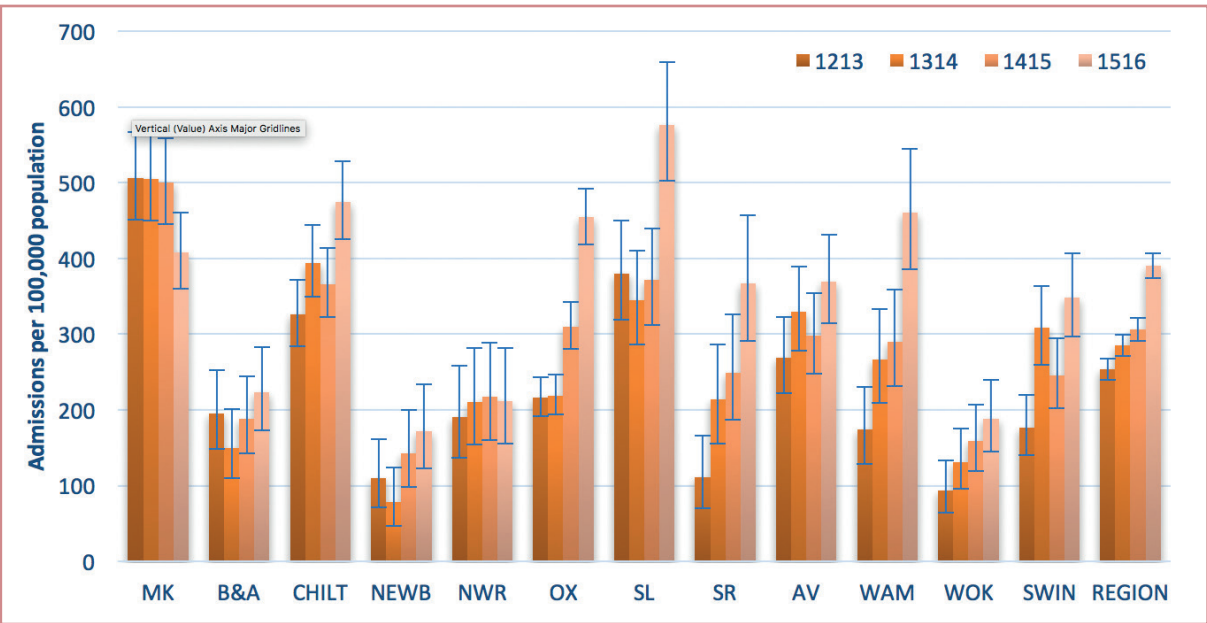


Chiltern, Oxfordshire, and Slough CCGs all have admission rates more than 3 standard deviations above the regional average.

For these three CCGs with admission rates significantly higher than the regional average, the total reduction in admissions required to bring the rate down to a) the regional average or b) within 2 standard deviations of the regional average (for that CCGs population) were calculated:

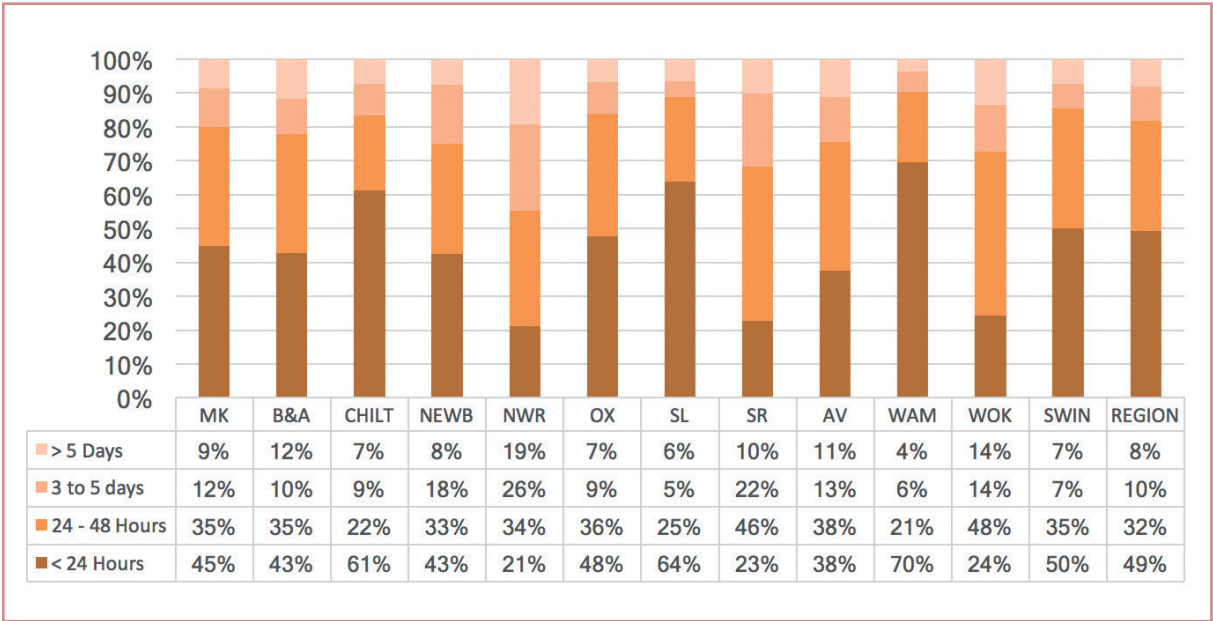
CCG	Admissions (per 100,000)	Number of admissions	To fall within 2 SD's of regional average	To match regional average
Oxford CCG	454	596	39 fewer admissions p.a.	84 fewer admissions p.a.
Chiltern CCG	475	333	25 fewer admissions p.a.	60 fewer admissions p.a.
Slough CCG	577	216	44 fewer admissions p.a.	70 fewer admission p.a.

The change in admissions over time is shown below. Error bars represent 95% confidence intervals.



There was a significant rise of 28% in admissions across the region between 2014/15 and 2015/16. There were significant increases in admission rates in Chiltern CCG (30%), Oxfordshire CCG (42%), Slough CCG (55%) and Windsor, Ascot & Maidenhead (59%).

Length of stay



Regionally 49% (1,068/2,162) of children admitted with a diagnosis of fever/sepsis were discharged within 24 hours. This varied from 21% (10/47) in North West Reading CCG to 70% in Windsor, Ascot & Maidenhead CCG (94/135).

Admissions lasting greater than 5 days vary from 4% in Windsor, Ascot and Maidenhead CCG (5/135) to 19% (10/47) in North & West Reading CCG. The regional average was 8% (172/2,162).

Excluding zero length of stay admissions

Examining only the admissions lasting longer than 0 days, the admission rates for 2015/16 were calculated. These data were then plotted on a new funnel plot and the CCGs falling outwith 2 or 3 standard deviations were noted. The non-zero LoS admission rate (per 100,000 population with 95% confidence interval), traffic light status for all admissions and for non-zero LoS admissions are shown in the table below:

	Non-zero LoS Admission Rate 2015/16	95% Confidence interval	All LoS	LoS >0
MK	224	(189-264)	●	●
B&A	128	(91-175)	●	●
CHILT	184	(154-219)	●	●
NEWB	99	(63-148)	●	●
NWR	166	(117-229)	●	●
OX	238	(212-266)	●	●
SL	208	(165-260)	●	●
SR	283	(217-364)	●	●
AV	231	(188-281)	●	●
WAM	140	(100-190)	●	●
WOK	142	(106-188)	●	●
SWIN	174	(139-216)	●	●
REGION	197	(186-209)		

Both Slough CCG and Chiltern CCG, whose admission rates (all LoS) were >3SD higher than the regional average, lie within 2SD of the regional average when only non-zero LoS are counted. This suggests that most of the rise in admissions has been in zero-LoS admissions.

For non-zero LoS admissions Oxford CCG, remains an outlier with an admission rate 2-3 standard deviations above the regional average.

South Reading CCGs non-zero LoS admission rate lies 2-3 SDs higher than the regional average.

Source of admission

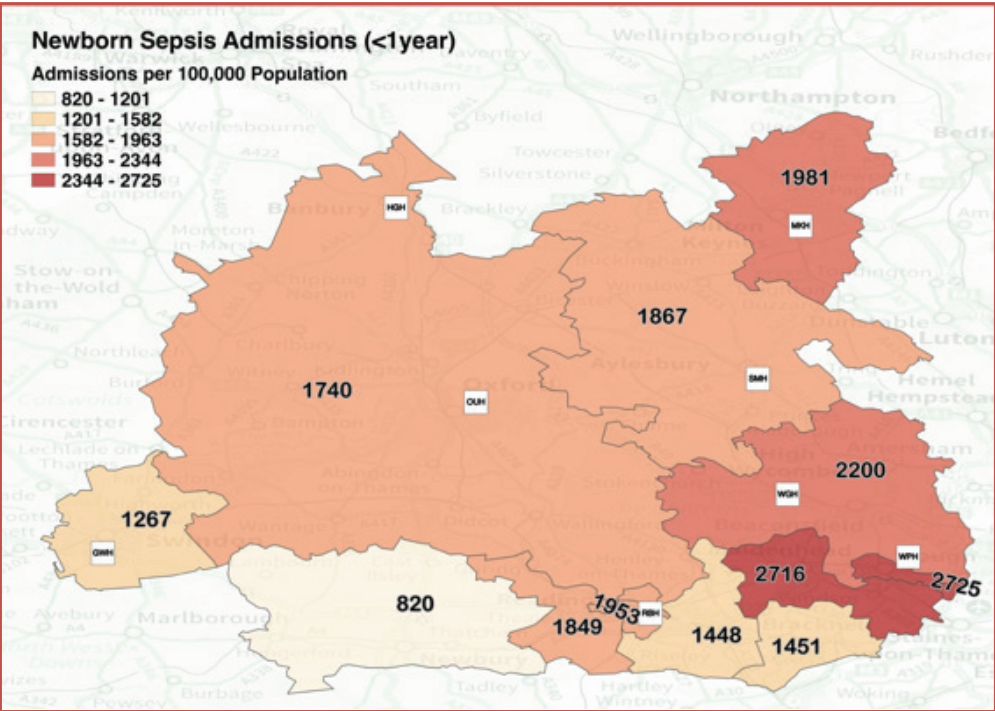


Across the region, 47% (1022/2162) of children admitted to hospital with diagnosis of fever/sepsis were admitted through A&E. This varied from 32% (69/216) of admissions in Slough CCG up to 76% (60/79) in South Reading CCG.

Newborn sepsis

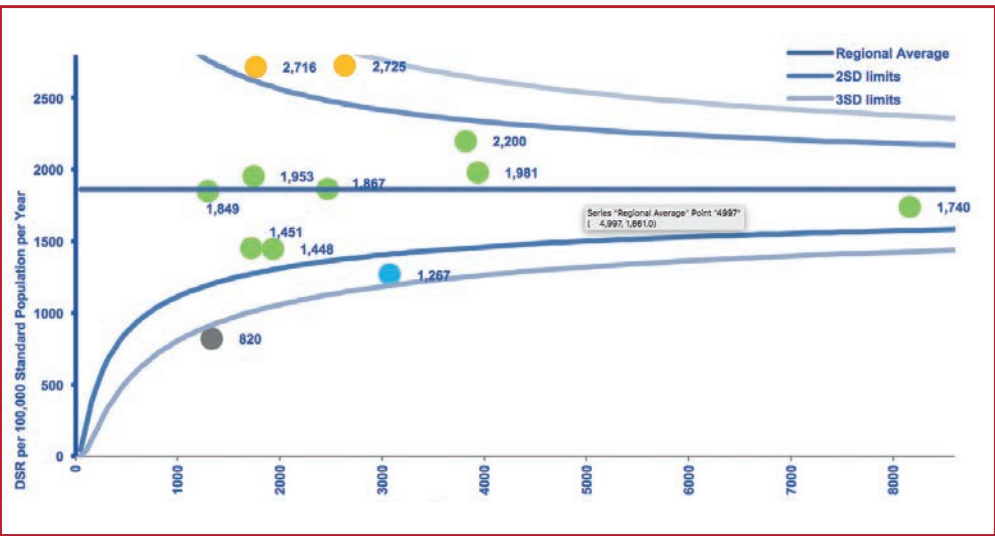
Admission rates

In 2015/16, the admissions of children with newborn sepsis were as follows:



The rate of admission of children (0-1 yrs) with newborn sepsis in 2015/16 varied from 820 per 100,000 (95% CI 409 - 1468 per 100,000) for Newbury and District CCG to 2,725 per 100,000 (95% CI 2,132 - 3,432 per 100,000) for Slough CCG. This represents a 3.3-fold variation between the lowest and highest rates of admission. The regional average admission rate was 1861 per 100,000 (95% CI 1719-2012 per 100,000).

The funnel plot is shown below:

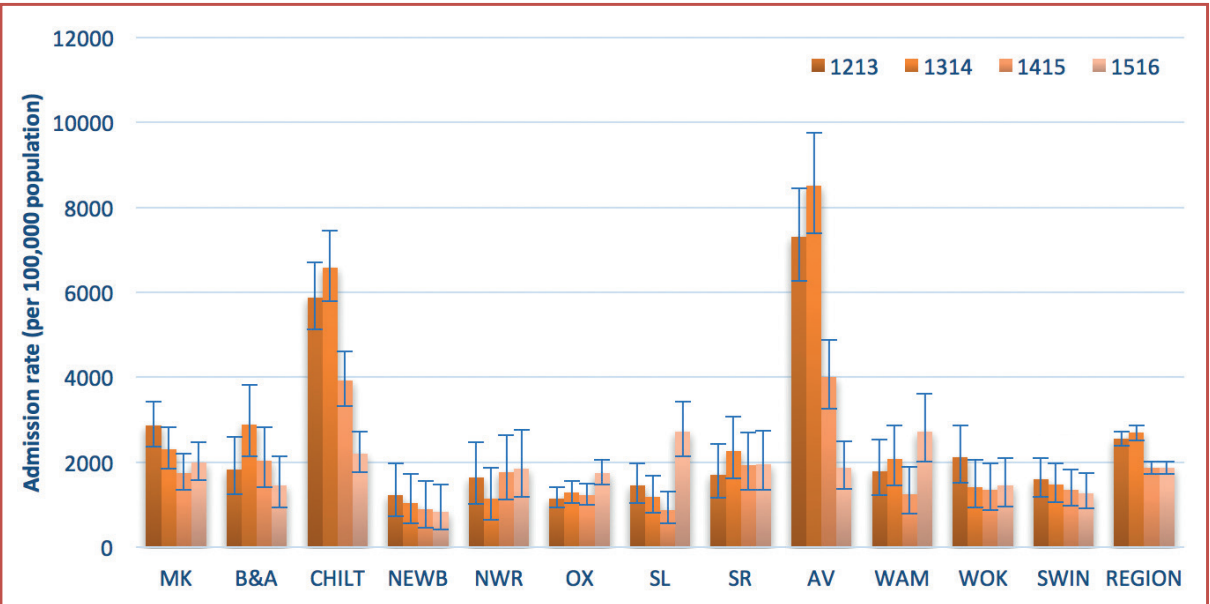


Slough and Windsor, Ascot & Maidenhead CCGs both have admission rates 2-3 standard deviations above the regional average.

For these two CCGs with admission rates significantly higher than the regional average, the total reduction in admissions required to bring the rate down to a) the regional average or b) within 2 standard deviations of the regional average (for that CCGs population) were calculated:

CCG	Admissions (per 100,000)	Number of admissions	To match regional average	To fall within 2 SDs of regional average
Slough CCG	3891	149	78 fewer admissions p.a.	60 fewer admissions p.a.
Windsor, Ascot & Maidenhead CCG	2716	48	2 fewer admissions p.a.	15 fewer admissions p.a.

The change in admissions over time is shown below. Error bars represent 95% confidence intervals.

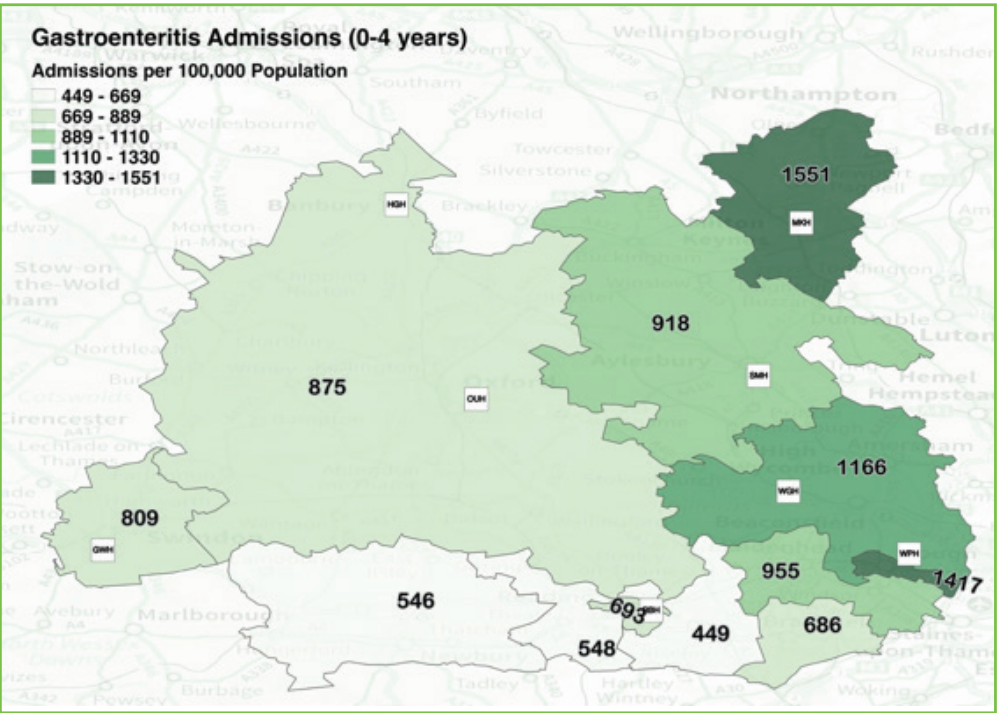


There was a significant fall in admission rate between 2014/15 and 2015/16 in both Aylesbury Vale CCG (53% reduction) and in Chiltern CCG (44% reduction). There were significant rises in the admission rates in both Slough CCG (214% rise) and Windsor, Ascot and Maidenhead CCG (118% rise). The regional average was stable between 2014/15 and 2015/16.

Gastroenteritis

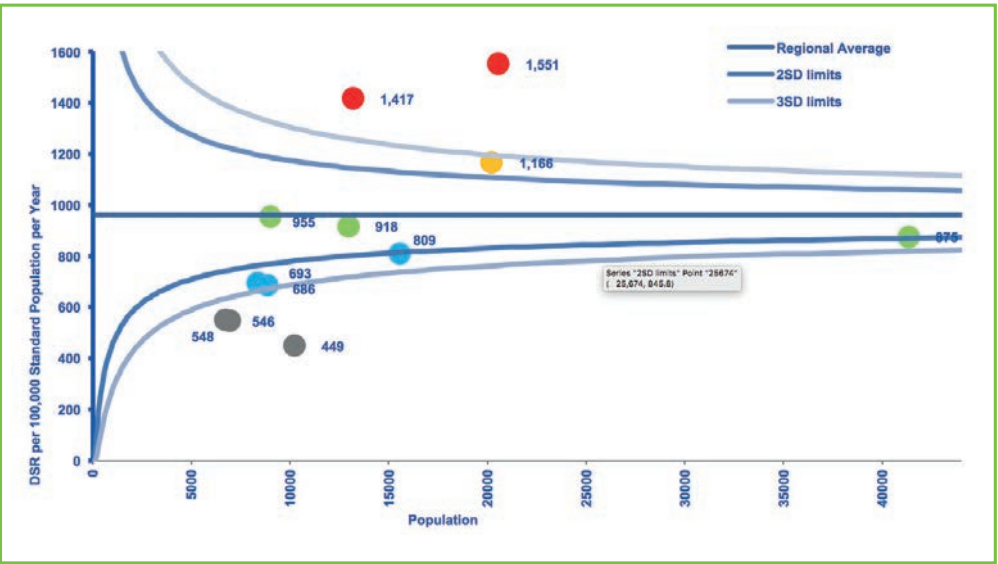
Admission rates (0-4 years)

In 2015/16, the admission rates of children aged 0-4 with gastroenteritis were as follows:



The rate of admission of children (0-4 yrs) with gastroenteritis in 2015/16 varied from 449 per 100,000 (95% CI 329 - 599 per 100,000) for Wokingham CCG to 1551 per 100,000 (95% CI 1347-1779 per 100,000) for Milton Keynes CCG. This represents a 3.5-fold variation between the lowest and highest rates of admission. The regional average admission rate was 962 per 100,000 (95% CI 917 - 1009 per 100,000).

The funnel plot is shown below:



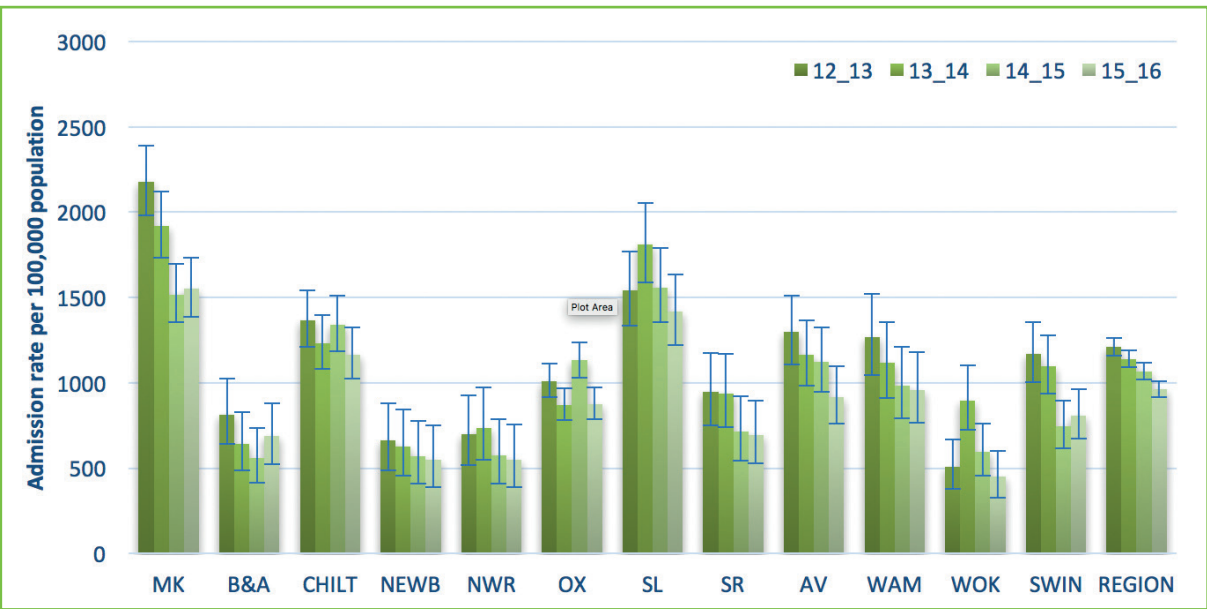
Milton Keynes and Slough CCGs both had an admission rate more than 3 standard deviations above the regional average.

For these two CCGs, the total reduction in admissions required to bring the rate down to a) the regional average or b) within 2 standard deviations of the regional average (for that CCGs population) were calculated:

CCG	Admissions (per 100,000)	Number of admissions	To fall within 2 SDs of regional average	To match regional average
Slough CCG	1417	187	36 fewer admissions p.a.	60 fewer admissions p.a.
Milton Keynes CCG	1551	319	92 fewer admissions p.a.	121 fewer admissions p.a.

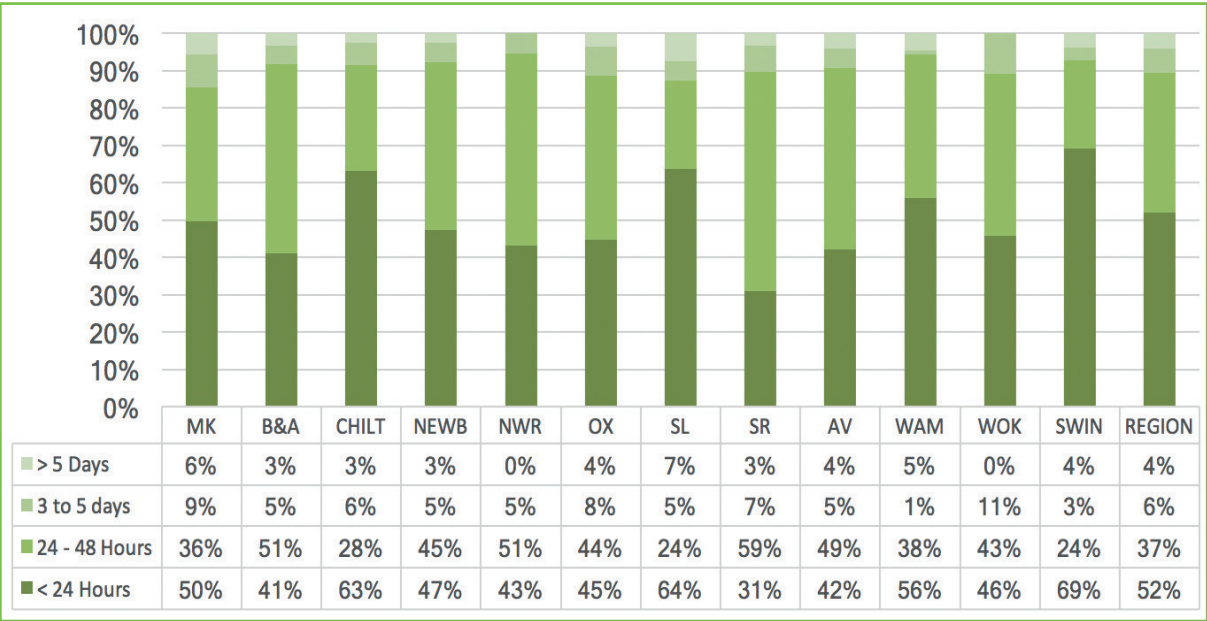
Admissions over time (0-4 years)

The change in admissions over time is shown below. Error bars represent 95% confidence intervals.



There was a significant (10%) reduction in admission rates between 2014/15 and 2015/16 across the region as a whole. In Oxford there was a 23% reduction in admissions. This followed a 30% rise in admissions the previous year. There were no other significant changes between 2014/15 and 2015/16. Regionally there has been a statistically non-significant drop year on year in admission rates over the 4 year period. Cumulatively, this has resulted in a drop from 1209 per 100,000 in 12/13 to 962 per 100,000, which is statistically significant.

Length of stay



Regionally 52% (871/1,675) of children aged 0-4 years, admitted with a diagnosis of gastroenteritis were discharged within 24 hours. This varied from 31% (18/58) in South Reading CCG to 69% in Swindon CCG (87/126).

Admissions lasting greater than 5 days vary from 4% in Windsor, Ascot and Maidenhead CCG (5/135) to 19% (10/47) in North & West Reading CCG. The regional average was 8% (172/2,162).

Excluding zero length of stay admissions

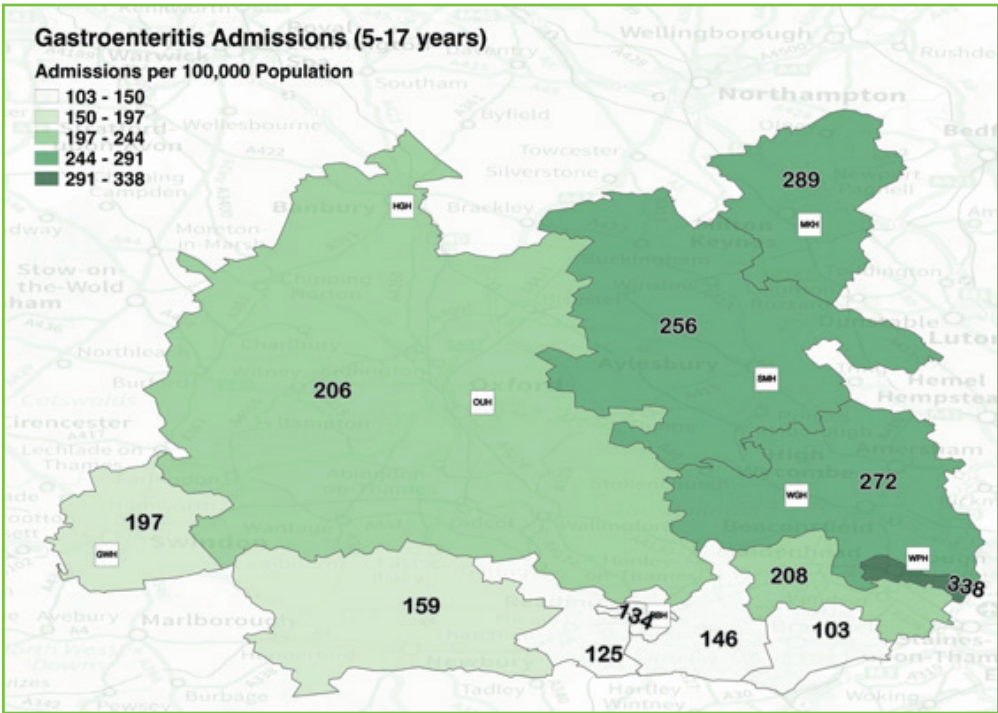
Examining only the admissions lasting longer than 0 days, the admission rates for 2015/16 were calculated. These data were then plotted on a new funnel plot and the CCGs falling outwith 2 or 3 standard deviations were noted. The non-zero LoS admission rate (per 100,000 population) with 95% confidence intervals, traffic light status for all admissions and for non-zero LoS admissions are shown in the table below:

	Non-zero LoS Admission Rate 2015/16	95% Confidence interval	All LoS	LoS >0
MK	474	(424-529)	●	●
B&A	189	(145-243)	●	●
CHILT	319	(280-363)	●	●
NEWB	155	(109-212)	●	●
NWR	157	(111-217)	●	●
OX	260	(234-288)	●	●
SL	466	(402-538)	●	●
SR	249	(189-322)	●	●
AV	260	(215-311)	●	●
WAM	277	(221-342)	●	●
WOK	124	(91-166)	●	●
SWIN	251	(209-299)	●	●
REGION	285	(271-299)		

Both Slough CCG and Milton Keynes CCG, whose admission rates (all LoS) were >3SD higher than the regional average, remain >3SD above the regional average when only non-zero LoS admissions are counted. Chiltern CCG, which lies 2-3 SD above the regional average for all LoS admissions, falls to within 2SD of the regional average when only non-zero LoS admissions are counted.

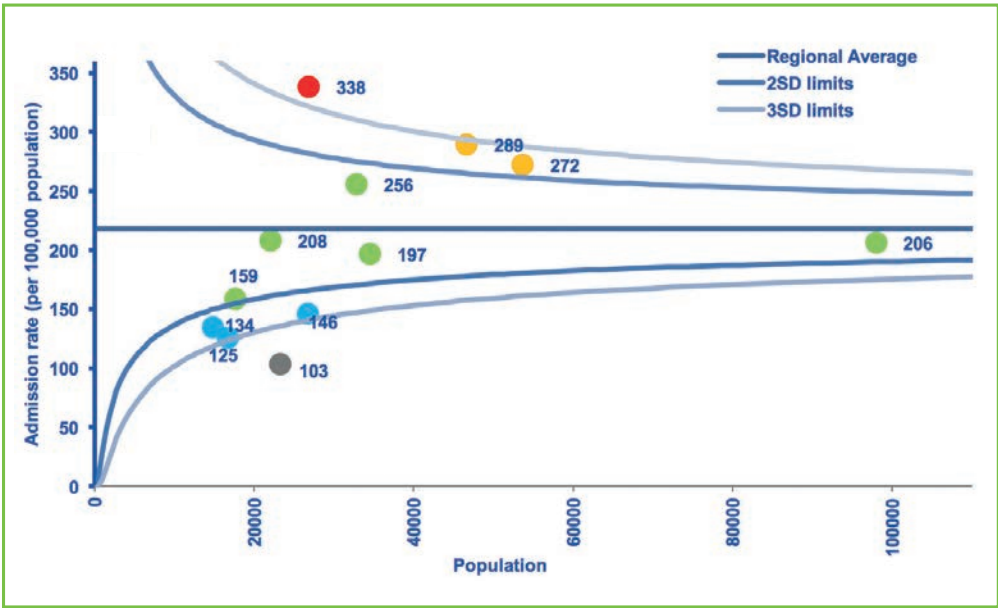
Admission rates (5-17 years)

In 2015/16, the admissions of children aged 5-17 with gastroenteritis were as follows:



The rate of admission of children (5-17 yrs) with gastroenteritis in 2015/16 varied from 103 per 100,000 (95% CI 66–153 per 100,000) for Bracknell & Ascot CCG to 338 per 100,000 (95% CI 272-415 per 100,000) for Slough CCG. This represents a 3.3-fold variation between the lowest and highest rates of admission. The regional average admission rate was 218 per 100,000 (95% CI 204-233 per 100,000).

The funnel plot is shown below:

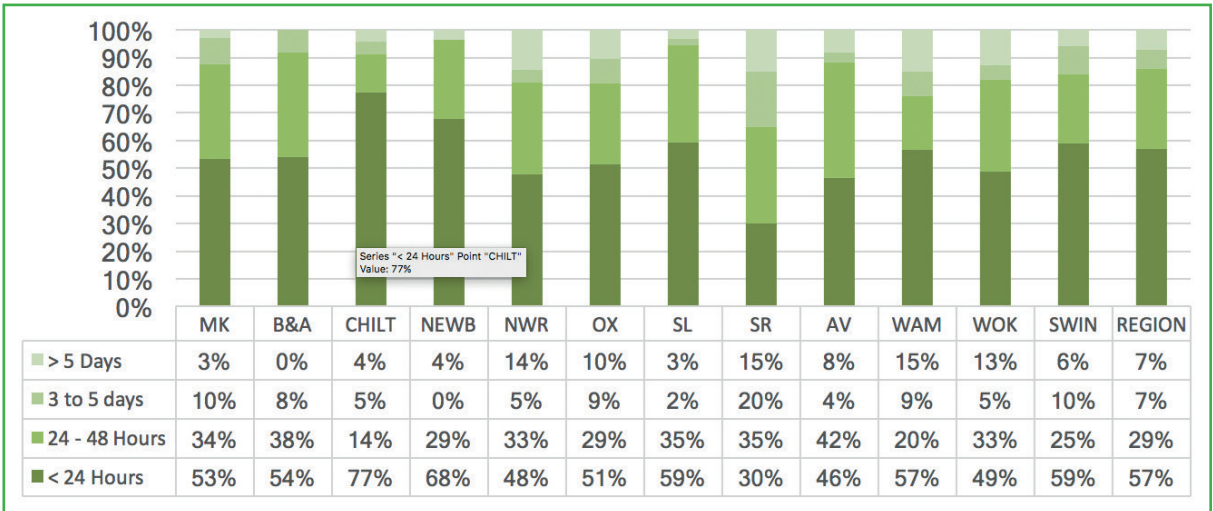


Three CCGs had admission rates significantly higher than the regional average. Slough CCG was >3 standard deviations above the regional average. In Chiltern CCG and Milton Keynes CCG the admission rate was between 2-3 standard deviations higher than the regional average.

For the three CCGs with admission rates significantly higher than the regional average, the total reduction in admissions required to bring the rate down to a) the regional average or b) within 2 standard deviations of the regional average (for that CCGs population) were calculated:

CCG	Admissions (per 100,000)	Number of admissions	To fall within 2 SDs of regional average	To match regional average
Slough CCG	338	91	15 fewer admissions p.a.	32 fewer admissions p.a.
Milton Keynes CCG	289	135	11 fewer admissions p.a.	33 fewer admission p.a.
Chiltern CCG	272	146	6 fewer admissions p.a.	29 fewer admissions p.a.

Length of Stay



Regionally, 57% (515/904) of children aged 5-17 years admitted with a diagnosis of gastroenteritis were discharged within 24 hours. This varied from 30% (6/20) in South Reading CCG to 77% in Chiltern CCG (113/146).

Admissions lasting greater than 5 days vary from 0% in Bracknell & Ascot CCG to 15% in Windsor, Ascot & Maidenhead CCG and South Reading CCG. The regional average was 7% (64/904).

Excluding zero length of stay admissions

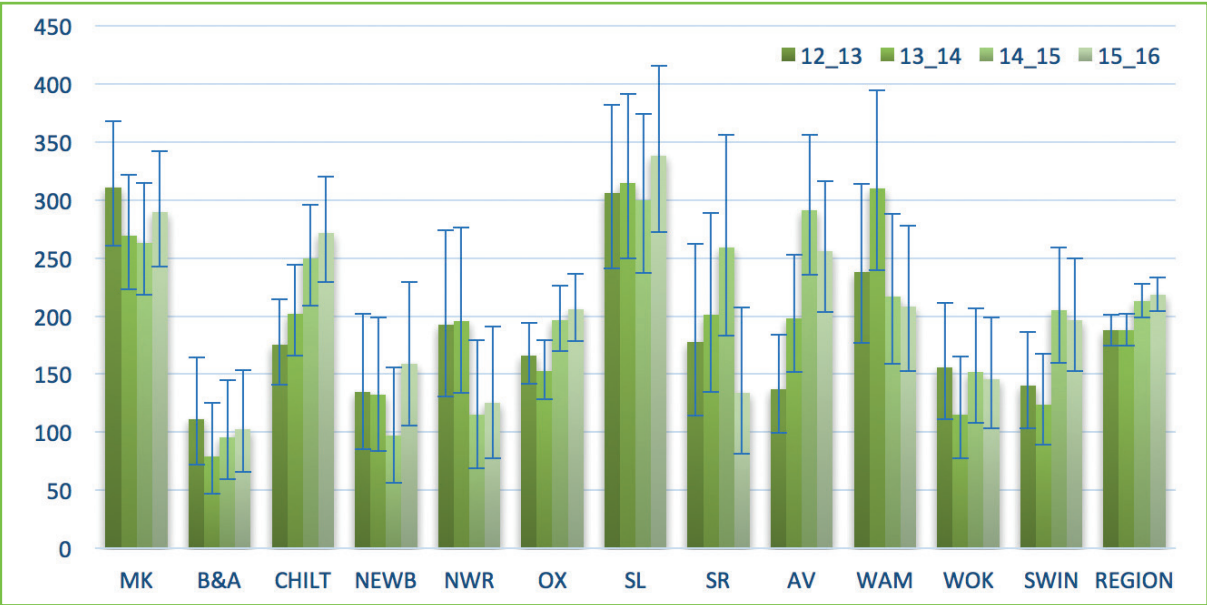
Examining only the admissions lasting longer than 0 days, the admission rates for 2015/16 were calculated. These data were then plotted on a new funnel plot and the CCGs falling outwith 2 or 3 standard deviations were noted. The non-zero LoS admission rate (per 100,000 population) with 95% confidence intervals, traffic light status for all admissions and for non-zero LoS admissions are shown in the table below:

	Non-zero LoS Admission Rate 2015/16	95% Confidence interval	All LoS	LoS >0
MK	289	(242-342)		
B&A	103	(66-153)		
CHILT	272	(230-320)		
NEWB	159	(105-229)		
NWR	125	(77-191)		
OX	206	(179-237)		
SL	338	(272-415)		
SR	134	(82-207)		
AV	256	(204-316)		
WAM	208	(152-278)		
WOK	146	(104-199)		
SWIN	197	(153-250)		
REGION	218	(204-233)		

Comparing non-zero LoS admissions against the regional average, Slough CCG remains an outlier with an admission rates >3SD higher than the regional average.

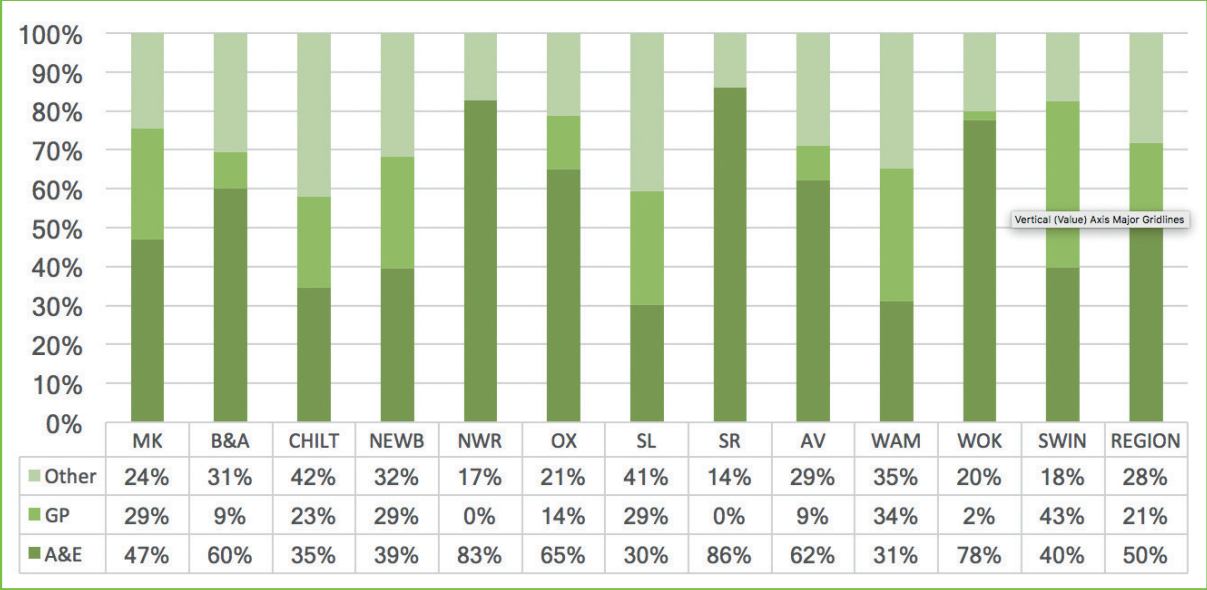
Chiltern CCG and Milton Keynes CCG, whose admission rate for all LoS lay 2-3 SD's above the regional average remains an outlier with admission rates 2-3 SD above the regional average.

The change in admissions over time is shown below. Error bars represent 95% confidence intervals.



There were reductions of up to 48% in South Reading CCG and rises of up to 63% in Newbury & District CCG. Due to the small numbers involved none of these were statistically significant.

Source of admission (all ages)

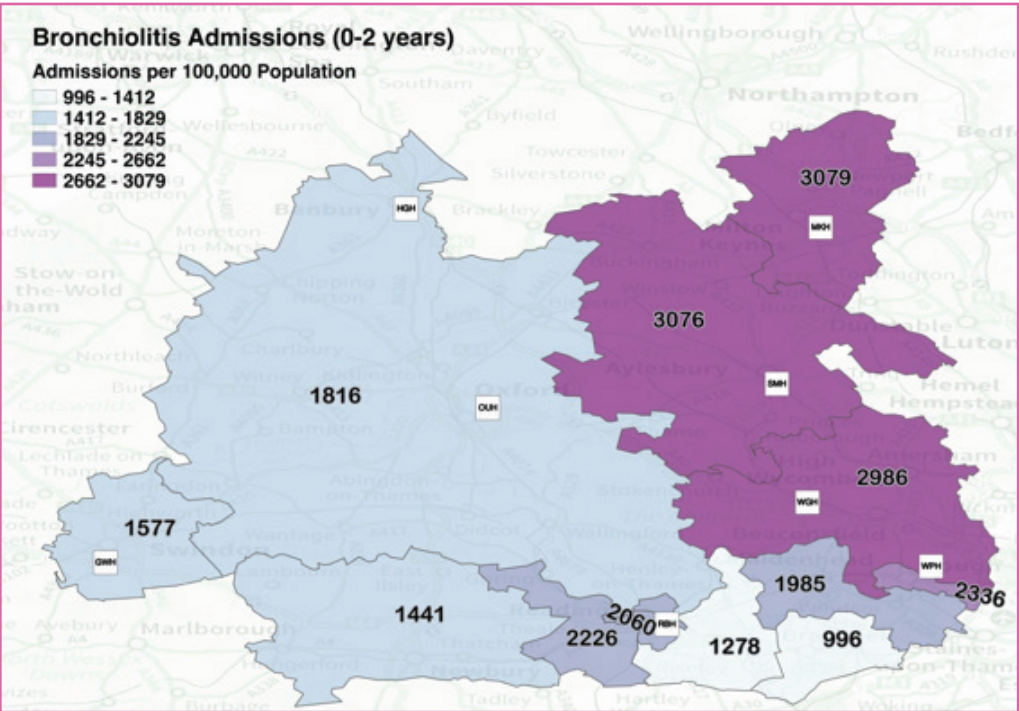


Across the region 50% (1,297/2,579) of children admitted to hospital with diagnosis of gastroenteritis were admitted through A&E. This varied from 30% (84/278) of admissions in Slough CCG to 86% (67/78) in South Reading CCG.

Bronchiolitis

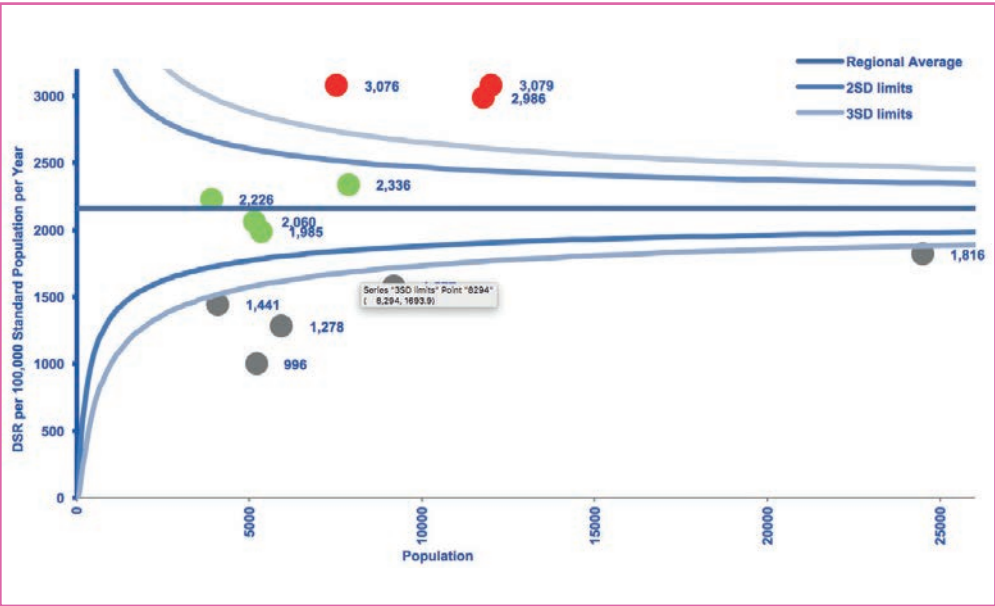
Admission rates

In 2015/16, the admissions of children with bronchiolitis were as follows:



The rate of admission of children (0-2 yrs) with bronchiolitis in 2015/16 varied from 996 per 100,000 (95% CI 744 –1,306 per 100,000) for Bracknell & Ascot CCG to 3,079 per 100,000 (95% CI 2,773-3,409 per 100,000) for Milton Keynes CCG. This represents a 3.1-fold variation between the lowest and highest rates of admission. The regional average admission rate was 2,158 per 100,000 (95% CI 2,069-2,250 per 100,000).

The funnel plot is shown below:

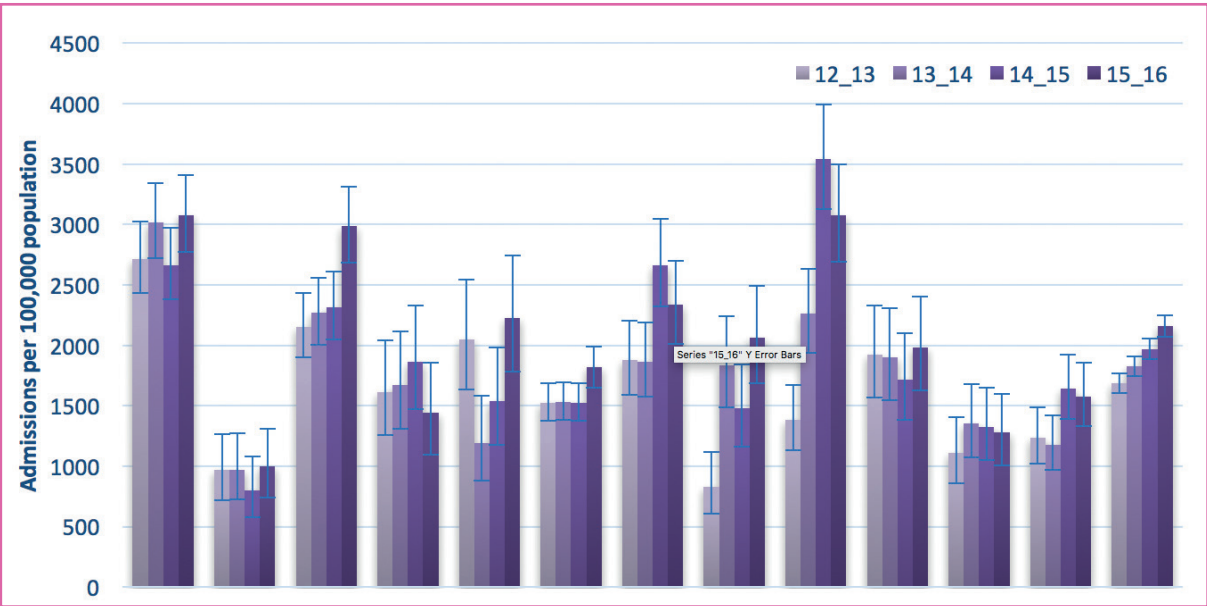


Milton Keynes, Chiltern and Aylesbury Vale CCGs all have admission rates more than 3 standard deviations above the regional average.

For the 3 CCGs with admission rates significantly higher than the regional average, the total reduction in admissions required to bring the rate down to a) the regional average or b) within 2 standard deviations of the regional average (for that CCGs population) were calculated:

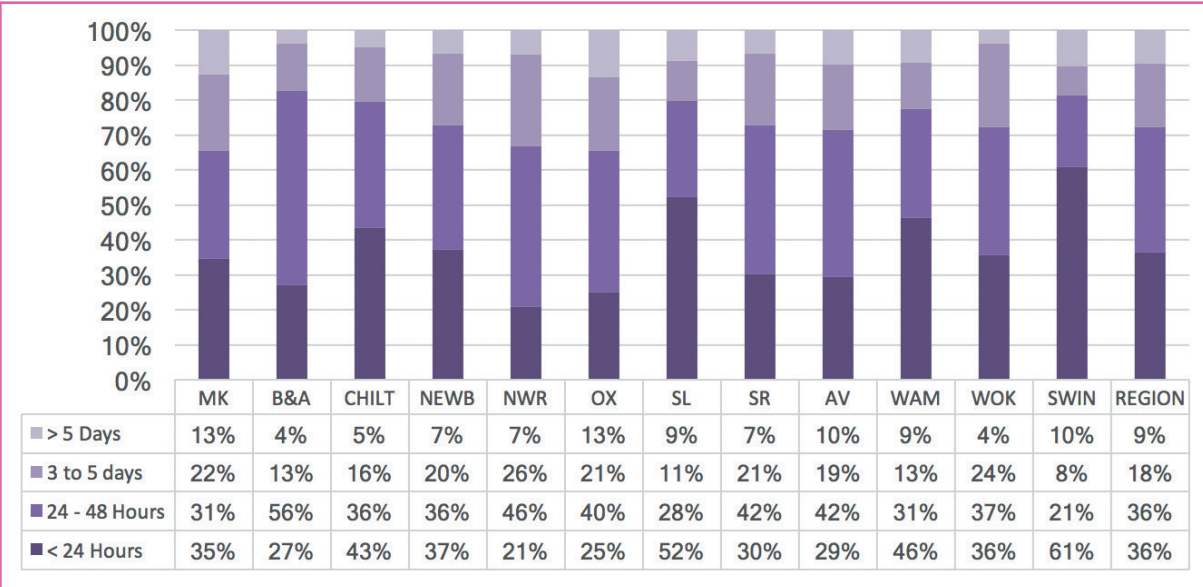
CCG	Admissions (per 100,000)	Number of admissions	To fall within 2 SDs of regional average	To match regional average
Aylesbury Vale CCG	3076	232	42 fewer admissions p.a.	69 fewer admissions p.a.
Milton Keynes CCG	3079	370	77 fewer admissions p.a.	111 fewer admissions p.a.
Chiltern CCG	2986	352	64 fewer admission p.a.	98 fewer admissions p.a.

The change in admissions over time is shown below. Error bars represent 95% confidence intervals.



There was a significant rise in admission rate between 2014/15 and 2015/16 in Chiltern CCG (29% increase). This is in the context of a 10% rise (statistically significant) in admissions across the region.

Length of Stay



Regionally 36% (806/2214) of children admitted with a diagnosis of bronchiolitis were discharged within 24 hours. This varied from 21% (18/87) in North West Reading CCG to 61% in Swindon CCG (88/145).

Admissions lasting greater than 5 days vary from 4% in Wokingham CCG & Bracknell & Ascot to 13% in Oxfordshire CCG and Milton Keynes CCG. The regional average was 9% (210/2,214).

Excluding zero LoS admissions

Examining only the admissions lasting longer than 0 days, the admission rates for 2015/16 were calculated. These data were then plotted on a new funnel plot and the CCGs falling outwith 2 or 3 standard deviations were noted. The non-zero LoS admission rate (per 100,000 population) traffic light status for all admissions and for non-zero LoS admissions are shown in the table below:

	Non-zero LoS Admission Rate 2015/16	95% Confidence interval	All LoS	LoS >0
MK	2014	(1768-2284)	●	●
B&A	728	(515-999)	●	●
CHILT	1688	(1462-1940)	●	●
NEWB	904	(636-1246)	●	●
NWR	1766	(1374-2235)	●	●
OX	1363	(1221-1517)	●	●
SL	1117	(896-1377)	●	●
SR	1438	(1129-1805)	●	●
AV	2174	(1854-2534)	●	●
WAM	1067	(808-1383)	●	●
WOK	824	(609-1089)	●	●
SWIN	620	(469-803)	●	●
REGION	1373	(1302-1446)		

Both Aylesbury Vale and Milton Keynes CCGs, whose admission rates (all LoS) were >3SD higher than the regional average, remain outliers with admission rate still outwith 3SD of the regional average. Chiltern CCG whose all LoS admission rates was >3SDs higher than the regional average lies within 2-3 SD higher than the regional average when only non-zero LoS are counted.

Source of admission

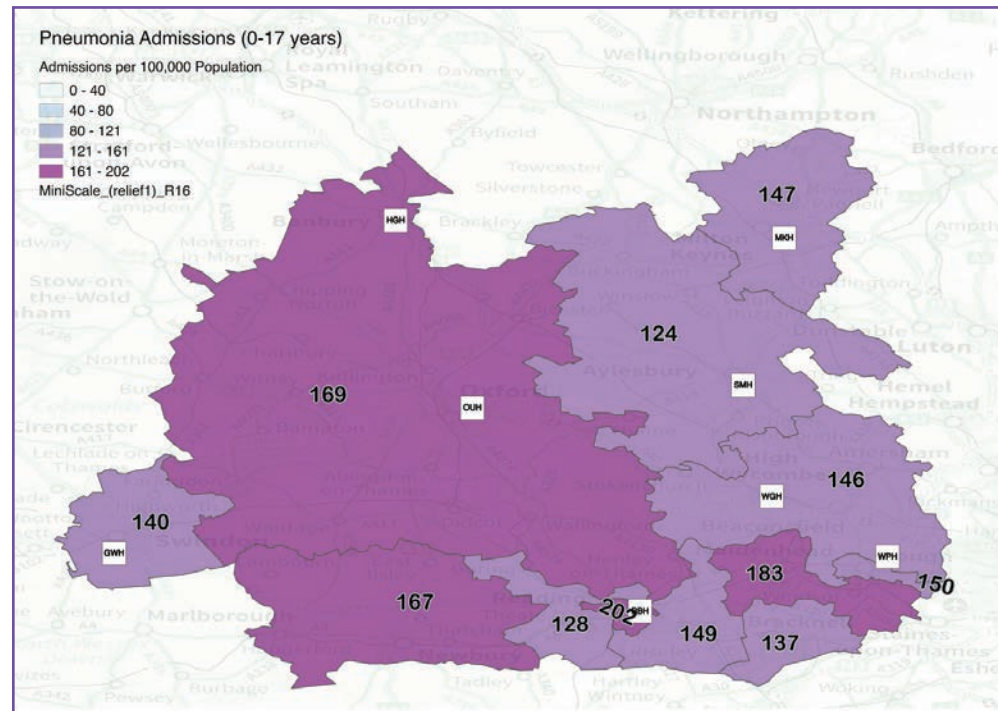
Across the region, 63% (1,397/2,214) of children admitted to hospital with a diagnosis of bronchiolitis were admitted through A&E. This varied from 95% (72/76) of admissions in Wokingham CCG down to 43% in Milton Keynes CCG (159/370), Swindon CCG (62/145) and Windsor, Ascot & Maidenhead CCG (46/106).



Pneumonia

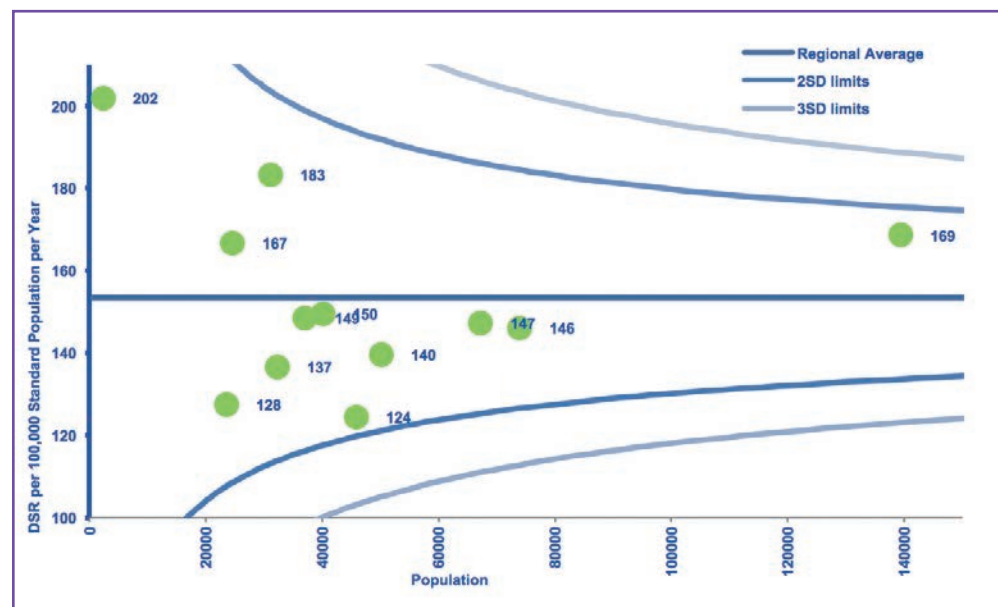
Admission rates

In 2015/16, the admissions of children with pneumonia were as follows:



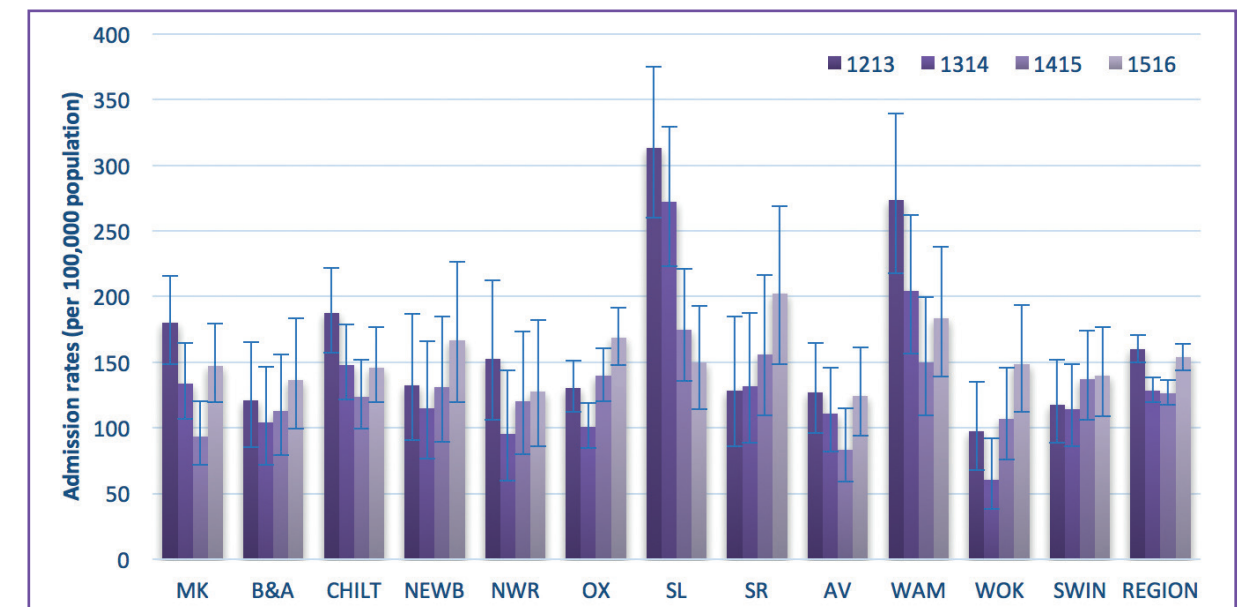
The rate of admission of children (0-17 yrs) with pneumonia in 2015/16 varied from 124 per 100,000 (95% CI 94-161 per 100,000) for Aylesbury Vale CCG to 202 per 100,000 (95% CI 148-268 per 100,000) for South Reading CCG. This represents a 1.6-fold variation between the lowest and highest rates of admission. The regional average admission rate was 153 per 100,000 (95% CI 144-164 per 100,000).

The funnel plot is shown below:



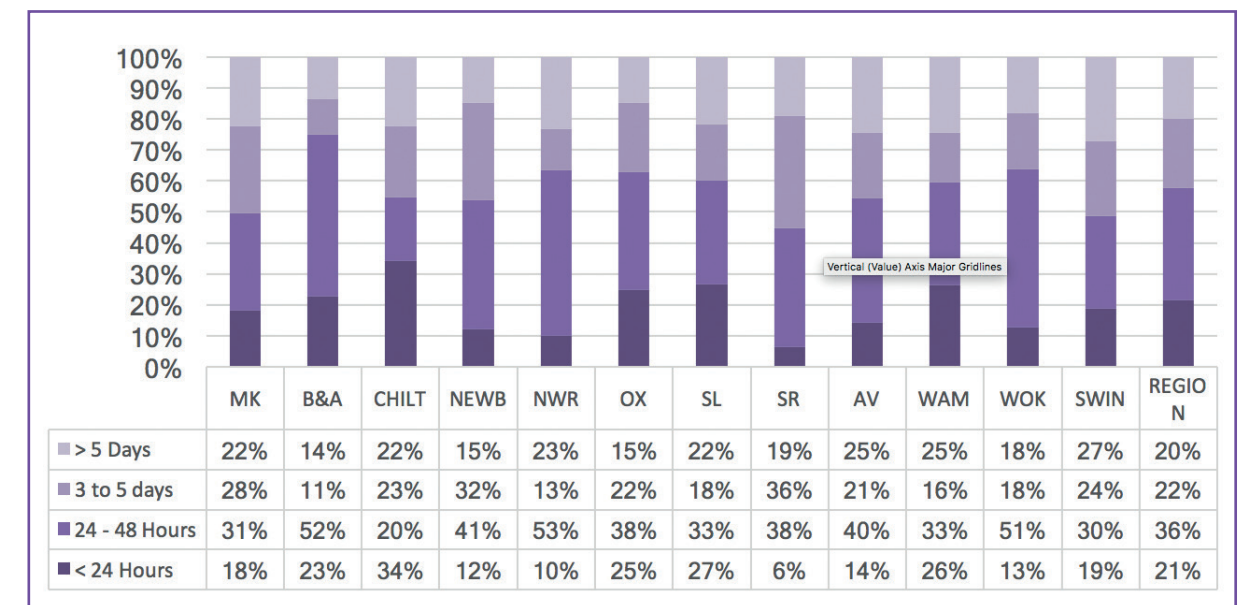
All CCGs fall within 2 standard deviations for admission rates for pneumonia.

The change in admissions over time is shown below. Error bars represent 95% confidence intervals.



There were no significant changes in admission rates in any one CCG between 2014/15 and 2015/16. There was a statistically significant rise of 21% across the whole region between 2014/15 and 2015/16.

Length of stay

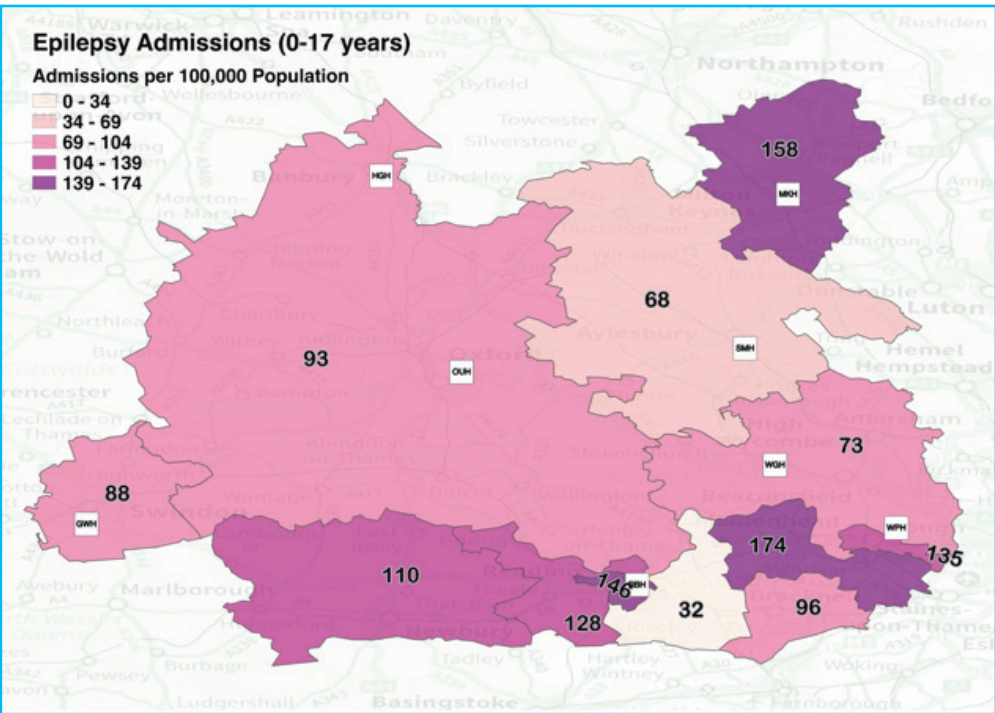


Regionally, 21% (193/903) of children admitted with a diagnosis of pneumonia were discharged within 24 hours. This varied from 6% in South Reading CCG to 34% (37/108) in Chiltern CCG.

Epilepsy

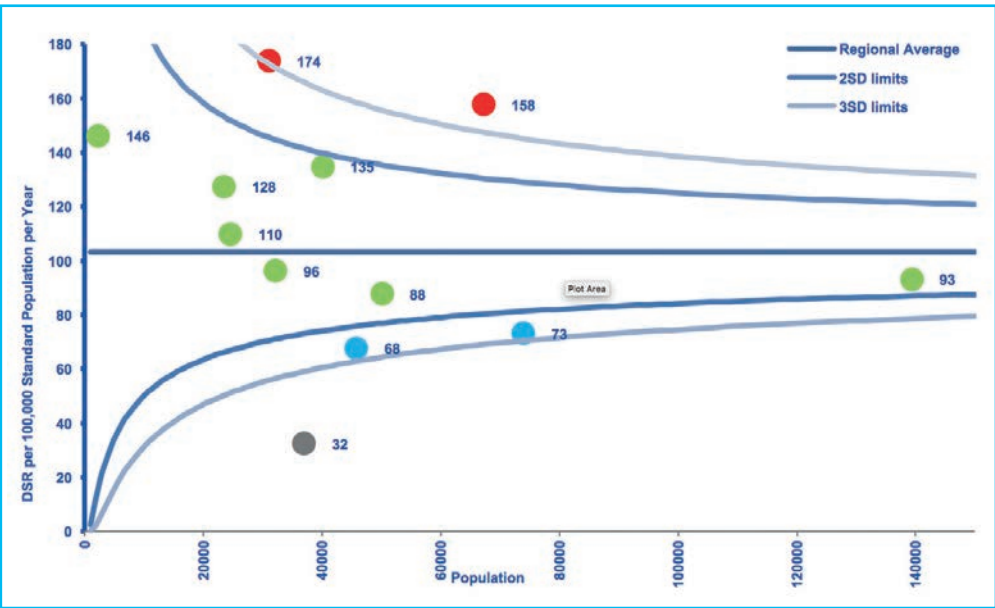
Admission rates

In 2015/16, the admissions of children with epilepsy were as follows:



The rate of admission of children (0-17 yrs) with epilepsy (where epilepsy was the primary cause of their admission) in 2015/16 varied from 32 per 100,000 (95% CI 17-57 per 100,000) for Wokingham CCG to 174 per 100,000 (95% CI 130-227 per 100,000) for Windsor, Ascot & Maidenhead CCG. This represents a 5.4-fold variation between the lowest and highest rates of admission. The regional average admission rate was 103 per 100,000 (95% CI 95-112 per 100,000).

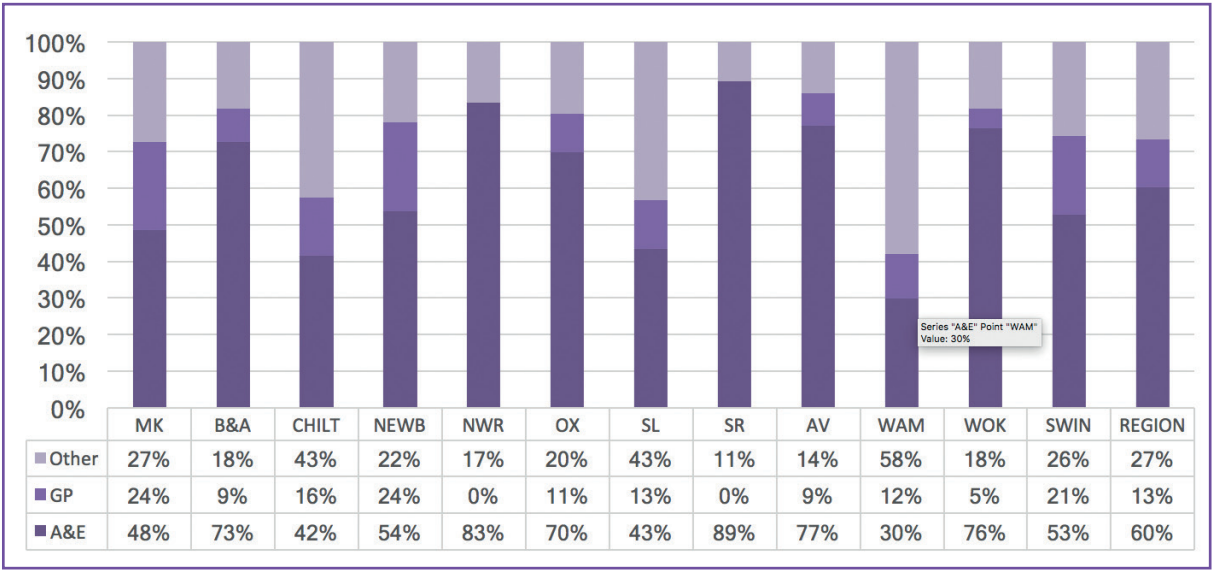
The funnel plot is shown below:



Milton Keynes and Windsor, Ascot & Maidenhead CCGs both have admission rates more than 3 standard deviations above the regional average.

Admissions lasting greater than 5 days vary from 14% in Bracknell & Ascot (6/44) to 27% (19/70) in Swindon CCG. The regional average was 20% (135/736).

Source of admission

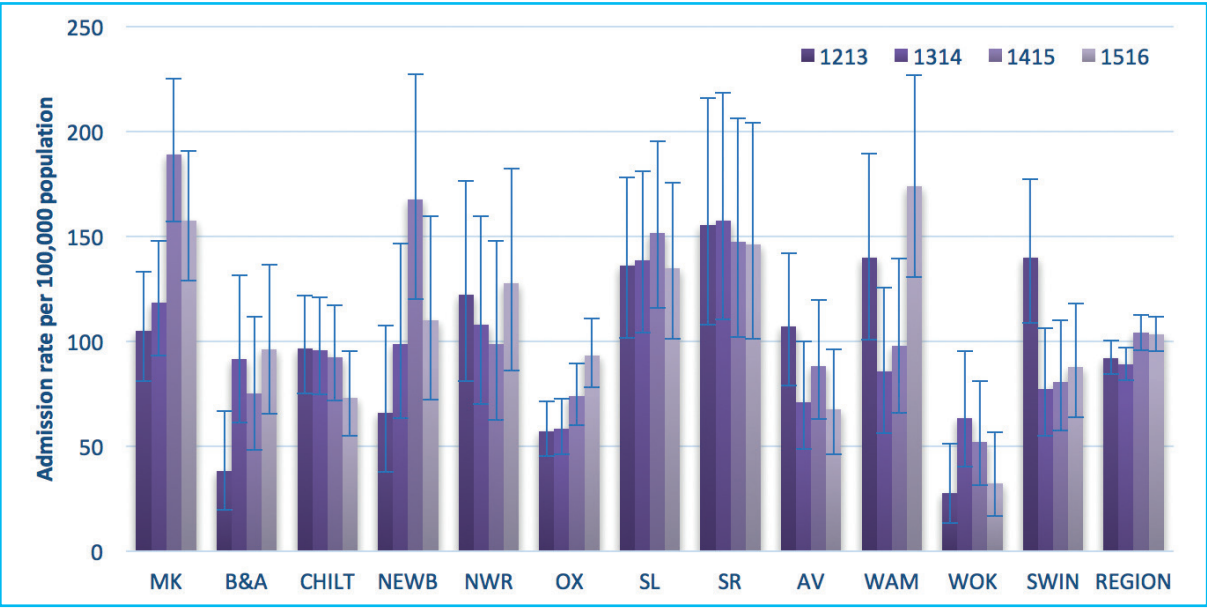


Across the region, 60% (544/903) of children admitted to hospital with a diagnosis of pneumonia were admitted through A&E. This varied from 89% (42/47) of admissions in South Reading CCG down to 30% (17/57) in Windsor, Ascot & Maidenhead CCG.

For these two CCGs the total reduction in admissions required to bring the rate down to a) the regional average or b) within 2 standard deviations of the regional average (for that CCGs population) were calculated:

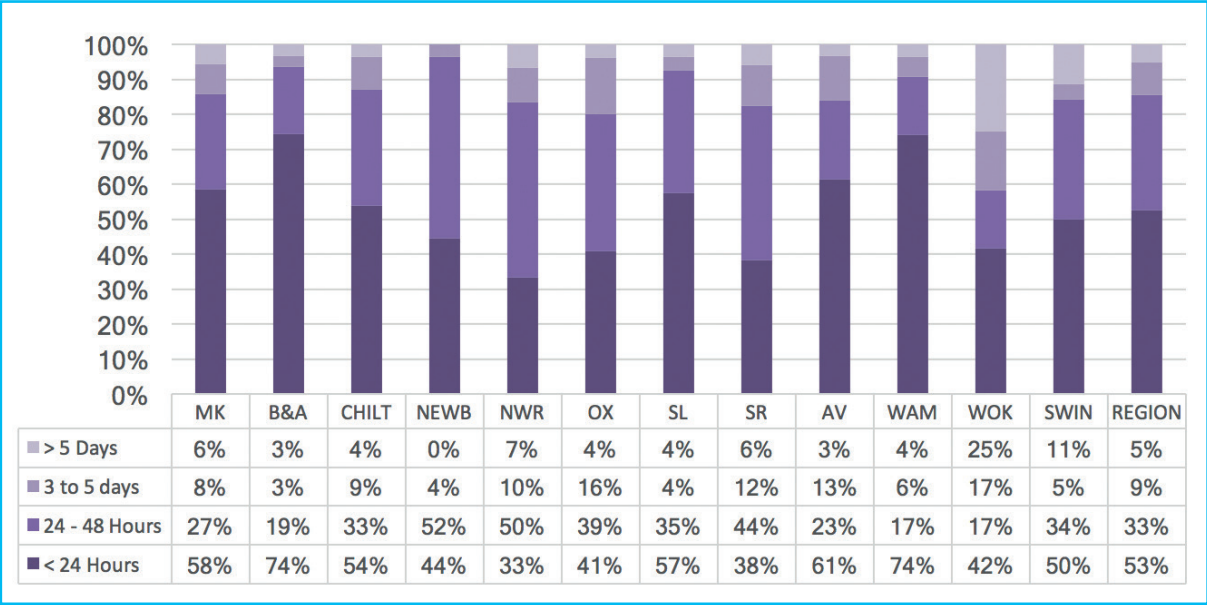
CCG	Admissions (per 100,000)	Number of admissions	To fall within 2 SDs of regional average	To match regional average
Windsor, Ascot & Maidenhead	174	54	9 fewer admissions p.a.	22 fewer admissions p.a.
Milton Keynes CCG	158	106	18 fewer admissions p.a.	37 fewer admissions p.a.

The change in admissions over time is shown below. Error bars represent 95% confidence intervals.



There were no significant changes in admission rates in any one CCG between 2014/15 and 2015/16. There was no significant change in the regional admission rate over the four-year period.

Length of stay



Regionally, 53% (319/607) of children admitted with a diagnosis of epilepsy were discharged within 24 hours. This varied from 33% (10/30) in North West Reading CCG to 74% in Bracknell & Ascot CCG (23/31) and in Windsor, Ascot & Maidenhead CCG (40/54).

Admissions lasting greater than 5 days vary from 0% in Newbury & District CCG to 25% in Wokingham CCG; the numbers were small in all areas. The regional average was 5% (31/607).

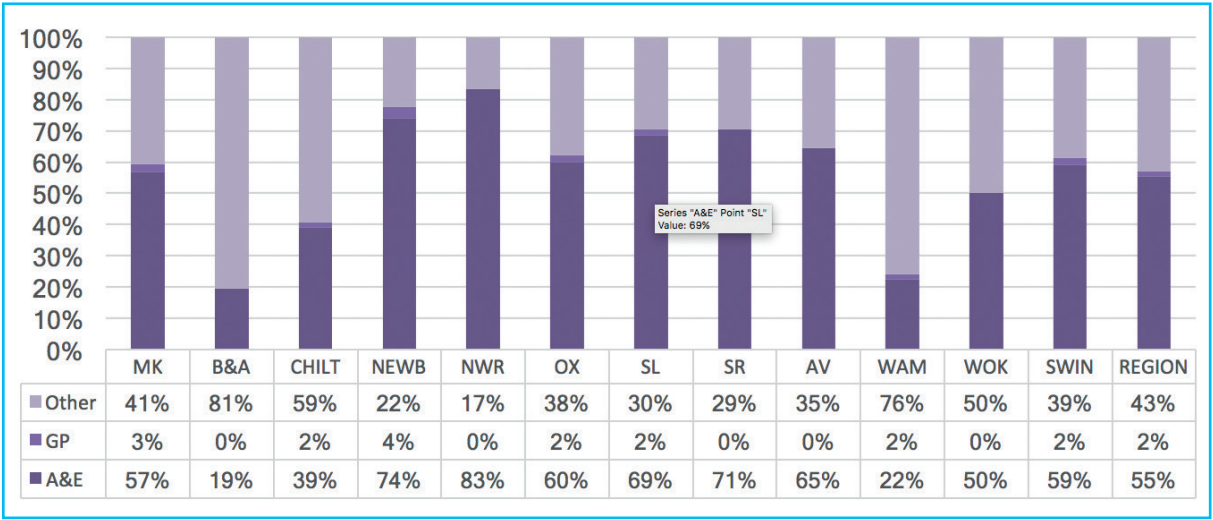
Excluding zero LoS admissions

Examining only the admissions lasting longer than 0 days, the admission rates for 2015/16 were calculated. These data were then plotted on a new funnel plot and the CCGs falling outwith 2 or 3 standard deviations were noted. The non-zero LoS admission rate (per 100,000 population) traffic light status for all admissions and for non-zero LoS admissions are shown in the table below:

	Non Zero LoS Admission Rate 2015/16	95% Confidence Interval	All LoS	LoS > 0
MK	65	(48 - 88)	●	●
B&A	25	(11 - 49)	●	●
CHILT	34	(22 - 50)	●	●
NEWB	61	(34 - 101)	●	●
NWR	85	(52 - 131)	●	●
OX	55	(44 - 69)	●	●
SL	57	(36 - 86)	●	●
SR	90	(56 - 138)	●	●
AV	26	(14 - 46)	●	●
WAM	45	(25 - 76)	●	●
WOK	19	(8 - 39)	●	●
SWIN	44	(27 - 66)	●	●
REGION	49	(43 - 55)		

Both Windsor, Ascot & Maidenhead and Milton Keynes CCGs, whose admission rates (all LoS) were >3SD higher than the regional average, lie within 2SDs of the regional average when only non-zero LoS admissions are counted.

Source of admission



Acorss the region, 55% of children were admitted to hospital with a diagnosis of epilepsy via A&E. This varied from 19% in Bracknell & Ascot to 83% in Newbury & District.

Conclusions and future work

The Children's Clinical Network's three reports on variation in paediatric admissions in the Oxford AHSN region have identified that, for a range of common childhood conditions, variation exists both in admission rates and length of stay.

Since publication of the first Variation Report in 2014, the Children's Clinical Network has begun to identify the reasons for such variation as well as embarking on work to address variation, focusing on audit, engagement, education and guideline harmonisation. We have also explored the potential for innovations in addressing unwarranted variation, especially point of care testing devices that may reduce both admissions to hospital and diagnostic times in Children's EDs/CDUs.

Our Clinical Guideline Group, established in 2014 and consisting of paediatric consultants leads from the five hospitals in the region with child inpatients, meets quarterly, drafting and sharing guidelines for a range of conditions which are now being commonly adopted in each hospital. This group will continue to function after the Network ends in June 2017.

Over the past three years, the Children's Network has engaged with children's commissioners, hospital paediatric departments and primary care to identify where opportunities exist to tackle unwarranted variation and, where possible, explore new models of care to allow children to be treated in out of hospital settings. It is anticipated that one of the legacies of the Children's Clinical Network is that this work will continue after June 2017.

References

1. McDonald, C. L. Variation in Paediatric Care in the Oxford AHSN Region. www.oxfordahsn.org/wp-content/uploads/2015/09/Oxford-AHSN-Variation-Report-FINAL.pdf (2014).
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3. Maruthappu, M., Sood, H. & Keogh, B. The NHS Five Year Forward View: implications for clinicians. Br. Med. J. 349, g6518–g6518 (2014).
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Appendix I – Population data

The following population data were used to calculate the admission rates.

Total Population

CCG	12-13	13-14	14-15	15-16
04F – NHS Milton Keynes CCG	63,959	65,112	66,193	67,244
10G – NHS Bracknell and Ascot CCG	31,518	31,699	31,949	32,209
10H – NHS Chiltern CCG	72,634	73,070	73,503	73,945
10M – NHS Newbury and District CCG	24,227	24,348	24,487	24,592
10N – NHS North & West Reading CCG	22,923	23,135	23,338	23,527
10Q – NHS Oxfordshire CCG	136,451	137,384	138,451	139,356
10T – NHS Slough CCG	38,290	38,922	39,552	40,107
10W – NHS South Reading CCG	22,560	22,845	23,057	23,280
10Y – NHS Aylesbury Vale CCG	44,904	45,167	45,485	45,825
11C – NHS Windsor, Ascot and Maidenhead CCG	30,003	30,320	30,728	31,089
11D – NHS Wokingham CCG	35,981	36,238	36,620	37,023
12D – NHS Swindon CCG	48,596	49,094	49,615	50,121
Grand Total	572,046	577,334	582,978	588,318

0-4 Year Olds

CCG	12-13	13-14	14-15	15-16
04F – NHS Milton Keynes CCG	20,495	20,530	20,622	20,564
10G – NHS Bracknell and Ascot CCG	9,089	9,044	8,975	8,886
10H – NHS Chiltern CCG	20,105	20,132	20,211	20,235
10M – NHS Newbury and District CCG	7,110	7,010	7,007	6,956
10N – NHS North & West Reading CCG	6,852	6,784	6,786	6,748
10Q – NHS Oxfordshire CCG	40,850	40,921	41,274	41,351
10T – NHS Slough CCG	13,104	13,162	13,210	13,198
10W – NHS South Reading CCG	8,467	8,422	8,406	8,367
10Y – NHS Aylesbury Vale CCG	12,775	12,796	12,889	12,965
11C – NHS Windsor, Ascot and Maidenhead CCG	8,990	9,037	9,053	9,002
11D – NHS Wokingham CCG	10,252	10,261	10,276	10,251
12D – NHS Swindon CCG	15,119	15,204	15,426	15,579
Grand Total	173,208	173,303	174,135	174,102

5-17 Year Olds

CCG	12-13	13-14	14-15	15-16
04F – NHS Milton Keynes CCG	43,464	44,582	45,571	46,680
10G – NHS Bracknell and Ascot CCG	22,429	22,655	22,974	23,323
10H – NHS Chiltern CCG	52,529	52,938	53,292	53,710
10M – NHS Newbury and District CCG	17,117	17,338	17,480	17,636
10N – NHS North & West Reading CCG	16,071	16,351	16,552	16,779
10Q – NHS Oxfordshire CCG	95,601	96,463	97,177	98,005
10T – NHS Slough CCG	25,186	25,760	26,342	26,909
10W – NHS South Reading CCG	14,093	14,423	14,651	14,913
10Y – NHS Aylesbury Vale CCG	32,129	32,371	32,596	32,860
11C – NHS Windsor, Ascot and Maidenhead CCG	21,013	21,283	21,675	22,087
11D – NHS Wokingham CCG	25,729	25,977	26,344	26,772
12D – NHS Swindon CCG	33,477	33,890	34,189	34,542
Grand Total	398,838	404,031	408,843	414,216

1-17 Year Olds

CCG	12-13	13-14	14-15	15-16
04F – NHS Milton Keynes CCG	59,866	61,193	62,236	63,306
10G – NHS Bracknell and Ascot CCG	29,771	29,999	30,225	30,486
10H – NHS Chiltern CCG	68,823	69,261	69,674	70,126
10M – NHS Newbury and District CCG	22,846	22,989	23,138	23,251
10N – NHS North & West Reading CCG	21,575	21,816	22,027	22,229
10Q – NHS Oxfordshire CCG	128,260	129,244	130,294	131,193
10T – NHS Slough CCG	35,519	36,291	36,905	37,465
10W – NHS South Reading CCG	20,744	21,074	21,297	21,539
10Y – NHS Aylesbury Vale CCG	42,410	42,747	43,036	43,361
11C – NHS Windsor, Ascot and Maidenhead CCG	28,214	28,577	28,963	29,322
11D – NHS Wokingham CCG	34,041	34,332	34,684	35,089
12D – NHS Swindon CCG	45,400	46,088	46,566	47,044
Grand Total	537,469	543,611	549,045	554,411

0-2 Year Olds

CCG	1213	1314	1415	1516
04F – NHS Milton Keynes CCG	12377	12284	12167	12,018
10G – NHS Bracknell and Ascot CCG	5385	5262	5246	5,222
10H – NHS Chiltern CCG	11842	11846	11791	11,787
10M – NHS Newbury and District CCG	4280	4241	4135	4,094
10N – NHS North & West Reading CCG	4049	4027	3958	3,908
10Q – NHS Oxfordshire CCG	24900	24944	24543	24,505
10T – NHS Slough CCG	8082	8046	7995	7,876
10W – NHS South Reading CCG	5294	5285	5217	5,146
10Y – NHS Aylesbury Vale CCG	7606	7637	7571	7,543
11C – NHS Windsor, Ascot and Maidenhead CCG	5409	5321	5364	5,340
11D – NHS Wokingham CCG	6054	5999	5959	5,948
12D – NHS Swindon CCG	9234	9325	9308	9,196
Grand Total	104,512	104,217	103,254	102,583

Infants

CCG	1213	1314	1415	1516
04F – NHS Milton Keynes CCG	4,093	3,919	3,957	3938
10G – NHS Bracknell and Ascot CCG	1,747	1,700	1,724	1723
10H – NHS Chiltern CCG	3,811	3,809	3,829	3819
10M – NHS Newbury and District CCG	1,381	1,359	1,349	1341
10N – NHS North & West Reading CCG	1,348	1,319	1,311	1298
10Q – NHS Oxfordshire CCG	8,191	8,140	8,157	8163
10T – NHS Slough CCG	2,771	2,631	2,647	2642
10W – NHS South Reading CCG	1,816	1,771	1,760	1741
10Y – NHS Aylesbury Vale CCG	2,494	2,420	2,449	2464
11C – NHS Windsor, Ascot and Maidenhead CCG	1,789	1,743	1,765	1767
11D – NHS Wokingham CCG	1,940	1,906	1,936	1934
12D – NHS Swindon CCG	3,196	3,006	3,049	3077
Grand Total	34,577	33,723	33,933	33,907

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