The Strategy Unit.

Identifying Opportunities to Reduce Acute Hospital Activity

Prepared for Dudley Clinical Commissioning Group

November 2017

NHS
Midlands and Lancashire
Commissioning Support Unit

The Strategy Unit

Leading research, analysis and change within the NHS

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Contact the Strategy Unit at:

The Strategy Unit
5th Floor Kingston House
438-450 High Street
West Bromwich
B70 9LD

Tel. 0121 612 1538
Email strategy.unit@nhs.net
Web www.strategyunitwm.nhs.uk
Twitter @Strategy_Unit

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Purpose of this Report

This report provides valuable information to support local health economies in developing their strategic plans. The focus is a comparative assessment of "opportunities" to reduce levels of acute hospital utilisation. In-depth information is presented for more than 30 subsets of hospital activity. These activity subsets may be amenable to interventions aimed at avoiding or reducing activity of a particular type or for a specific condition.

The opportunity definitions are drawn from a range of sources, including: published research, grey literature, and our own experiences working with healthcare organisations over many years. When considered alongside other sources of information, the analyses included in this report can help steer health economies to direct resources to areas most likely to lead to improvements in quality, outcomes, and cost savings.

Opportunities to Reduce Acute Hospital Activity

Inpatient Admissions

Admissions from ED of patients with mental health problems

Ambulatory care sensitive:

- Chronic conditions
- Acute conditions
- Vaccine preventable

Alcohol related:

- Wholly attributable
- Partially attributable – chronic conditions
- Partially attributable – acute conditions

End of life care:

- Death within 2 days following admission
- Death between 3 and 14 days following admission

Falls related

Frail elderly admissions:

- Usually managed in a non-acute setting
- Occasionally managed in a non-acute setting

Medically unexplained symptoms

Medicines related:

- Explicit
- Implicit NSAIDs
- Implicit Anti-Diabetics
- Implicit Benzodiazepines
- Implicit Diuretics

No overnight stay, no procedure, discharged:

- Children
- Adults

Obesity related:

- Largely attributable
- Somewhat attributable
- Marginally attributable

Procedures of Limited Clinical Value (PLCVs):

- Relatively ineffective
- Close benefit / harm ratio
- Probably aesthetic
- Cost effective alternative

Self-harm

Smoking related:

- Largely attributable
- Somewhat attributable

Opportunities to Reduce Acute Hospital Activity

Emergency Department and Outpatient Attendances

Emergency Department (ED)

Frequent attenders

Increase use of ambulance “See & Treat” and “Hear & Treat”

Low acuity ED attendances

Patients leaving ED before being seen

Outpatient

Consultant to consultant referrals

GP referred first outpatient attendances:

- Medical specialties: adults
- Medical specialties: children
- Surgical specialties: adults
- Surgical specialties: children

Data Sources

There are three potential sources that we could have used as the basis for this report:

- Secondary Uses Service (SUS)
- Secondary Uses Service Payment by Results (SUS PbR)
- Hospital Episodes Statistics (HES)

All hospital activity and cost data used in the this report are taken from the Secondary Uses Service (SUS) datasets. SUS is a centralised data warehouse that is populated by data feeds from hospital patient administration systems.

The Strategy Unit is able to access SUS data for the nineteen West Midlands CCGs listed in Table 1 via our host organisation, the Midlands and Lancashire Commissioning Support Unit. Data is unavailable for the 3 remaining West Midlands CCGs: North Warwickshire, Coventry and Rugby, and South Warwickshire.

Where references are made to a DSR (Directly Standardised Rate), the standard population used is the 2013 European Standard Population (1), with an upper age group of 90 plus. The index or study population used is the resident population estimate for the CCG.

Code	CCG	Abbreviation
13P	Birmingham CrossCity	Bcc
04X	Birmingham South Central	Bsc
04Y	Cannock Chase	Can
05C	Dudley	Dud
05D	East Staffordshire	Est
05F	Herefordshire	Her
05G	North Staffordshire	Nst
05J	Redditch and Bromsgrove	Red
05N	Shropshire	Shr
05P	Solihull	Sol
05Q	South East Staffordshire and Seisdon Peninsula	Ses
05L	Sandwell and West Birmingham	Swb
05T	South Worcestershire	Swo
05V	Stafford and Surrounds	Sas
05W	Stoke on Trent	Sto
05X	Telford & Wrekin	Tel
05Y	Walsall	Wal
06A	Wolverhampton	Wol
06D	Wyre Forest	Wyr

Table 1. West Midlands CCGs included in this report.

References

1. http://www.ons.gov.uk/ons/guide-method/user-guidance/health-and-life-events/revised-european-standard-population-2013--2013-esp-/index.html

Registered and Resident Populations

There are two alternative sources of information for a CCGs responsible population:

The first is an estimate from the Office for National Statistics (ONS) of the "usually resident population" living within a geographically defined area.

The second, the registered population of a CCG, is the number of people currently registered at GP practices affiliated to that CCG. Among this number, there may be a substantial proportion who live outside the geographical boundary of the CCG.

Both measure subtly different concepts and have their own strengths and weaknesses.

Registered population

The numbers of patients registered at a GP Practice are published quarterly by NHS Digital. The data are sourced from the GP payments system, which is part of the wider National Health Application and Infrastructure Services (NHAIS) system. It is a live system and the data extracted represent a snapshot view at a point in time. The total number of people registered at GP practices in England is known to overstate the number of people estimated to be resident in England. In April 2017 there were 58m people registered with practices compared with an estimated resident population of 55m (June 2016). No projections of the likely future size of the registered population are produced.

Registered and Resident Populations

Resident population

The Office for National Statistics publish annual mid-year estimates of the size of the "usually resident population". This is the population who have been usually resident for a period of at least 12 months, or, if they have been resident for less than this period, intend to stay for at least 12 months in total. Visitors and short term immigrants are not included, but usual residents of the UK temporarily visiting another country are included. Estimates for CCG areas are formed from groups of Lower Layer Super Output Areas (LSOAs), which are a level of geography designed specifically for the reporting of small area statistics. Projections of the likely future size and age structure of the population are also produced. These projections are widely used for resource allocation and planning.

In this report we use counts of hospital activity for the registered population alongside ONS estimates of the resident population. However, we acknowledge that for some CCGs this will lead to different values than if we used the registered population. The table shown right compares the registered and resident populations for all CCGs included in this report. Where a CCG's registered population is significantly greater than its resident population activity rates will be inflated relative to other CCGs with smaller differences. Importantly though, the effect will be similar across all "opportunities" so for any single CCG the ranking of opportunities by potential savings is likely to remain unchanged.

CCG	Resident	Registered	Resident as % of registered
Birmingham South Central	205,798	305,721	67
Sandwell and West Birmingham	493,200	568,403	87
Solihull	211,804	243,996	87
Wyre Forest	99,360	114,574	87
East Staffordshire	126,625	138,937	91
Stoke on Trent	260,869	286,445	91
Telford & Wrekin	171,042	180,701	95
Wolverhampton	255,914	270,172	95
South Worcestershire	300,017	303,036	99
Walsall	277,189	279,773	99
Dudley	316,986	315,825	100
North Staffordshire	217,008	216,199	100
Cannock Chase	135,018	131,790	102
Herefordshire	189,246	184,716	102
Shropshire	312,407	304,859	102
Redditch and Bromsgrove	180,973	174,921	103
SE Staffordshire and Seisdon Peninsula	225,649	216,951	104
Stafford and Surrounds	153,253	146,911	104
Birmingham CrossCity	745,709	712,536	105

Table 2. A comparison of resident and registered populations of CCGs included in this report.

Standardised Rates

To compare values among areas or groups of different size, a count is typically converted into a per capita value or rate. In the healthcare arena an additional step is often performed that allows fair comparison between areas with different age and gender structures.

There are two methods of standardisation; direct and indirect. In practice both methods usually give similar results. Throughout this report, directly standardised rates (DSRs) are used. These are rates that an area would experience if it had the same age and gender distribution as a chosen standard population. The standard population used is the 2013 European Standard Population. A key advantage of the direct method (over the indirect method) is that it is considered a fairer method for making multiple comparisons across a large number of units or areas.

Note that where an opportunity relates specifically to children, adults have not been excluded from the DSR calculations.

Calculating Savings Estimates

Estimates for potential savings are calculated with reference to the utilisation rates and spend of comparator CCGs.

Because of considerable overlap between strategies to reduce acute hospital activity, individual admissions or attendances can appear in multiple opportunities. The savings estimates for any single opportunity are accurate, but an assessment of overall potential savings that aggregates savings across multiple opportunities will be inflated by "double-counting" of spells or attendances that appear in more than one opportunity.

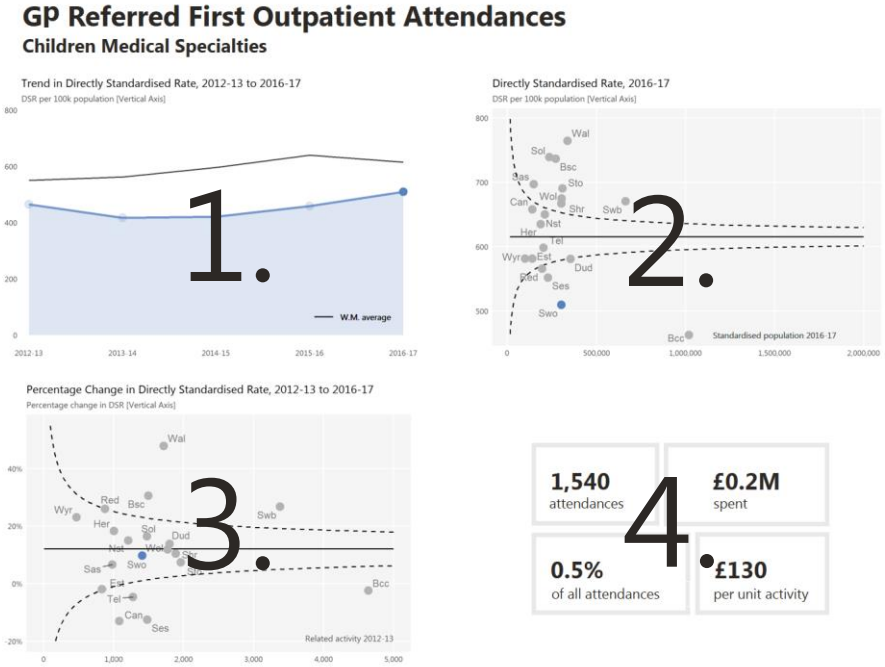
For example, across all the inpatient opportunities, around 40% of the admissions selected in at least one of the activity subgroups will also appear in one or more of the other subgroups.

The three care settings—inpatient, ED, and outpatient are modelled independently. This means that additional savings may be possible from the avoidance of related activity across settings e.g. if an inpatient admission is avoided then this may also mean a related ED attendance is also avoided.

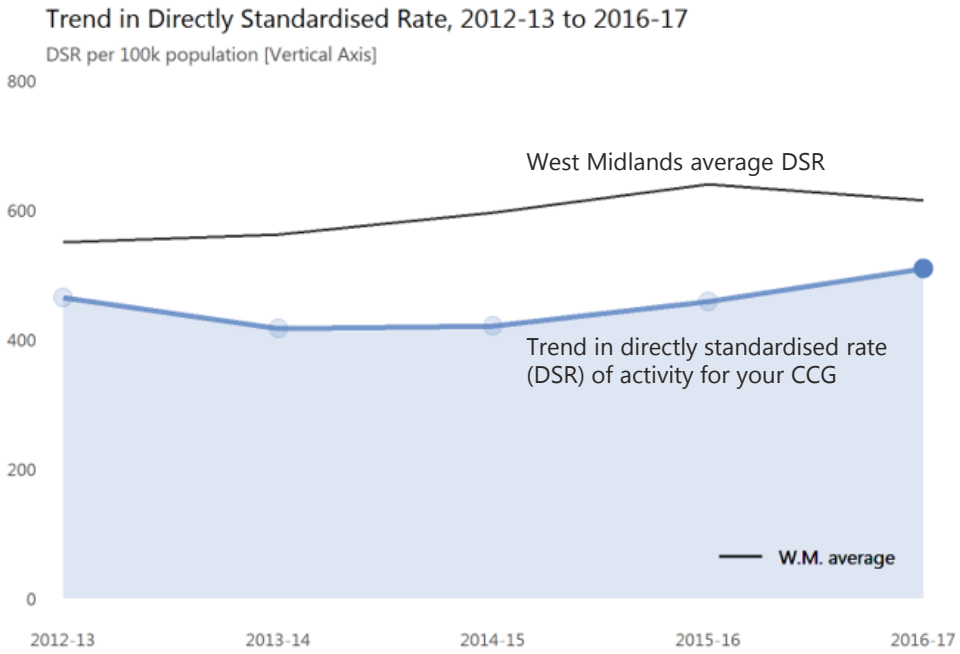
Questions Addressed by this Report

For each opportunity, this report addresses the following questions;

1. How have levels of activity of this type changed over time?
2. After taking account of its demographic structure, does the CCG see more or less activity of this type than other CCGs?
3. How does the rate of change (over time) of this type of activity compare with other CCGs?
4. How much activity of this type took place in 2016-17, and how much did the CCG spend?



1. How Have Levels of Activity of this Type Changed Over Time?



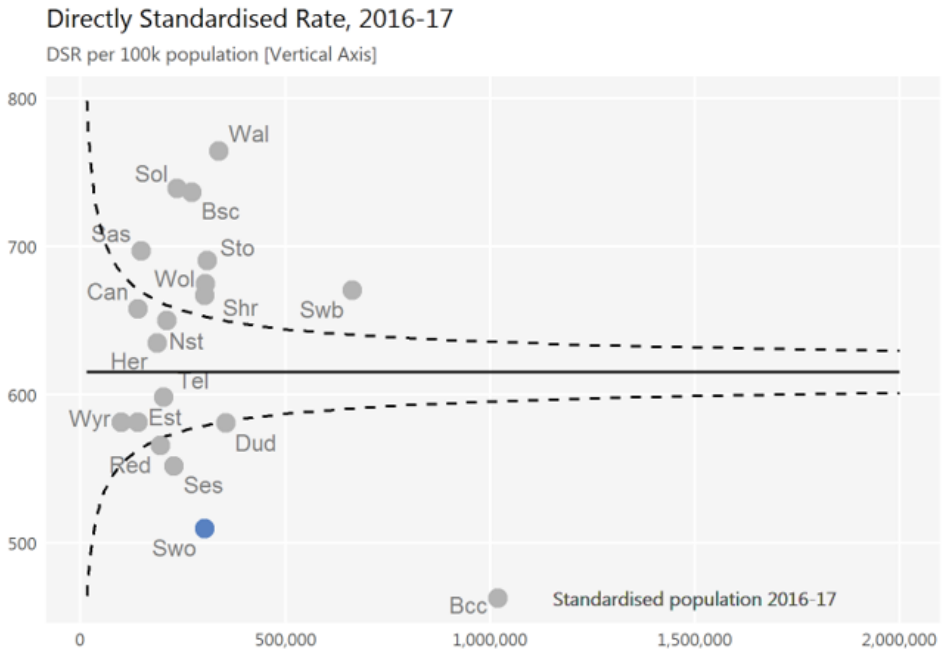
The question above is addressed with the aid of time series chart. On the vertical axis, the directly standardised rate (per 100,000 population), controls for differences in the age and gender structure over time. It is important to note that we have assumed that coding practice has been consistent in this period. Any dramatic changes in rates may be the result of revisions to national or local coding practice.

2. After taking account of its demographic structure, does the CCG see more or less activity of this type than other CCGs?

When comparing utilisation rates, or rates of change, there will always be some differences between CCGs. Funnel plots of activity display the directly standardised rate of activity for each CCG, and may be used to help CCGs understand whether variation might be explained by chance (common cause variation), or by other factors (special cause variation).

When investigating differences in standardised rates, CCGs may wish to consider whether the variation could be explained by difference or changes in (1) ;

- need and demand (2)
- data and coding
- policy and regulation
- organisational structures
- process of care
- referral agent behaviour
- clinician behaviour.



References

1. This list was adapted from the pyramid model in Mohammed MA, Rathbone A, Myers P, et al. An investigation into general practitioners associated with high patient mortality flagged up through the Shipman inquiry: retrospective analysis of routine data. BMJ. 2004;328:1474–1477.

2. Given that the utilisation rates have been age/sex standardised, differences in rates cannot be readily attributed to differences in CCG age/sex structure.

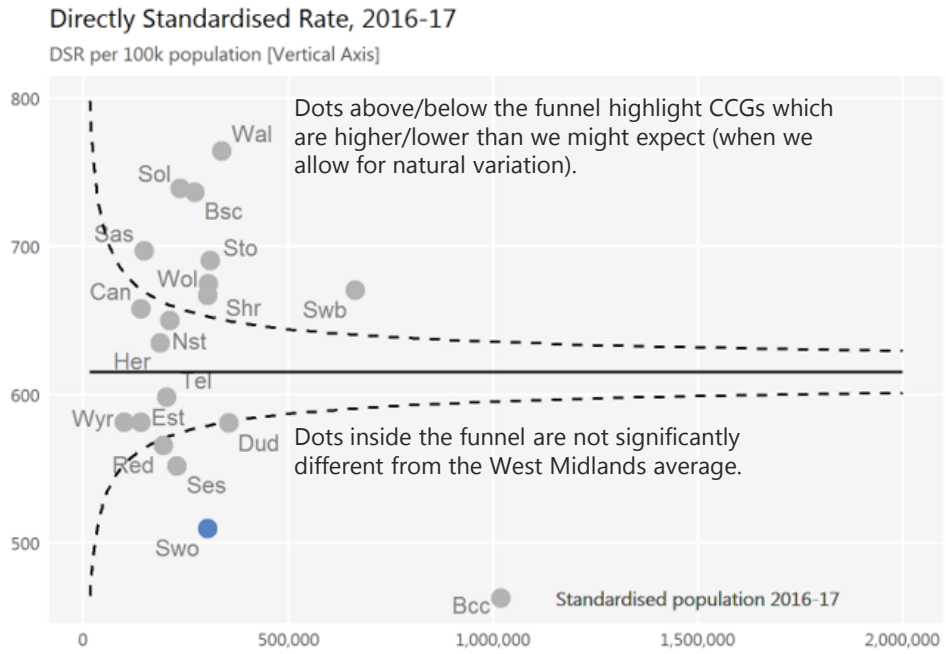
2. After taking account of its demographic structure, does the CCG see more or less activity of this type than other CCGs?

A funnel plot can be interpreted in the same way as a scatter plot. Here, each CCG is represented by a dot.

For the activity rates, the position of a dot relative to the vertical axis represents the directly standardised rate of activity for the CCG.

The location of a dot relative to the horizontal axis represents the CCG's population (standardised* for the given opportunity).

A funnel and horizontal line are superimposed on the scatter plot. The line represents the West Midlands average rate. The funnel shows the 3 sigma limit for a variable population size. If a point is outside the funnel there is a 99.7% likelihood that the difference from the average is not due to chance (i.e.. we have a special cause for this variation).



* This idea can be a little tricky to interpret, so here is our attempt to clarify: The horizontal axis shows the size of the CCG population that would be expected given the number of observed events in the CCG (having taken account of the age and gender profile of its population).

Without this adjustment, we would need a separate funnel plot for each age group and gender. The adjustment allows age and gender specific rates of a CCG to be quoted as a single (direct) standardised rate. One other way to explain this is to say that the calculation corrects for differences in the age and gender structure of CCGs given the number of observed events in each CCG.

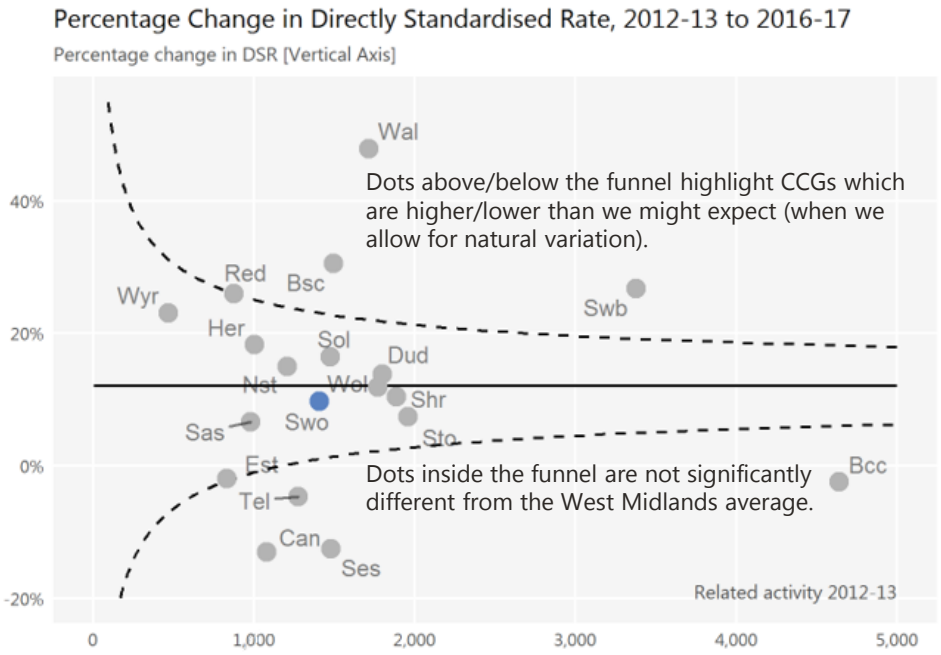
3. How does the rate of change of this type of activity compare with the other CCGs?

Funnel plots are also used to compare the percentage change in activity rates over a 5 year period.

A funnel plot can be interpreted in the same way as a scatter plot. Here, each CCG is represented by a dot. The position of a dot relative to the vertical axis represents the percentage change in rate of activity for a CCG in the last five years. The location of a dot relative to the horizontal axis represents a CCG's activity in the first year of the period.

A funnel and horizontal line are superimposed on the scatter plot. The line represents the West Midlands average rate. The funnel shows the 3 sigma limit for a variable population size.

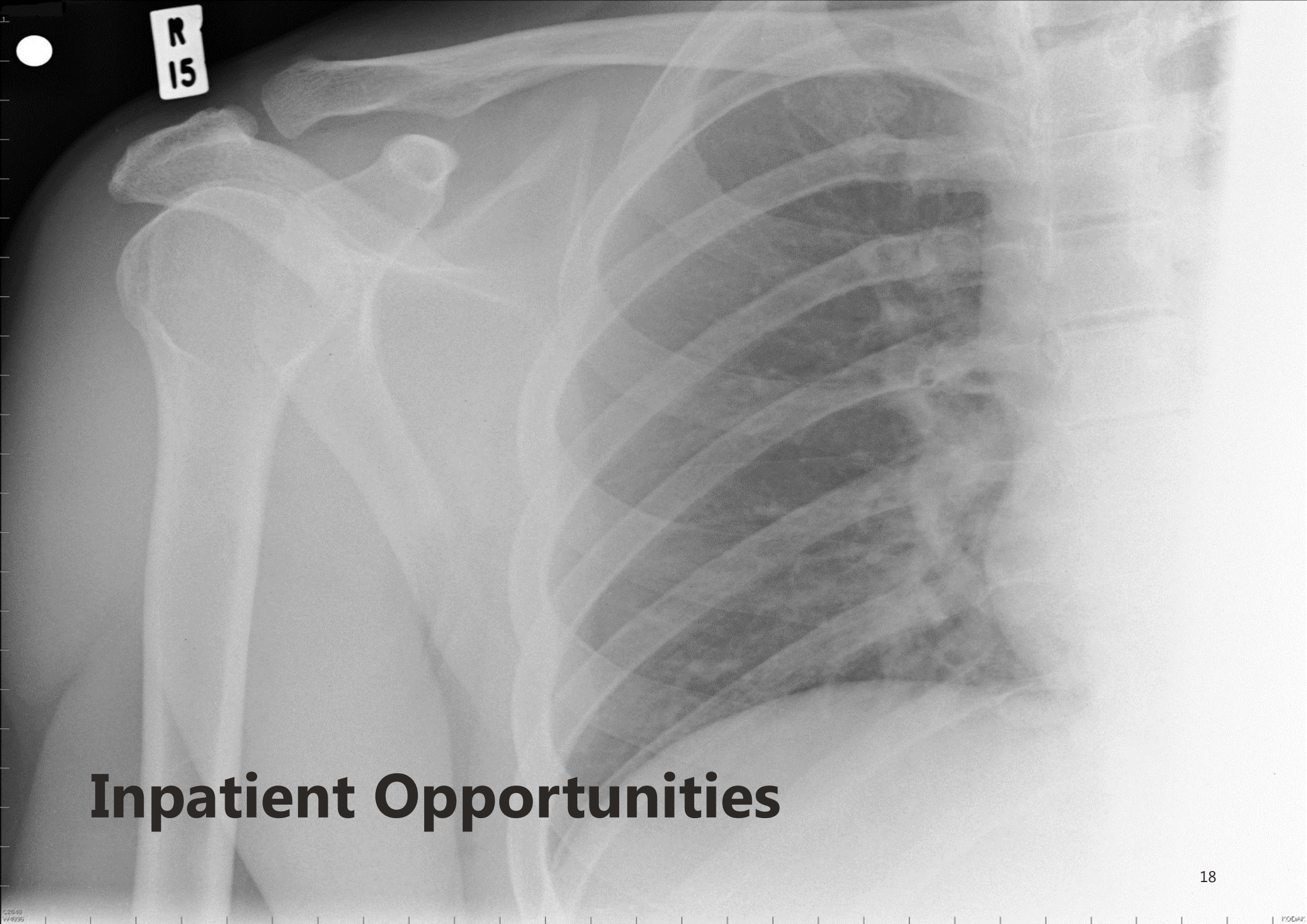
If a point is outside the funnel there is a 99.7% likelihood that the difference from the average is not due to chance (i.e.. we have a special cause for this variation).



4. How much activity of this type took place in 2016-17, and how much did the CCG spend?

A summary of CCG activity and spend can be found in table form at the start of each chapter, and in boxes - like those below – on each graphical summary slide.

Please note that activity numbers, and cost per unit activity have been rounded to the nearest 10. Total spend has been rounded to the nearest £100,000.



Inpatient Opportunities

Inpatient Summary

Opportunity	Admissions	2016-17 Spend (000s)	Rate	Rate of Change
ACS Acute	2,750	£3,445	High	High
ACS Chronic	2,680	£4,856	Low	-
ACS Vaccine	1,770	£5,085	High	-
Alcohol (wholly)	1,220	£1,724	High	High
Alcohol (partially - chronic)	4,970	£7,775	High	Low
Alcohol (partially - acute)	1,930	£2,506	High	High
End of Life Care (3-14 days)	320	£1,030	High	-
End of Life Care (0-2 days)	200	£305	High	-
Falls	3,620	£8,873	High	-
Frail Elderly (occasional)	1,090	£2,349	High	-
Frail Elderly (usual)	2,800	£5,892	High	-
Medically Unexplained	2,500	£1,795	High	High
Medicines - Explicit	560	£1,137	-	High
Medicines - Implicit AntiDiab	190	£288	High	-
Medicines - Implicit Benzo	310	£771	High	-
Medicines - Implicit Diuretics	370	£429	High	-
Medicines - Implicit NSAIDs	180	£360	High	-
Obesity (largely)	40	£195	Low	Low
Obesity (marginal)	340	£733	Low	Low
Obesity (somewhat)	2,150	£4,755	Low	Low
PLCV Cosmetic	690	£981	High	High
PLCV Alternative	1,310	£4,066	High	-
PLCV Ineffective	560	£649	-	-
PLCV Risks	1,260	£4,983	High	-
Mental Health Admissions from ED	360	£320	-	High
Self-harm	770	£526	High	High
Smoking (large)	340	£712	Low	-
Smoking (somewhat)	4,910	£7,306	-	High
Zero Length of Stay (adult)	11,840	£6,757	High	High
Zero Length of Stay (child)	2,490	£1,500	Low	High

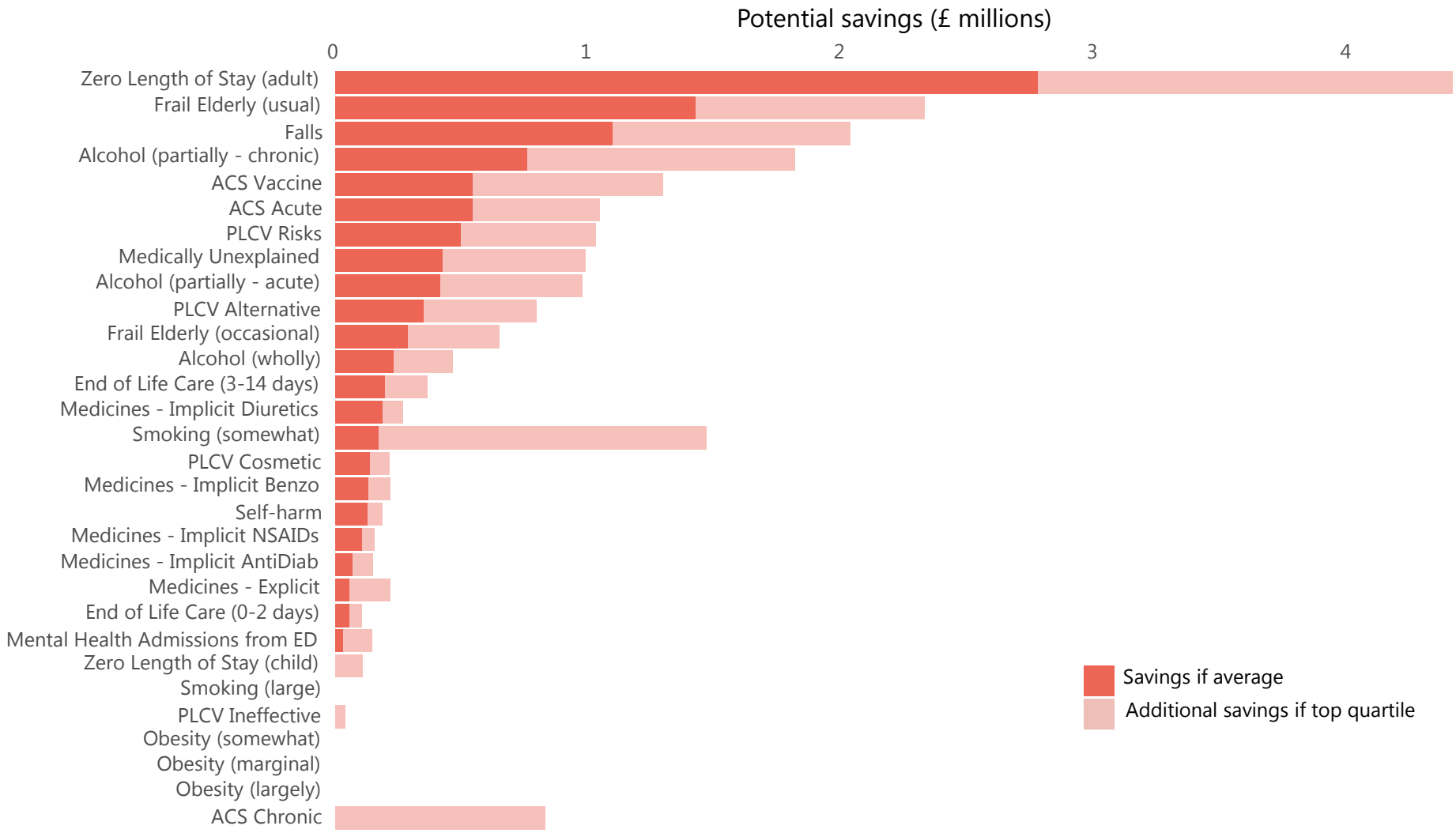
Notes: Rate and rate of change comparisons are with other West Midlands CCGs.

Potential Savings

Opportunity	2016-17 Spend (000s)	Savings if Average (000s)	Savings if Top Quartile (000s)
ACS Acute	£3,445	£541	£1,043
ACS Chronic	£4,856	£0	£828
ACS Vaccine	£5,085	£541	£1,293
Alcohol (wholly)	£1,724	£230	£463
Alcohol (partially - chronic)	£7,775	£757	£1,814
Alcohol (partially - acute)	£2,506	£413	£976
End of Life Care (3-14 days)	£1,030	£196	£363
End of Life Care (0-2 days)	£305	£54	£104
Falls	£8,873	£1,094	£2,033
Frail Elderly (occasional)	£2,349	£285	£647
Frail Elderly (usual)	£5,892	£1,421	£2,326
Medically Unexplained	£1,795	£423	£988
Medicines - Explicit	£1,137	£54	£216
Medicines - Implicit AntiDiab	£288	£68	£149
Medicines - Implicit Benzo	£771	£130	£218
Medicines - Implicit Diuretics	£429	£186	£267
Medicines - Implicit NSAIDs	£360	£105	£154
Obesity (largely)	£195	£0	£0
Obesity (marginal)	£733	£0	£0
Obesity (somewhat)	£4,755	£0	£0
PLCV Cosmetic	£981	£135	£215
PLCV Alternative	£4,066	£346	£794
PLCV Ineffective	£649	£0	£40
PLCV Risks	£4,983	£495	£1,029
Mental Health Admissions from ED	£320	£29	£145
Self-harm	£526	£125	£186
Smoking (large)	£712	£0	£0
Smoking (somewhat)	£7,306	£170	£1,467
Zero Length of Stay (adult)	£6,757	£2,773	£4,413
Zero Length of Stay (child)	£1,500	£0	£108

Notes: Savings estimates are the total savings achievable if activity for a particular sub-group was reduced from its current level to the average or top quartile of other West Midlands CCGs.

Potential Savings by Opportunity



Notes: Savings estimates are the total savings achievable if activity for a particular sub-group was reduced from its current level to the average or top quartile of other West Midlands CCGs.

Admissions from ED for Patients with Mental Health Problems

Patients with a mental health diagnosis are thought to be particularly vulnerable to accident and self-harm and, in some instances, do not access healthcare services effectively (1). People with mental ill health typically attend an ED 3 times more and have 5 times the amount of emergency admissions than people without mental ill health (2). This opportunity identifies patients that may benefit from a psychiatric liaison service (often known as RAID). These services aim to identify patients presenting at an ED who have mental health and/or drug and alcohol related problems. These problems can be better dealt with in the community without admission to an acute inpatient bed.

We identify all admissions from the emergency department with a primary diagnosis in ICD10 Chapter 5 (mental and behavioural disorders), where no procedure was performed, and the patient did not die in hospital.

References

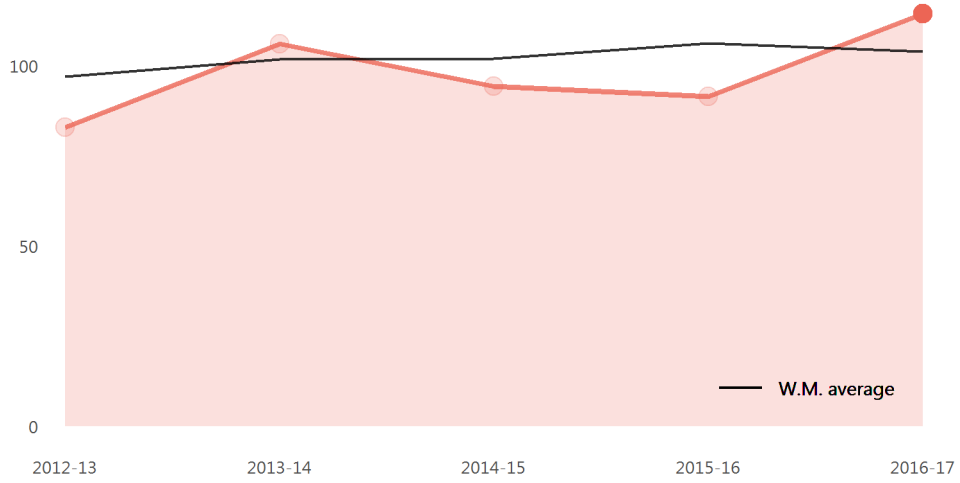
1. Keen, J. & Rodriguez, J. (2006) Are mental health problems associated with use of Accident and Emergency and health related harm? *European Journal of Public Health,* 17 (4), 387-393.

2. Dorning, H., Davies, A. & Blunt, I. (2015) Summary: People with mental ill health and hospital use. Available from: http://www.qualitywatch.org.uk/sites/files/qualitywatch/field/field_document/QualityWatch_Mental_ill_health_and_hospital_use_full_report.pdf [Accessed 23rd October 2017]

Admissions From ED of Patients with Mental Health Problems

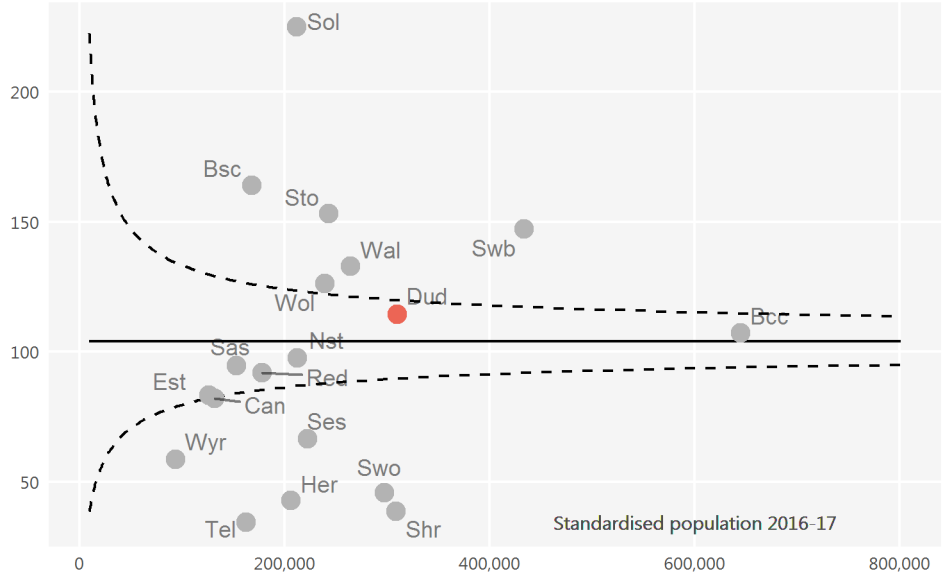
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]

360
admissions

£0.3M
spent

0.4%
of all admissions

£900
per unit activity

Ambulatory Care Sensitive (ACS) Conditions

Ambulatory or primary care sensitive conditions (ACSCs) are those for which hospital admission could be prevented by interventions in primary care (1).

Sets of ACSCs often include conditions for which acute management should prevent admission, e.g. dehydration and gastroenteritis, and chronic conditions where preventive care should prevent later admission, e.g. complications of diabetes. There is a considerable body of research from the USA on the use of ACSCs as markers of primary care effectiveness.

Research has been undertaken to develop or validate sets of ACSCs in a number of different countries. A range of sets exist based on different understanding or conceptual interpretations of the term "ambulatory care sensitive".

The most frequently used subset of ACSCs in the NHS in England contains 19 conditions.

These conditions can be classified into one of three sub-groups (2).

1. **Acute conditions** – where early intervention can prevent more serious progression;
2. **Chronic conditions** – where effective care can prevent flare-ups; and
3. **Vaccine-preventable conditions** – where immunisation can prevent illness.

The conditions that make up these subsets are:

Acute conditions:

- Dehydration and gastroenteritis
- Pyelonephritis
- Perforated / bleeding ulcer
- Cellulitis
- Pelvic inflammatory disease
- Ear, nose and throat infections
- Dental conditions
- Convulsions and epilepsy
- Gangrene

Chronic conditions:

- Asthma
- Congestive heart failure
- Diabetes complications
- COPD
- Angina
- Iron-deficiency anaemia
- Hypertension
- Nutritional deficiencies

Vaccine-Preventable conditions:

- Influenza and pneumonia
- Other vaccine-preventable conditions

ACS admissions are identified in hospital episode datasets by ICD10 codes of primary and secondary diagnoses.

References

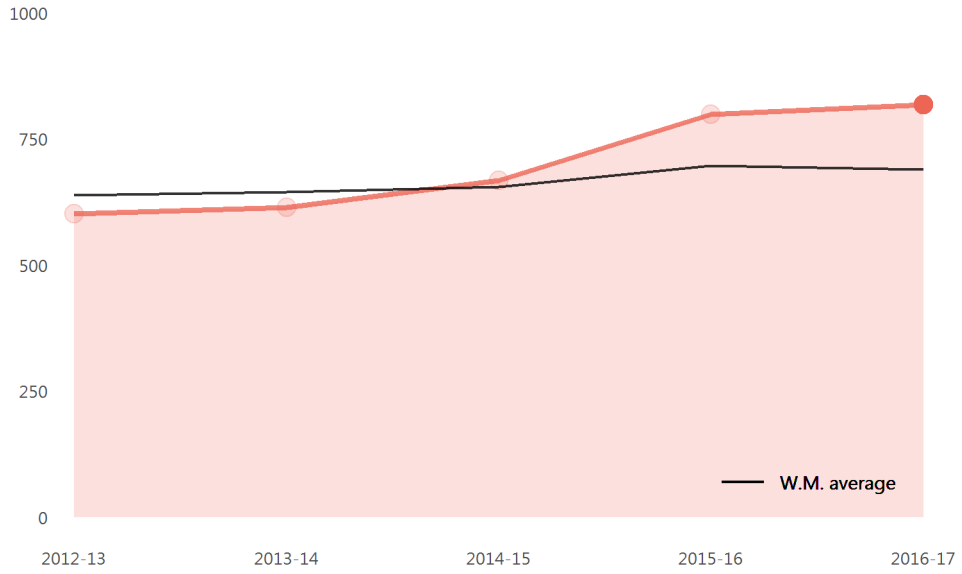
1. Purdy S, Griffin T, Salisbury C, Sharp D (2009). Ambulatory care sensitive conditions: terminology and disease coding need to be more specific to aid policy makers and clinicians. *Public Health*;123(2): 169–73.
2. Ham C, Imison C, Jennings M (2010). Avoiding Hospital Admissions: Lessons from evidence and experience. London: The King's Fund. Available at: www.kingsfund.org.uk/current_projects/quality_in_a_cold_climate/avoiding_hospital.html [accessed on 1 April 2017].

Ambulatory Care Sensitive Conditions

Acute Conditions

Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]

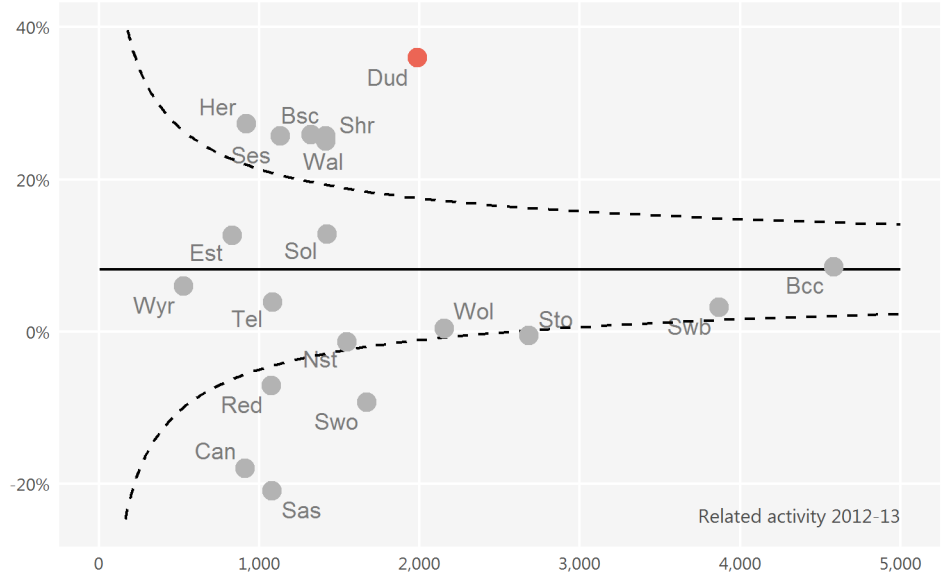


Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]

Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



2,750
admissions

£3.4M
spent

3%
of all admissions

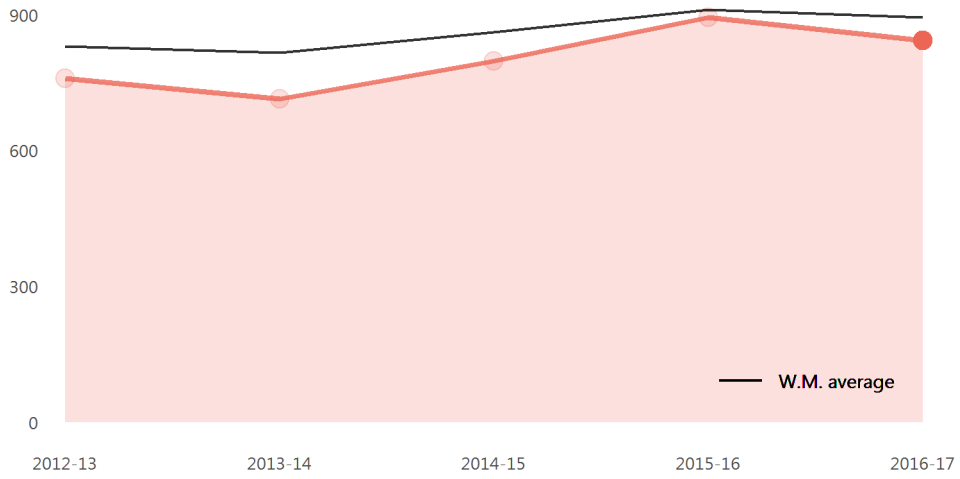
£1,250
per unit activity

Ambulatory Care Sensitive Conditions

Chronic Conditions

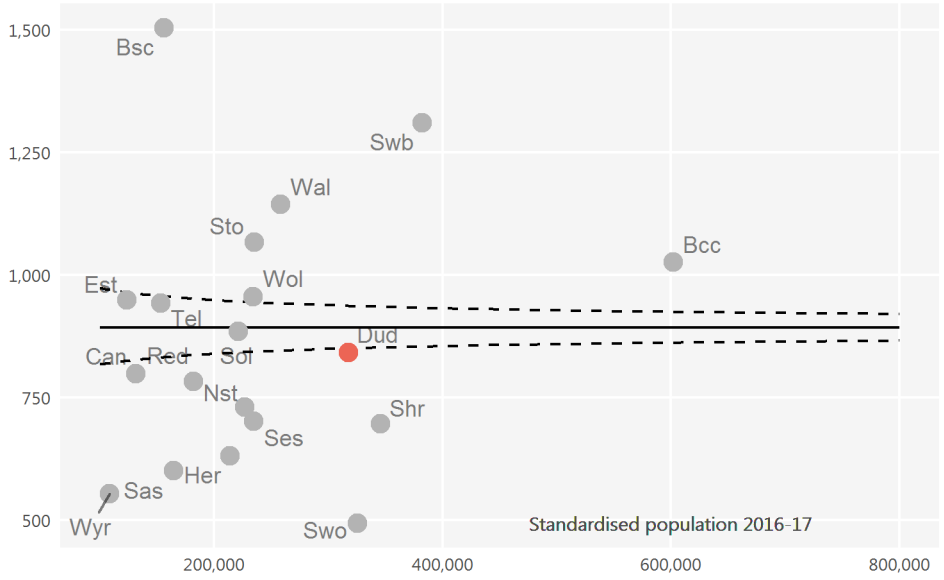
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



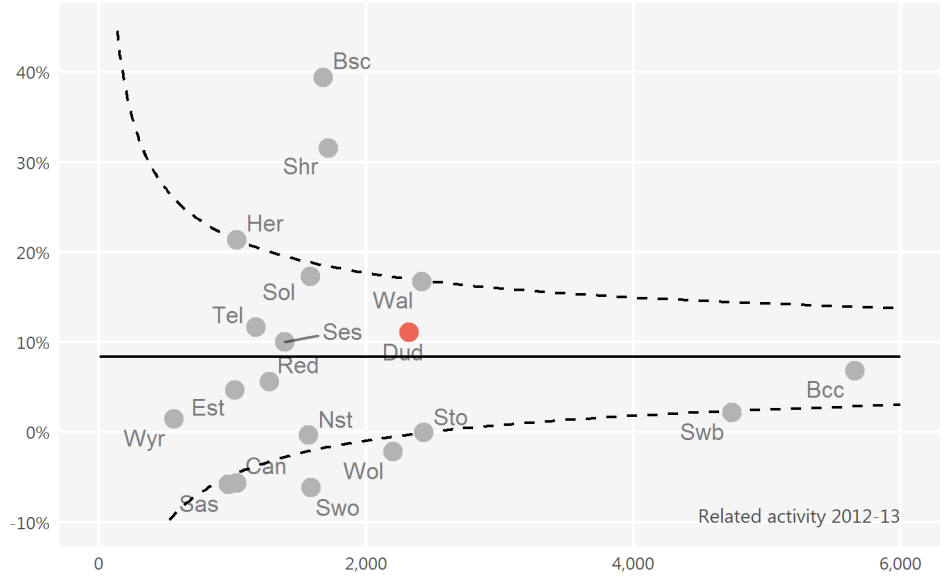
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



2,680
admissions

£4.9M
spent

3%
of all admissions

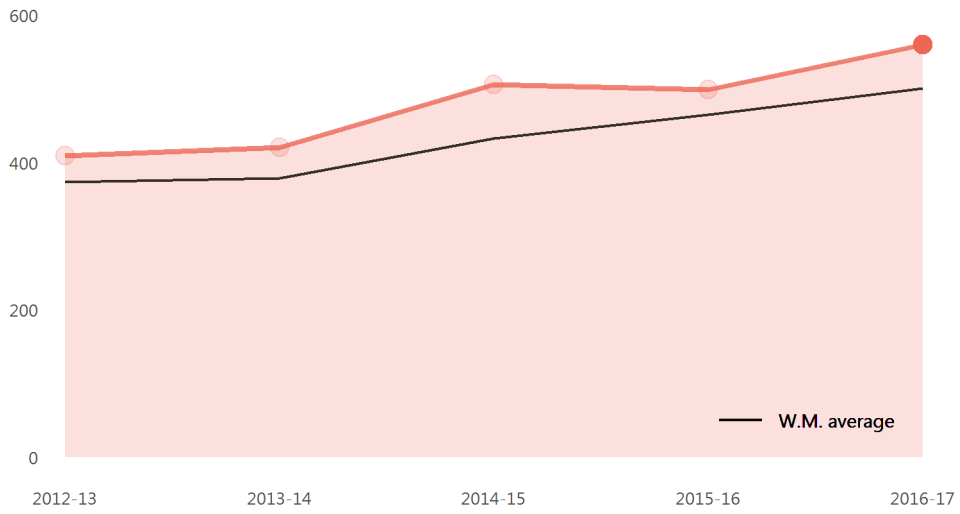
£1,810
per unit activity

Ambulatory Care Sensitive Conditions

Vaccine-Preventable Conditions

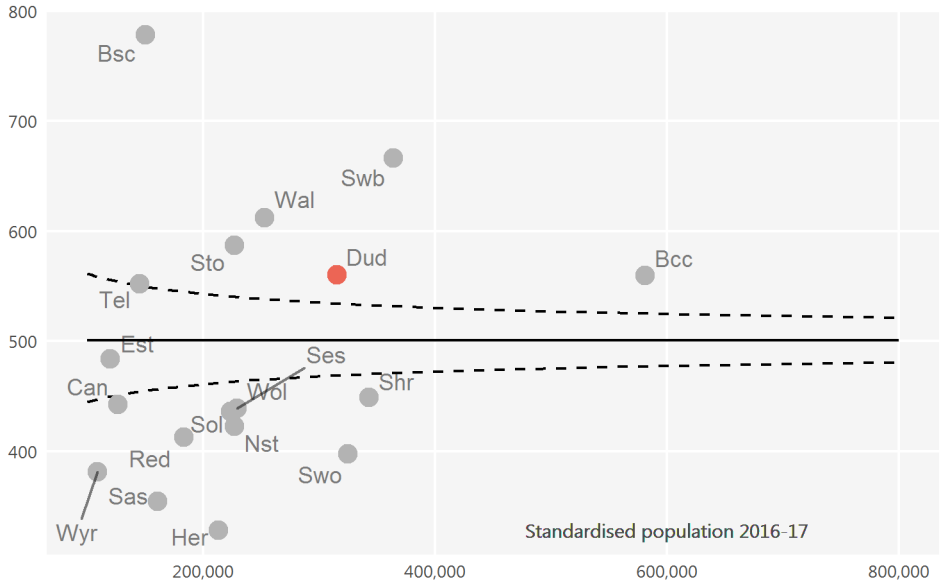
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



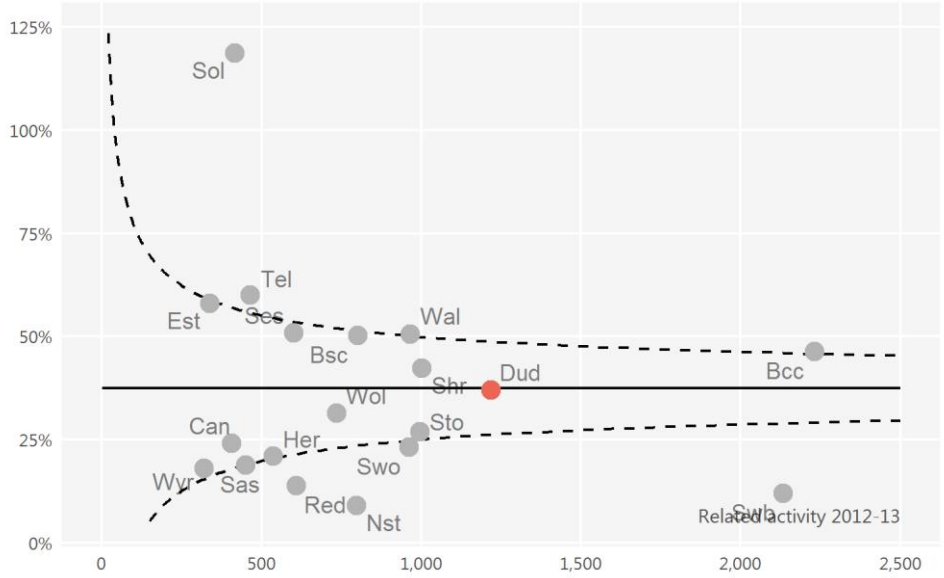
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



1,770
admissions

£5.1M
spent

2%
of all admissions

£2,880
per unit activity

Alcohol-Related Admissions

Alcohol causes, or can contribute to the development of, many health conditions. For some patients, excessive consumption of alcohol is clearly the primary cause of admission (e.g. acute alcohol intoxication and chronic alcohol dependency). For admissions relating to other conditions alcohol consumption is the primary causal factor in only a proportion of cases.

To obtain estimates of the impact that alcohol has on population health and health service use, Alcohol Attributable Fractions (AAF) are calculated. Attributable fraction values, or population attributable fractions, are the proportion of a health condition or external cause that is attributable to the exposure of a specific risk factor (such as alcohol) in a given population. These fractions are typically derived from measures of the relative risk associated with the exposure of interest, in combination with information about the prevalence of the exposure in the target population.

The population attributable fraction calculation assumes a causal association between risk factor and outcome, meaning that the attributable fraction can also be viewed as the expected proportional reduction in cases of an outcome arising in the population as a result of removing the exposure.

We use a set of alcohol-attributable fractions developed by Jones and Bellis (1).

They calculated AAFs for a total of 52 conditions, including 20 conditions which were wholly attributable to alcohol consumption (e.g. alcoholic liver disease), and 32 conditions that were partially attributable to alcohol. Partially attributable conditions are subcategorised into two groups; chronic conditions (e.g. oesophageal cancer) and acute conditions (e.g. accidents resulting from alcohol misuse) . Attributable fractions are age and sex specific, reflecting the difference in exposure, prevalence and physiological differences between males and females, and between age groups.

Jones and Bellis highlight some conditions with a negative attributable fraction where low levels of alcohol consumption were found to have a protective effect, such as type 2 diabetes. We have chosen not to apply this small number of negative fractions. This is consistent with national reporting from NHS Digital.

When identifying alcohol-related admissions we consider all diagnosis codes (primary and any secondary codes) that are recorded in relation to a patient's admission record. If any of these codes has an alcohol-attributable fraction then that admission forms part of the alcohol-related admissions total.

References

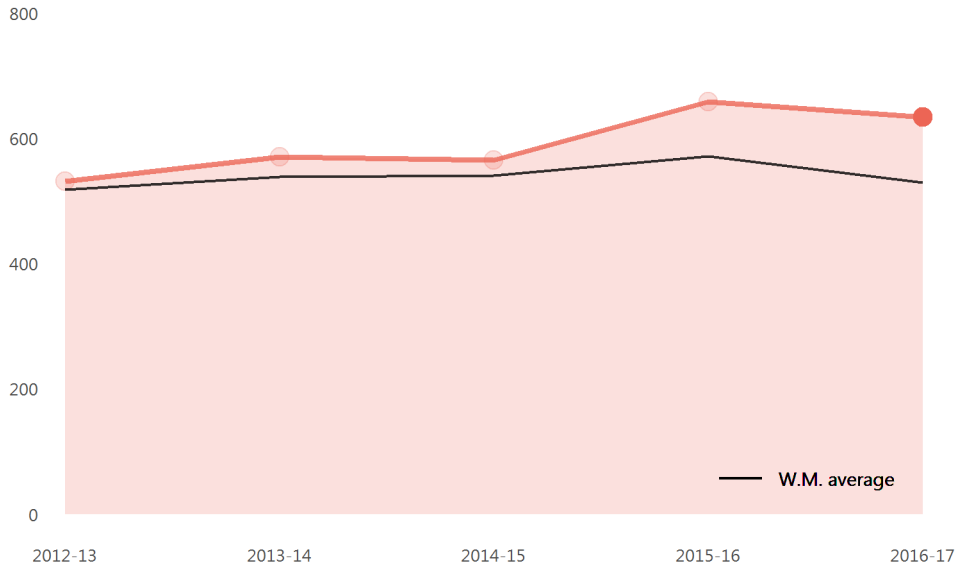
1. Jones L, Bellis MA (2013). Updating England-Specific Alcohol-Attributable Fractions. Centre for Public Health Liverpool John Moores University. Available from: http://www.cph.org.uk/wp-content/uploads/2014/03/24892-ALCOHOL-FRACTIONS-REPORT-A4-singles-24.3.14.pdf [accessed on 1 April 2017].

Alcohol-Related

Wholly Attributable

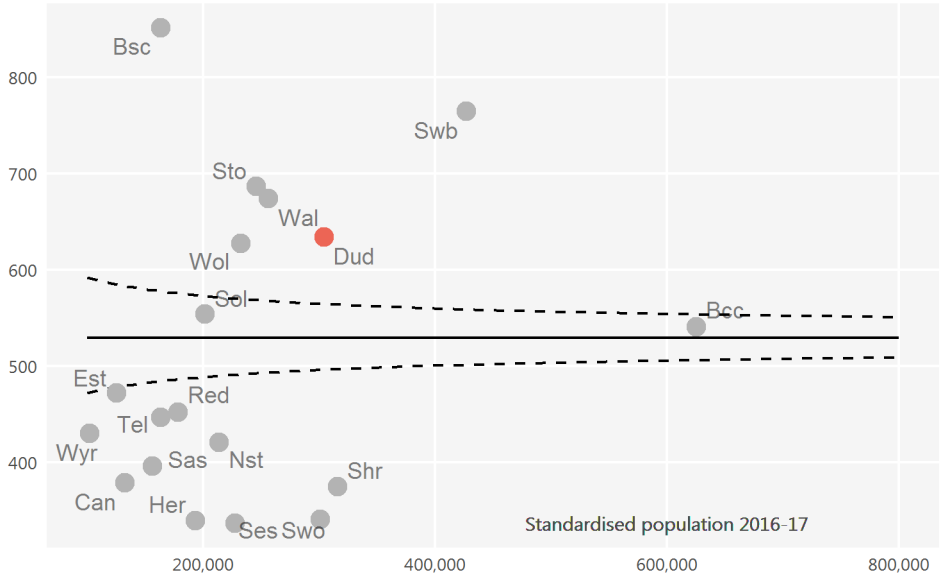
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



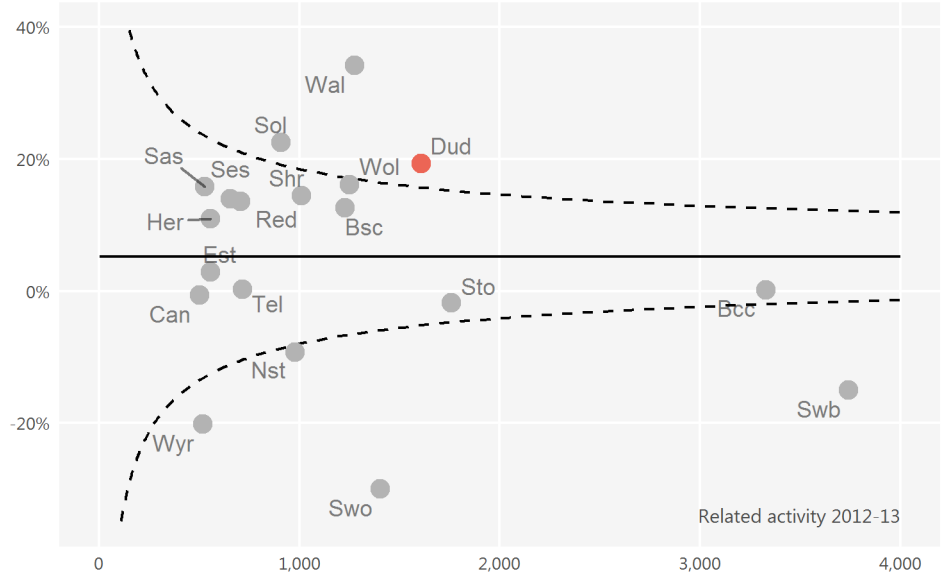
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



1,930
admissions

£2.5M
spent

2.1%
of all admissions

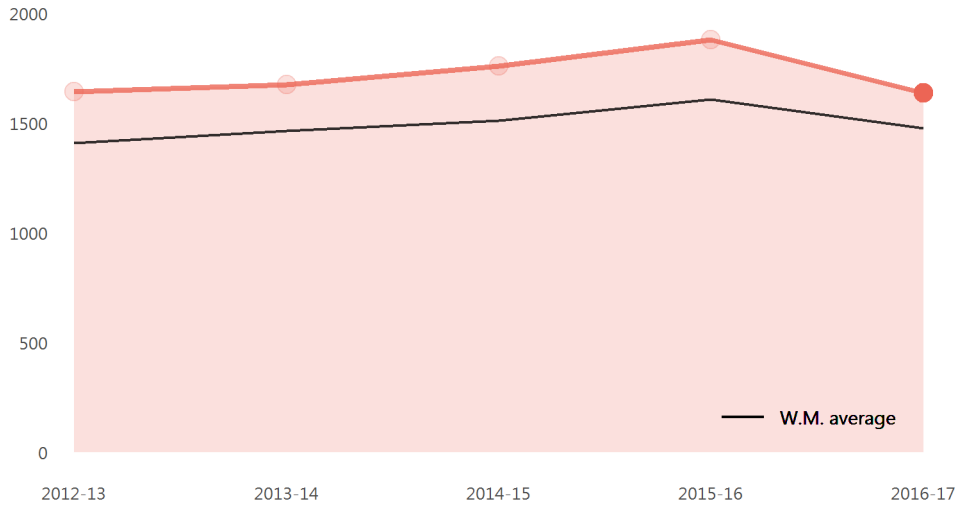
£1,300
per unit activity

Alcohol-Related

Partially Attributable - Chronic Conditions

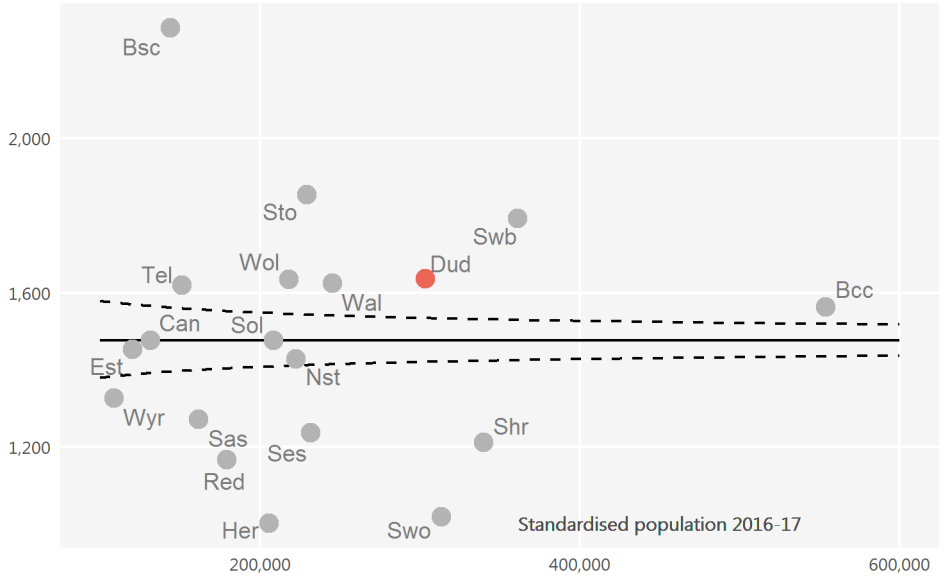
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



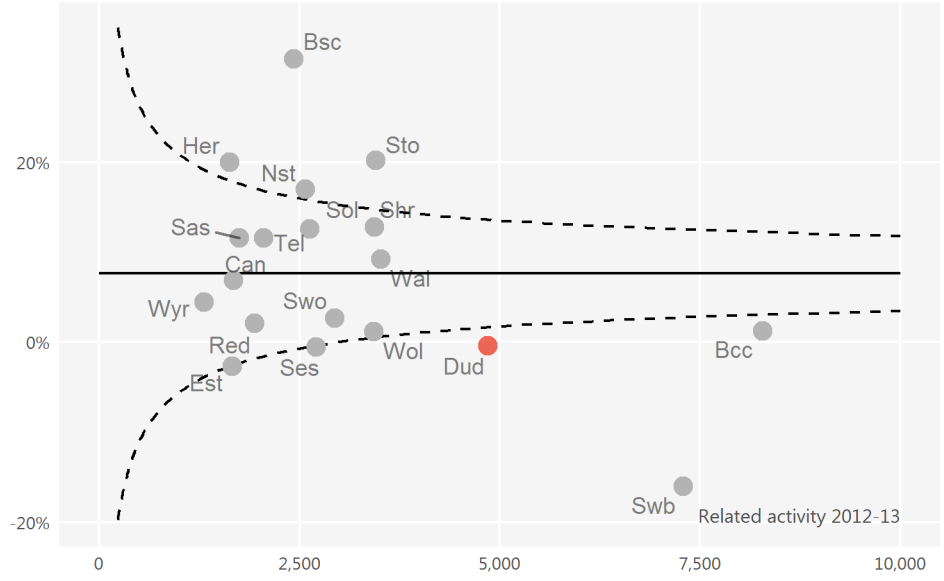
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



4,970
admissions

£7.8M
spent

5.5%
of all admissions

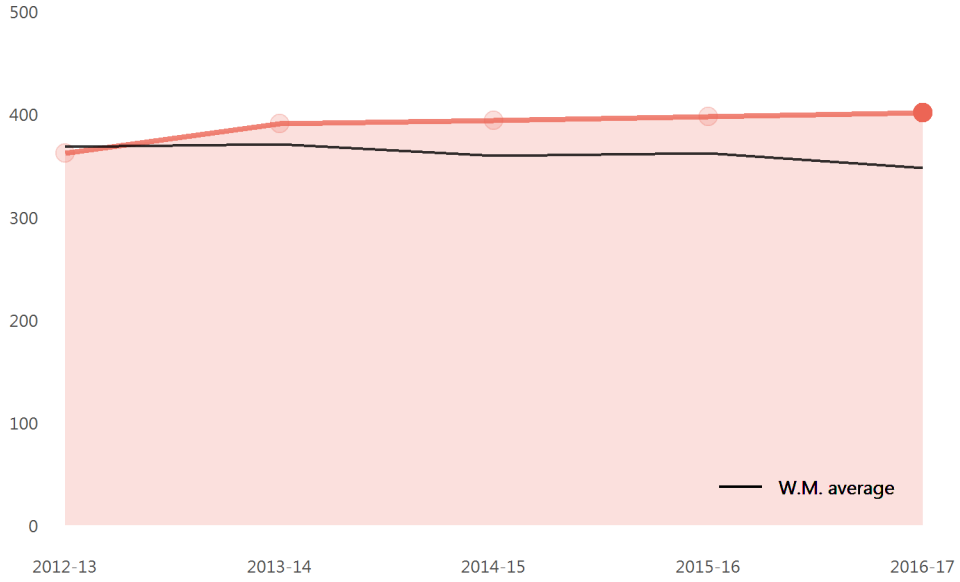
£1,570
per unit activity

Alcohol-Related

Partially Attributable - Acute Conditions

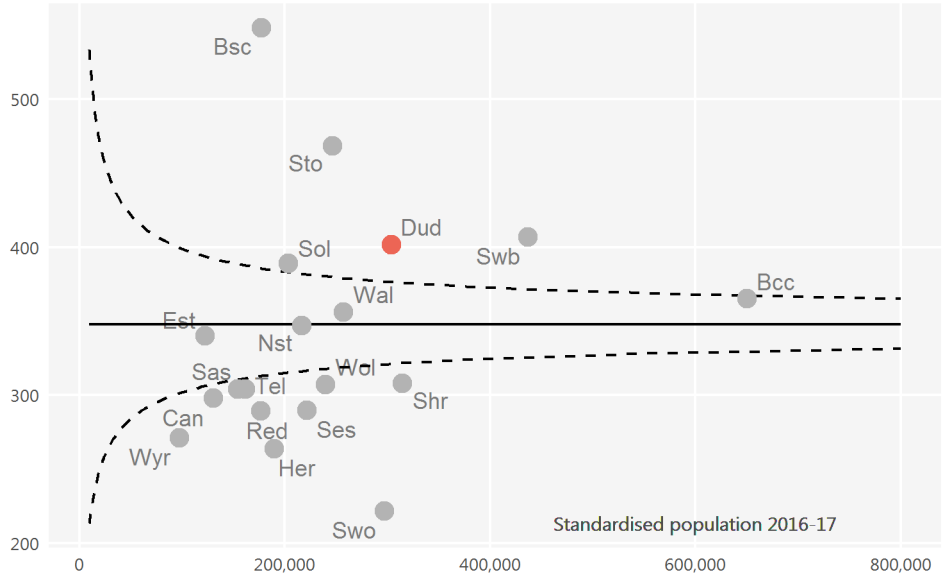
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



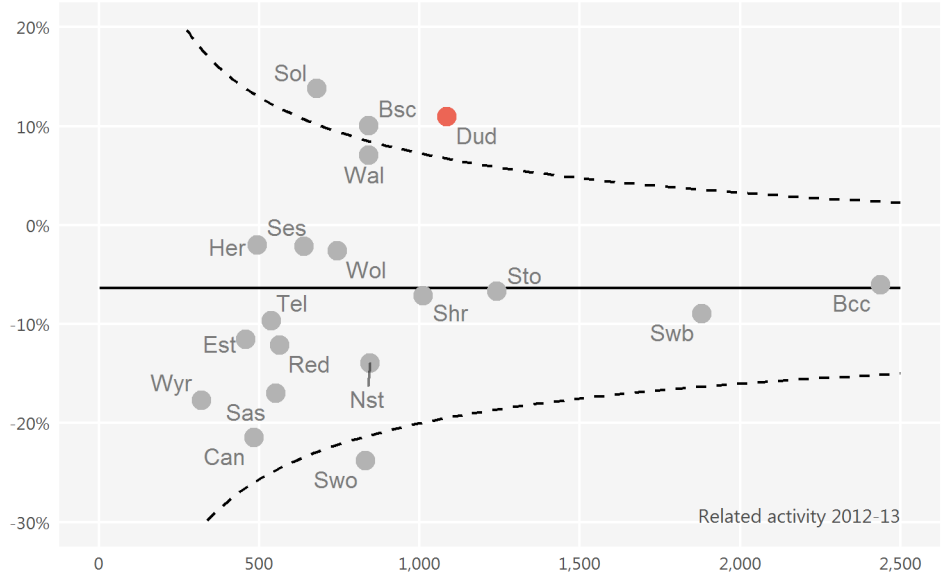
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



1,220
admissions

£1.7M
spent

1.4%
of all admissions

£1,410
per unit activity

End of Life Care

It is well established that the majority of patients would prefer to die either at home or in a hospice (1). By 2030 it is estimated that only one in ten people will die at home, placing considerable pressure on inpatient services which would require significant expansion (2). Identifying the disease trajectory early and planning community care to support death at home would provide end of life experiences that are more in line with the patient and their family's needs (2), and reduce the cost of admissions for patients with palliative care needs.

We identify admissions where the patient dies in hospital and no procedure is carried out, and there is no indication that the patient experienced any trauma.

These admissions are divided into two groups:

1. Patients who die within 3 days following admission
2. Patients who die between 3 to 14 days following admission

Absence of trauma is determined by the nonappearance of a diagnosis code in ICD10 Chapter 20 – External causes of morbidity and mortality.

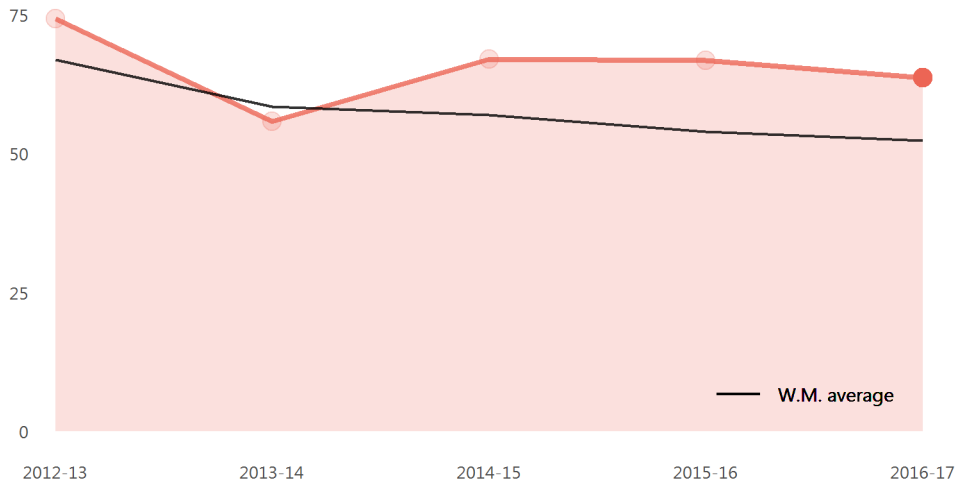
References

1. Age UK (2013) End of Life Evidence Review. Available from: https://www.ageuk.org.uk/globalassets/age-uk/documents/reports-and-publications/reports-and-briefings/health--wellbeing/rb_oct13_age_uk_end_of_life_evidence_review.pdf [Accessed 25th October 2017]
2. Gott, M., Gardiner, C., Ingleton, C., Cobb, M., Noble, B., Bennett, M.I. & Seymour, J. (2013) What is the extent of potentially avoidable admissions amongst hospital inpatients with palliative care needs? *BMC Palliative Care,* 12 (9), 1-8.

End Of Life Care - Death Within 2-Days Following Admission

Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]

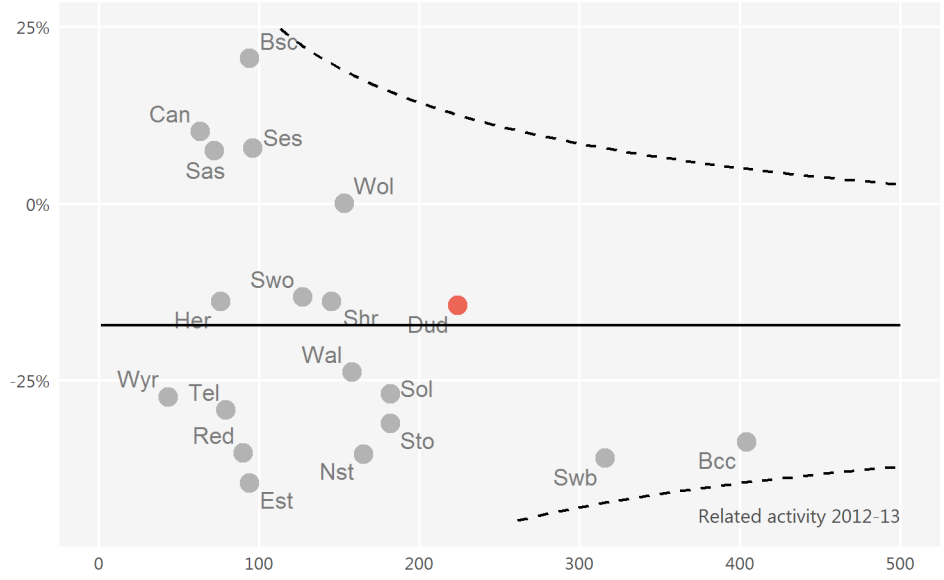


Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]

Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]

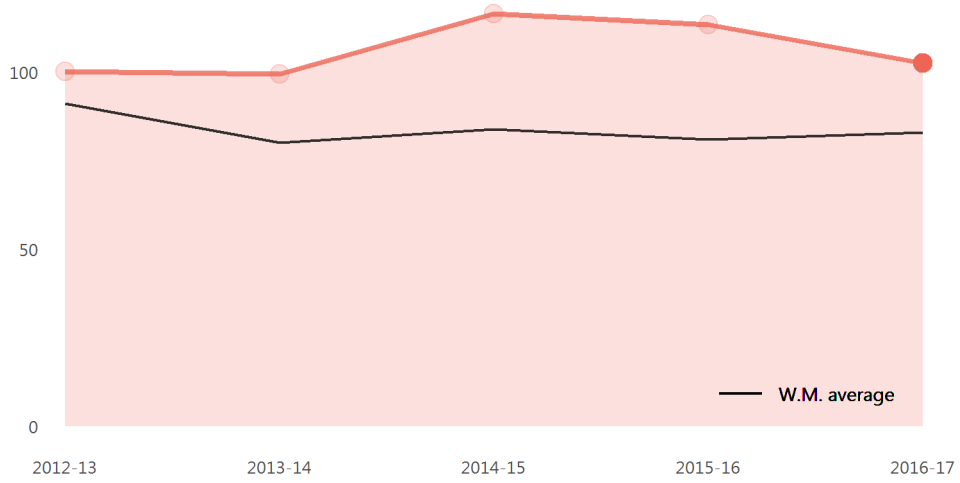


200 admissions	**£0.3M** spent
0.2% of all admissions	**£1,520** per unit activity

End Of Life Care - Death Within 3-14 Days Following Admission

Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]

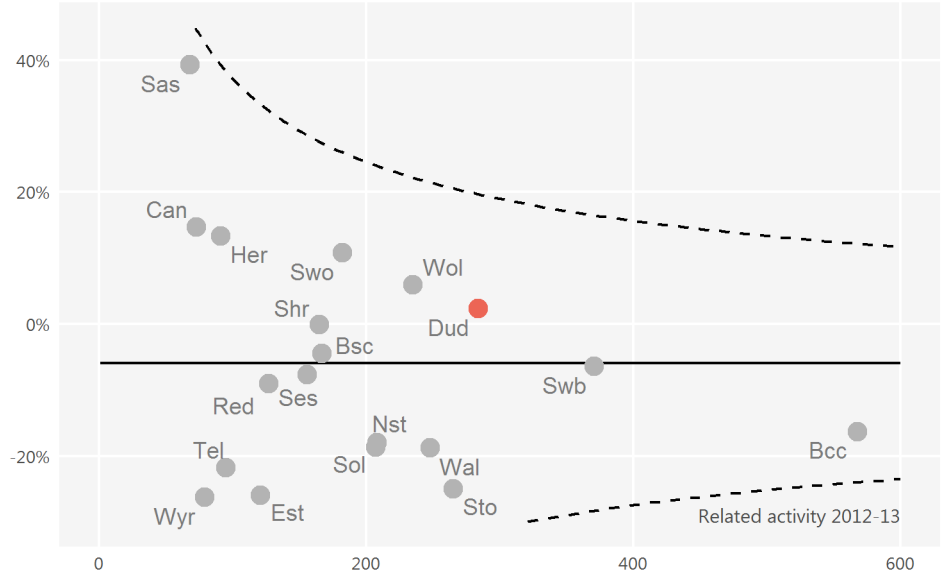


Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]

Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



320
admissions

£1M
spent

0.3%
of all admissions

£3,260
per unit activity

Falls-Related Admissions

Falls and fall-related injuries are a common and serious problem for older people. People aged 65 and older have the highest risk of falling, with 30% of people older than 65 and 50% of people older than 80 falling at least once a year.(1) Effective fall prevention strategies can reduce the number of people who fall, the rate of falls and the severity of injury should a fall occur.

We identify admissions where the patient is 65 years-old or over, is admitted as an emergency, and at least one diagnosis code from the following three groups is present:

1. **Explicit** – where a fall is indicated as a cause (e.g. cause code W06 – fall involving bed)
2. **Implicit** – where the patient is recorded as having a tendency to fall (diagnosis code R296 – tendency to fall *nec*)
3. **Implicit** – fractures commonly resulting from a fall (e.g. diagnosis code S424 – fracture of lower end of humerus).

These three groups are not, by definition, exclusive of one another.

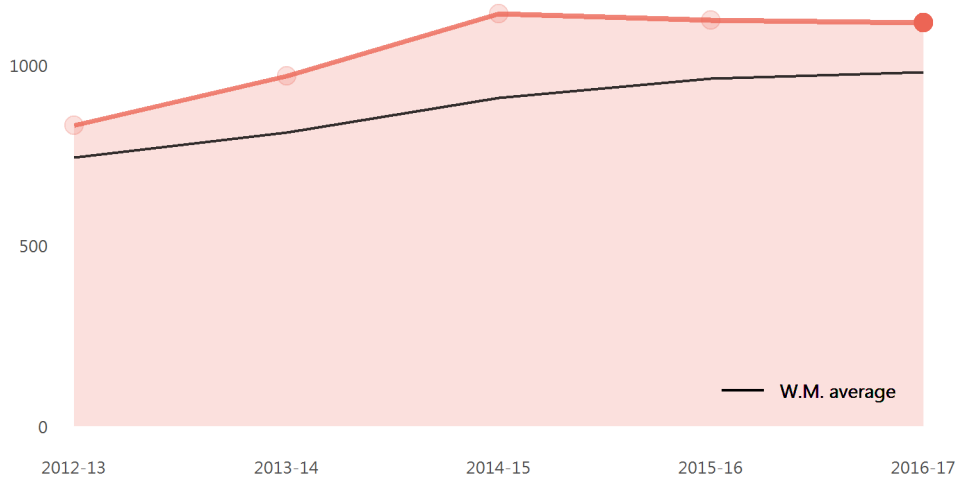
References

1. National Institute for Health and Clinical Excellence (NICE) (2013). Falls in older people: assessing risk and prevention Clinical guideline [CG161]. Available at: www.nice.org.uk/guidance/cg161/chapter/introduction (accessed on 1 April 2017).

Falls-Related

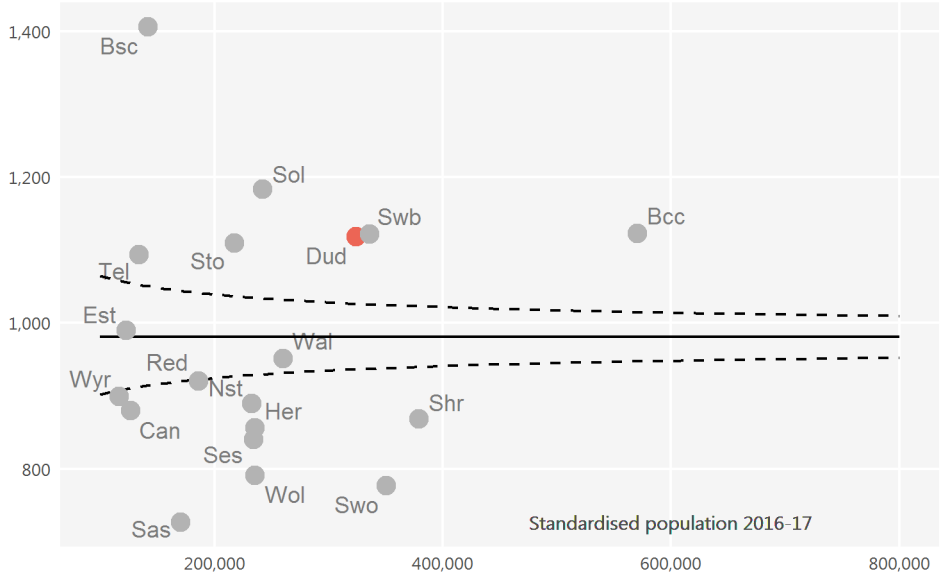
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



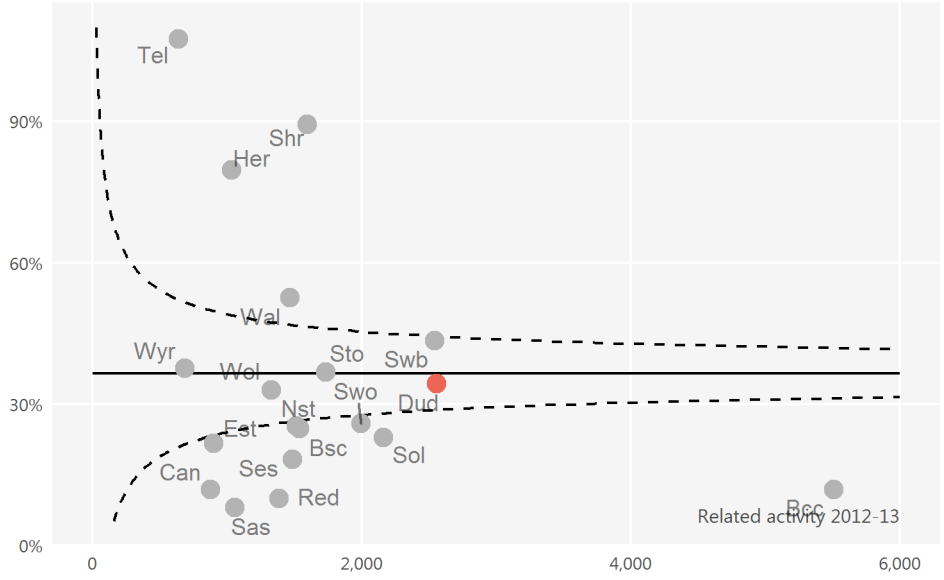
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



3,620
admissions

£8.9M
spent

4%
of all admissions

£2,450
per unit activity

Frail Elderly Admissions

Admissions for persons 75 years-old or over where the primary diagnosis would not normally require an otherwise fit and healthy person to be admitted.

These admissions are categorised into one of two groups:

1. Admissions which usually have the potential to be treated in a non-acute setting; and

2. Admissions which occasionally have the potential to be treated in a non-acute setting.

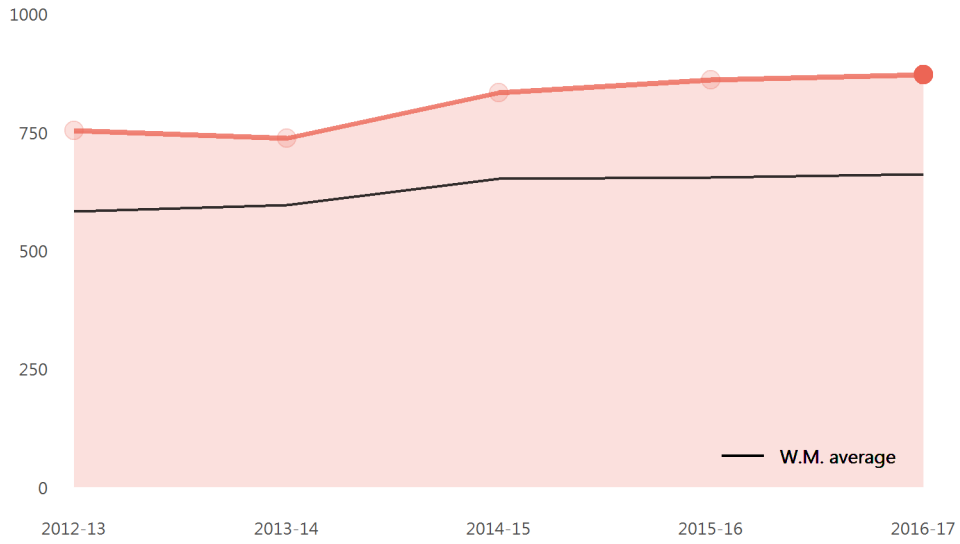
This classification was developed with guidance from Professor Ian Philp, a leading expert in the care of older people.

Frail Elderly Admissions

Could Usually be Managed in a Non-Acute Setting

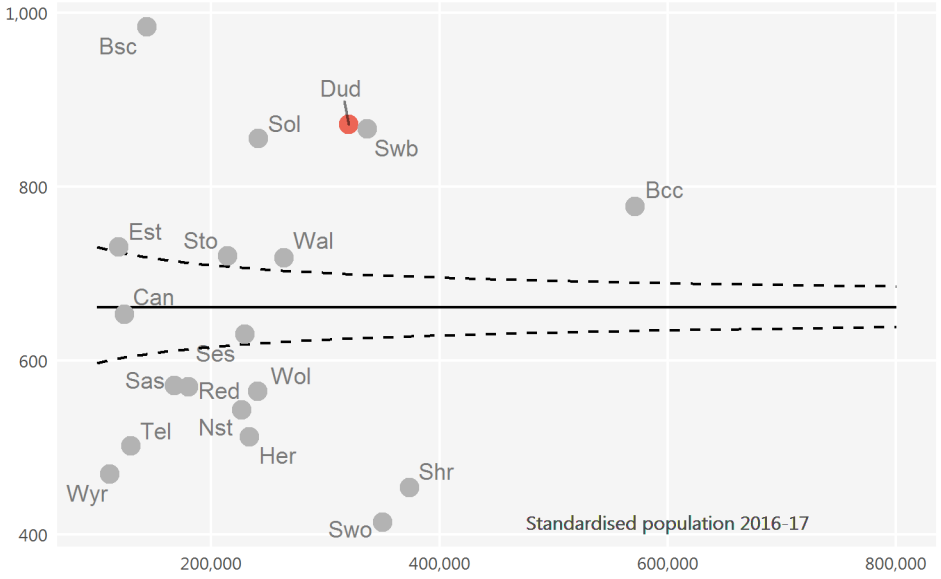
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



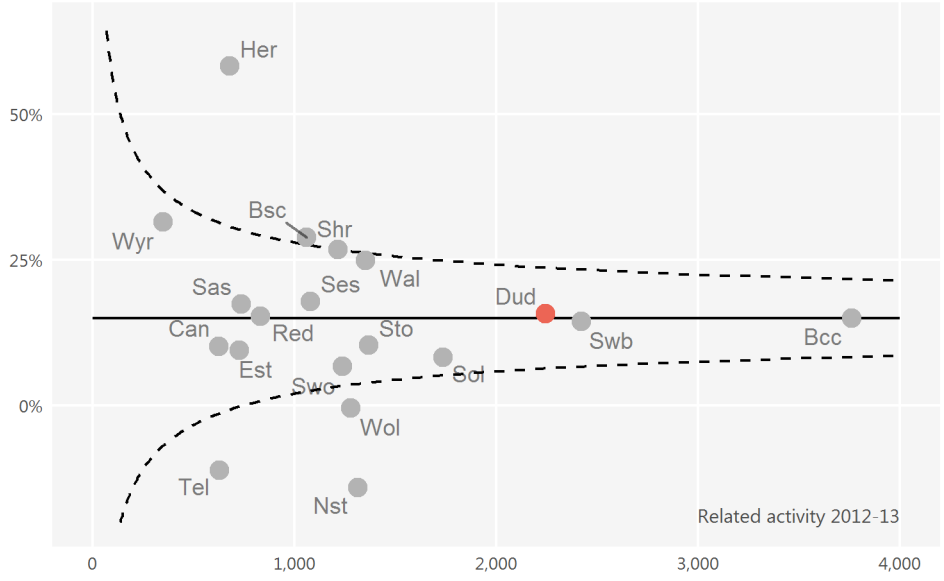
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



2,800
admissions

£5.9M
spent

3.1%
of all admissions

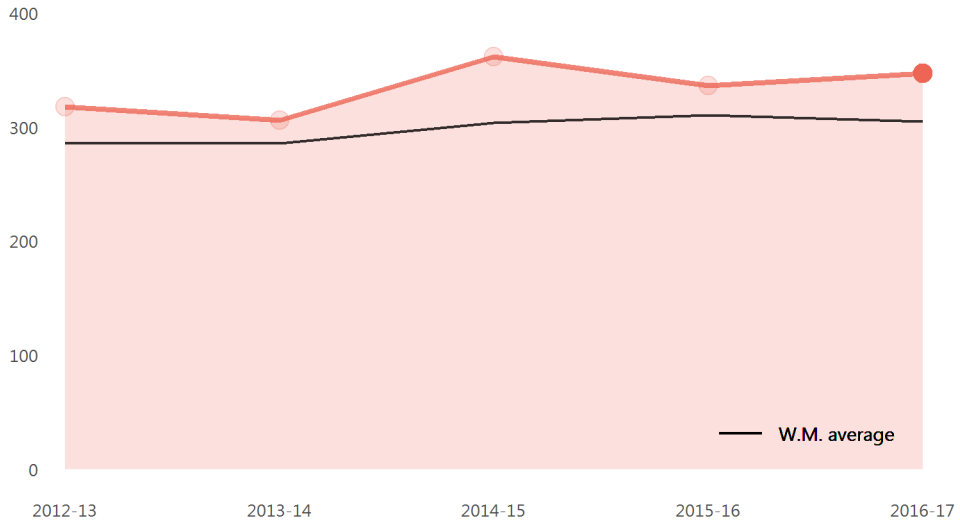
£2,110
per unit activity

Frail Elderly Admissions

Could Occasionally be Managed in a Non-Acute Setting

Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]

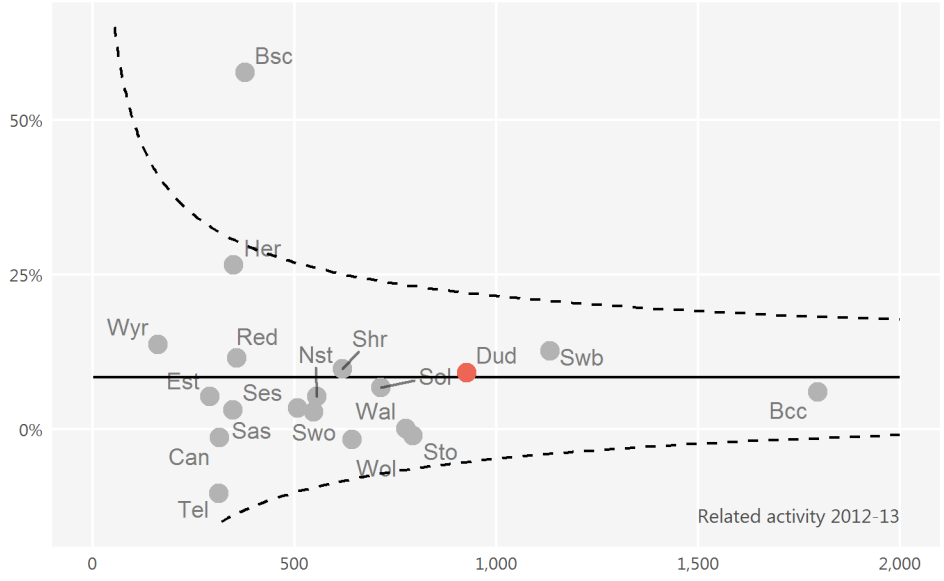


Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]

Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



1,090
admissions

£2.3M
spent

1.2%
of all admissions

£2,150
per unit activity

Medically Unexplained Symptoms

Medically unexplained symptoms can be defined as conditions where the patient experiences symptoms (such as headaches, insomnia, palpitations etc.) that cannot be explained despite intensive medical assessment (1). Research suggests medically unexplained symptoms are the presenting problem for approximately 20% of primary care attendances and account for 8% of inpatient bed days (2). This group of patients have disproportionately high rates of healthcare utilisation and often receive potentially unnecessary referrals, investigations and treatments (3). The cost to the NHS in 2008/09 for medically unexplained symptoms was £2.9bn which is comparable to the cost of dementia (4). These patients may derive greater benefit from a psychological therapy rather than an acute hospital admission.

These admissions are identified using a set of ICD10 codes defined by NHS South Central.

References

1. Smith, R. & Dwamena, F. (2007) Classification and diagnosis of patients with medically unexplained symptoms. *Journal of General Internal Medicine,* 22 (5), 685-691.

2. Kemp, S., Spilling, S. & Hughes, C. (2013) Medically unexplained symptoms (MUS): what do current trainee psychologists, neurologists and psychiatrists believe? Open Journal of Medical Psychology,

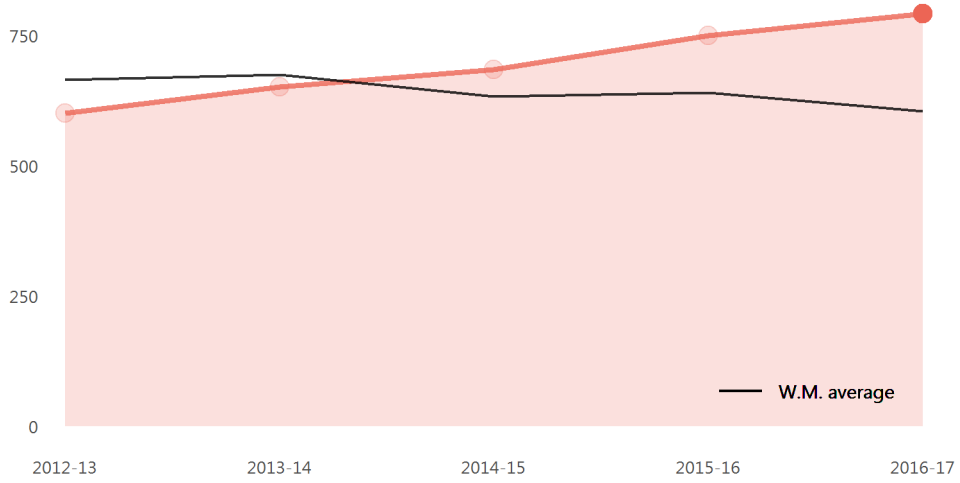
3. Lee, K., Johnson, M.H., Harris, J. & Sundram, F. (2016) The resource utilisation of medically unexplained physical symptoms. *Sage Open Medicine,* 4, 1-7.

4. Personal Social Services Research Unit, London School of Economics and Political Science (2011). No health without mental health: a cross-government mental health outcomes strategy for people of all ages. Supporting document – the economic case for improving efficiency and quality in mental health report. Available from: http://www.lse.ac.uk/businessAndConsultancy/LSEEnterprise/pdf/PSSRUfeb2011.pdf [Accessed 27th October 2017]

Medically Unexplained Symptoms

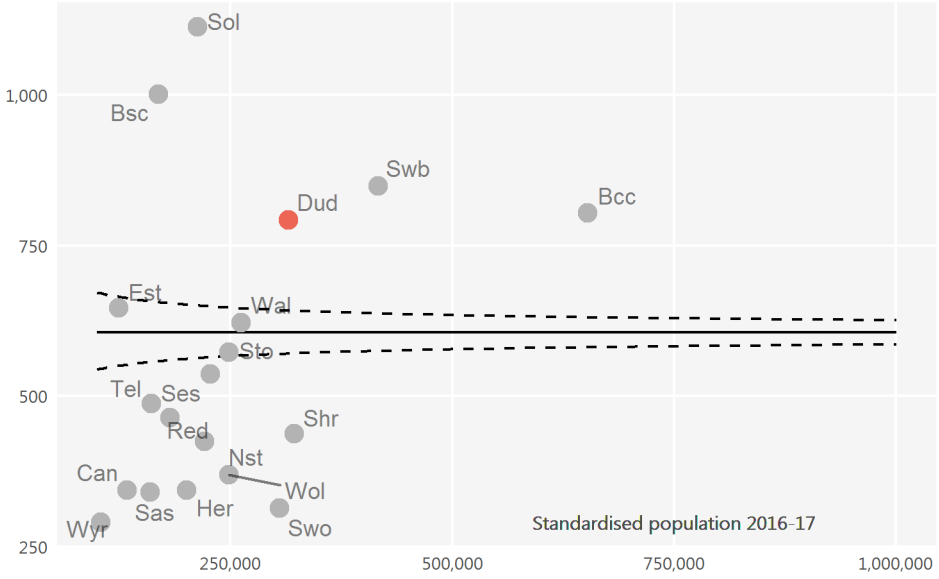
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



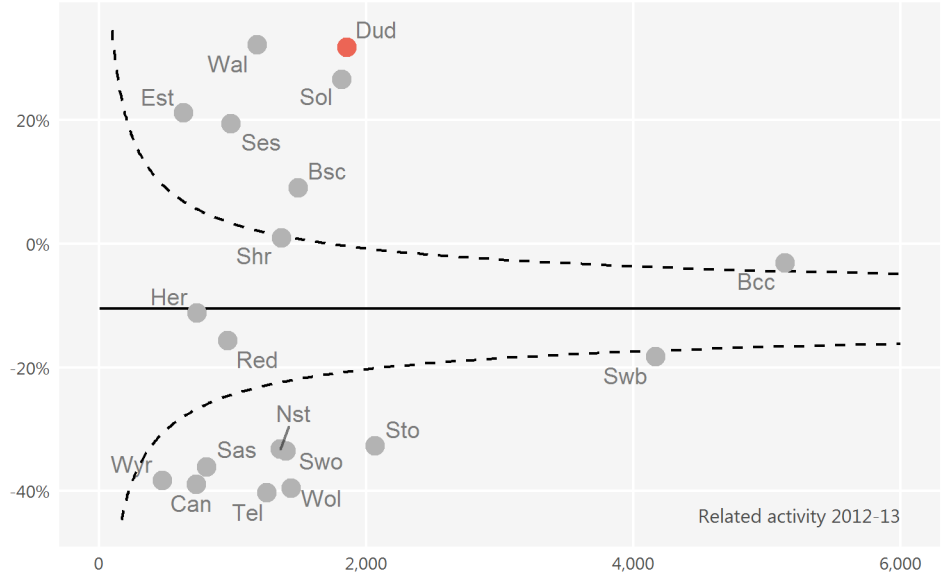
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



2,500
admissions

£1.8M
spent

2.8%
of all admissions

£720
per unit activity

Medicines-Related Admissions

There are several ways in which use of medicines can lead to harm (1).

1. Adverse drug reactions – even correctly prescribed and correctly used medicines can harm through side-effects or unanticipated allergic reactions.

2. Medication errors or medicines mismanagement – prescribing errors, dispensing errors, monitoring errors and administration errors all have potential to cause harm

3. Poor adherence – harm may arise through incorrect use, or non-use, by the patient.

Together, medication-related harms cause around 2.7–8.0% of UK hospital admissions. Some of these admissions may be preventable with better medicine management.

We identify two groups of admissions where medicines may have been a factor.

1. Explicitly coded – based on the presence of one or more of a small number of specific cause codes indicating adverse effects of medicines

2. Implicitly coded – admissions where there is indirect evidence of an adverse reaction to or poor management of medicines in one of the following four groups:

- NSAIDs
- Anti-Diabetics
- Benzodiazepines
- Diuretics

The implicitly coded admissions are identified using specific combinations of primary and secondary diagnoses that link a patient's condition and a possible problem with medicines used to treat that condition. For example, an admission with a secondary diagnosis of insulin-dependent diabetes mellitus and a primary diagnosis of drug-induced hypoglycaemia without coma would appear in the implicitly coded anti-diabetics medicines subgroup.

References

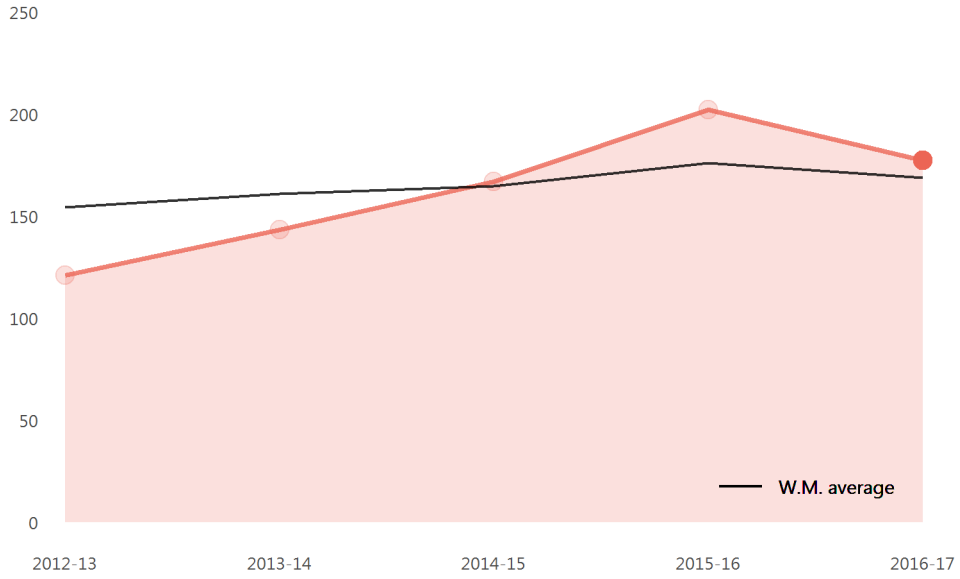
1. Reynolds, M., Hickson, M., Jacklin, A. and Franklin, B. (2014). A descriptive exploratory study of how admissions caused by medication-related harm are documented within inpatients' medical records. *BMC Health Services Research*, 14(1).

Medicines-Related

Explicitly Coded

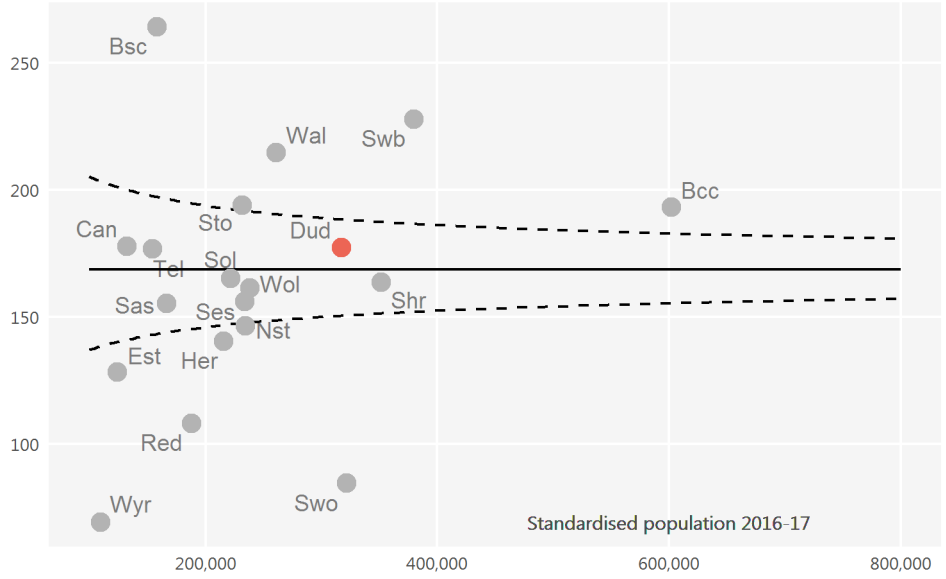
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



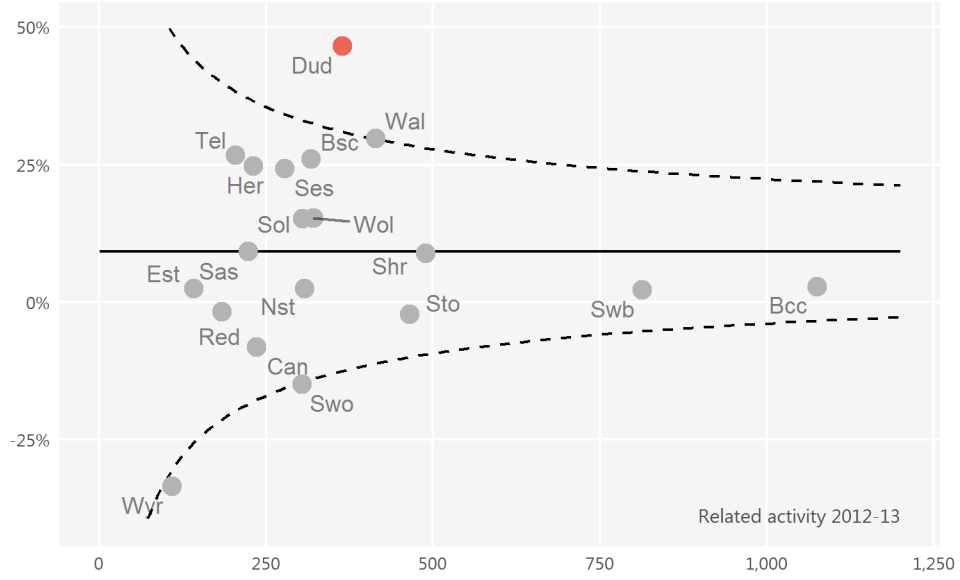
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



560
admissions

£1.1M
spent

0.6%
of all admissions

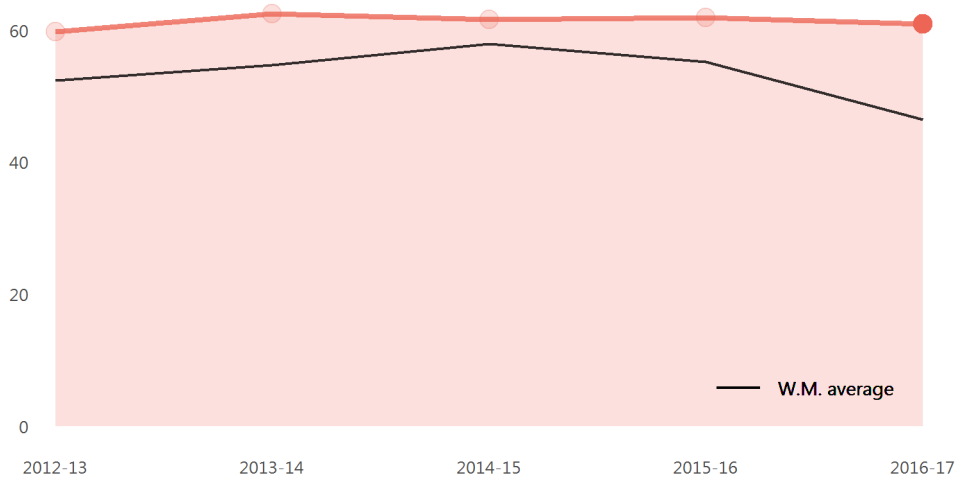
£2,020
per unit activity

Medicines-Related

Anti-Diabetics

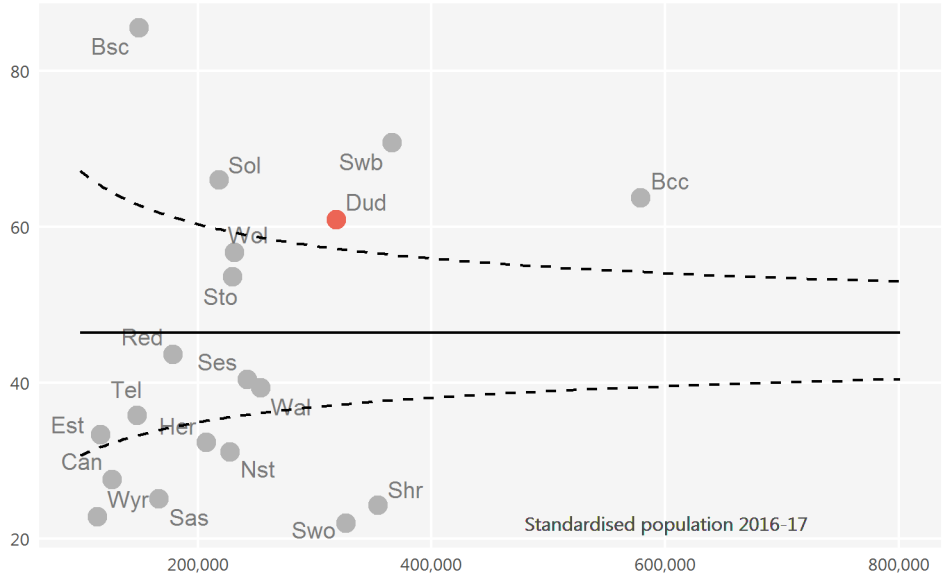
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



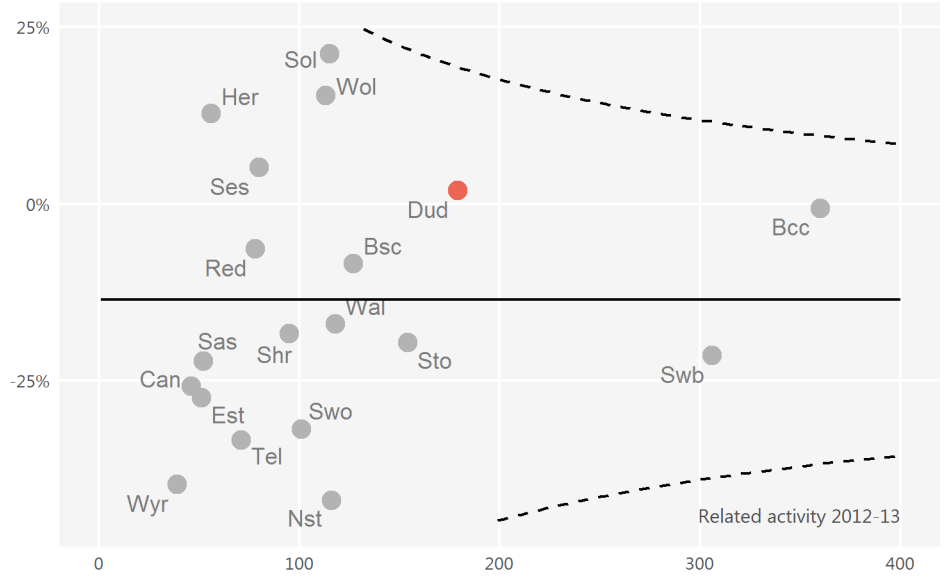
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



190
admissions

£0.3M
spent

0.2%
of all admissions

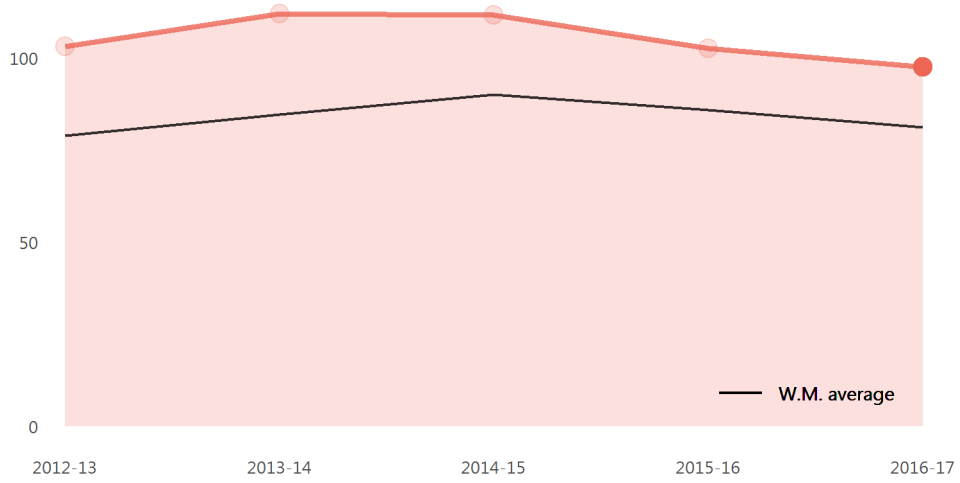
£1,480
per unit activity

Medicines-Related

Benzodiazepines

Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]

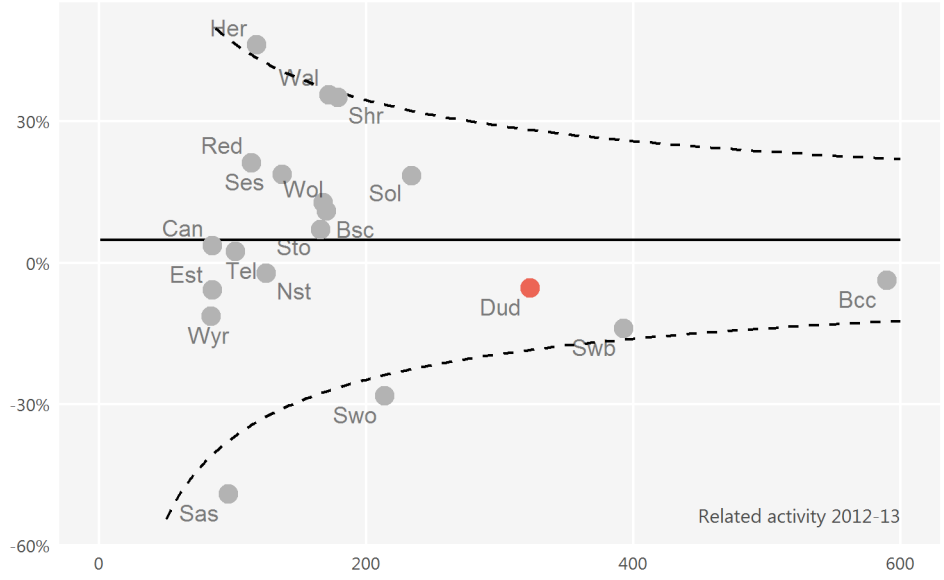


Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]

Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



310
admissions

£0.8M
spent

0.3%
of all admissions

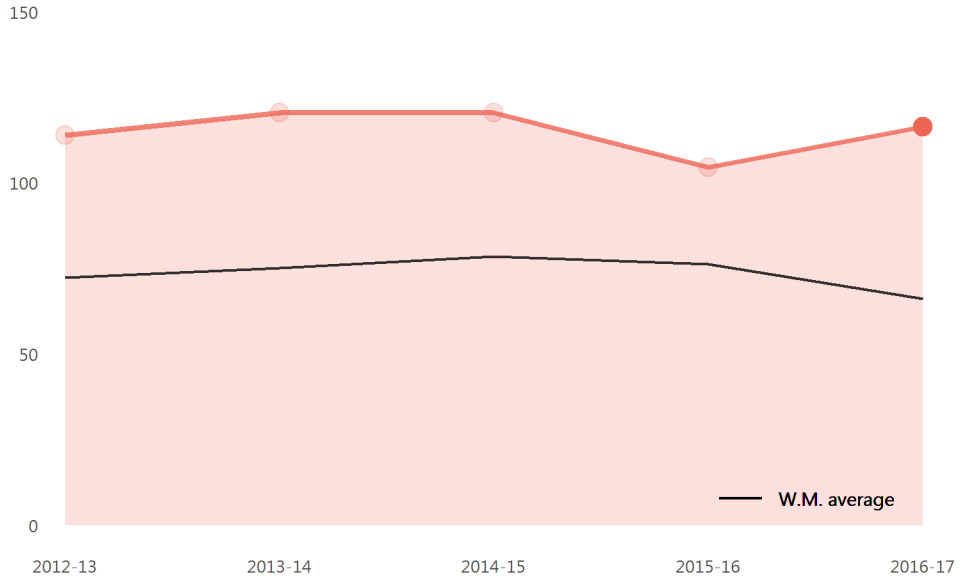
£2,460
per unit activity

Medicines-Related

Diuretics

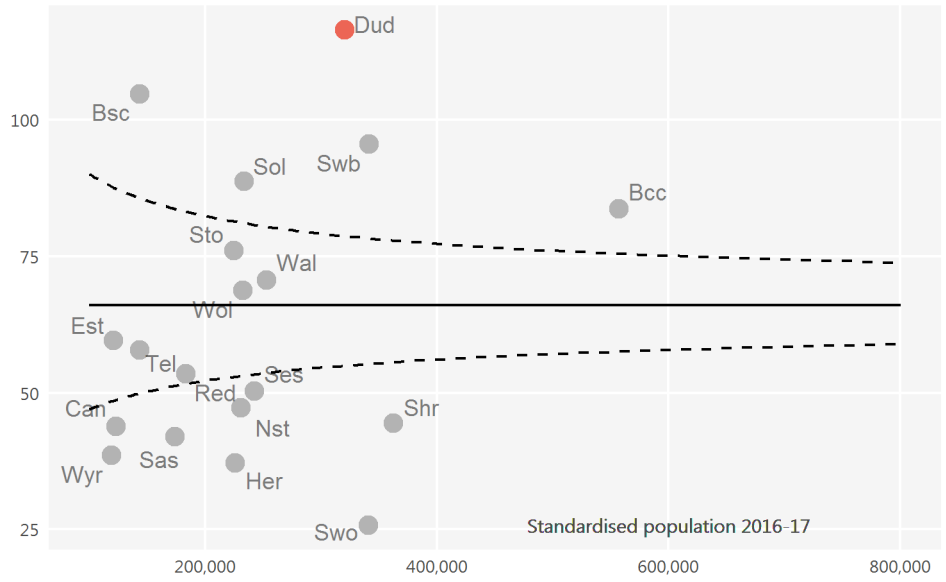
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



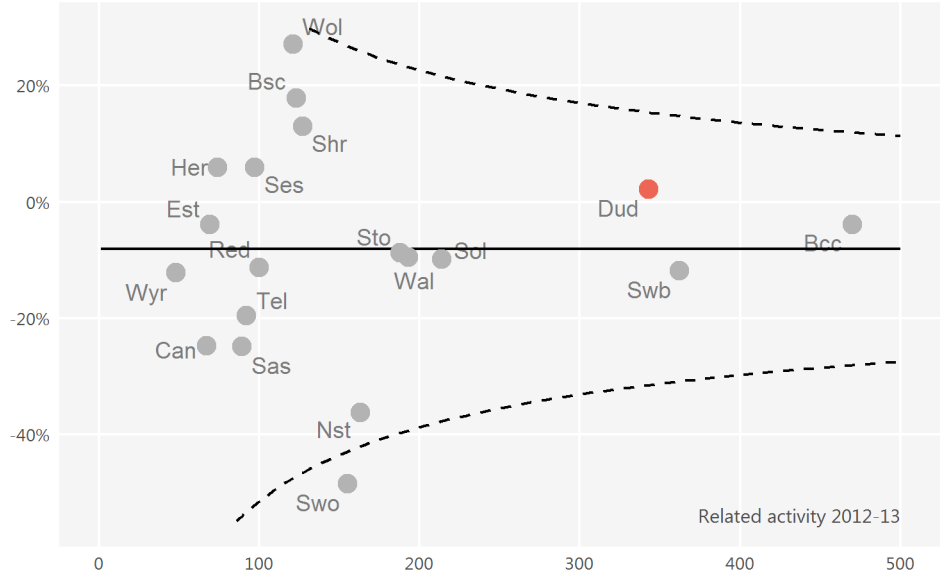
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



370
admissions

£0.4M
spent

0.4%
of all admissions

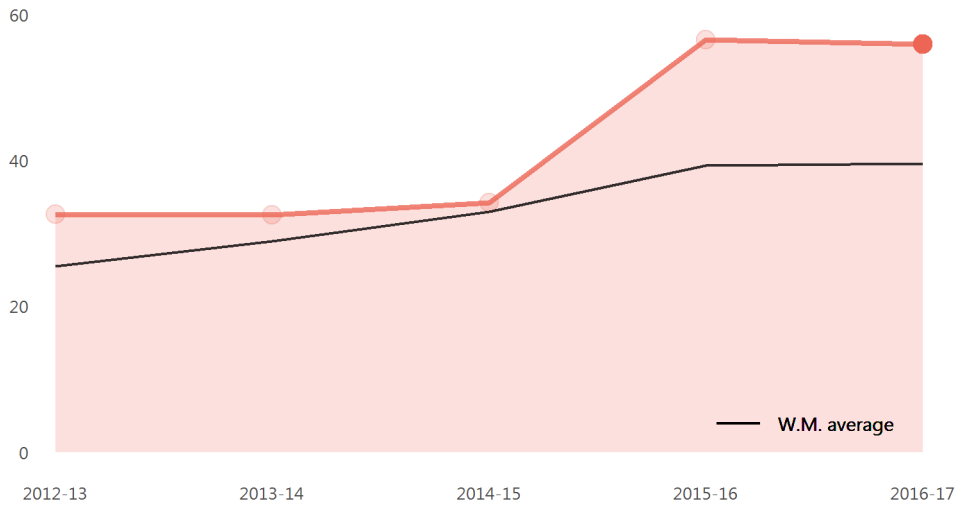
£1,150
per unit activity

Medicines-Related

NSAIDs

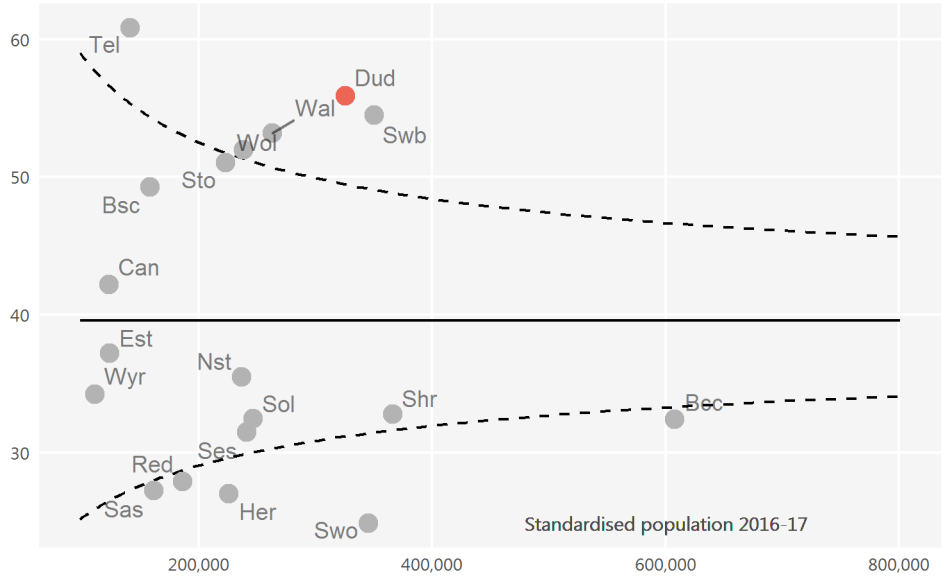
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



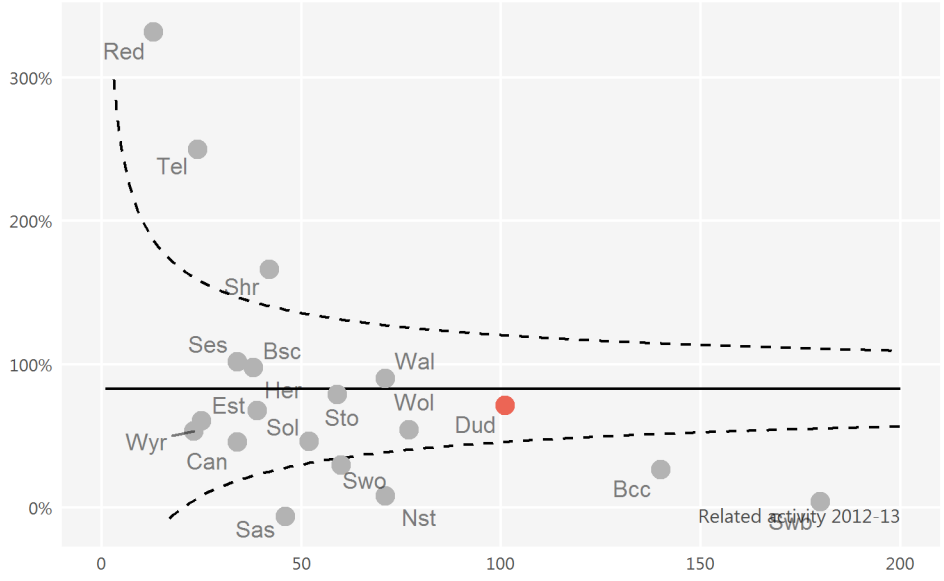
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



180
admissions

£0.4M
spent

0.2%
of all admissions

£1,980
per unit activity

No Overnight Stay, No Procedure, Discharged

An emergency admission where a patient is discharged on the same day without a procedure being carried out may indicate that the patient could have been treated in a non-acute setting.

We identify patients admitted as an emergency who are discharged on the same day without undergoing a procedure.

These admissions are divided into two groups:

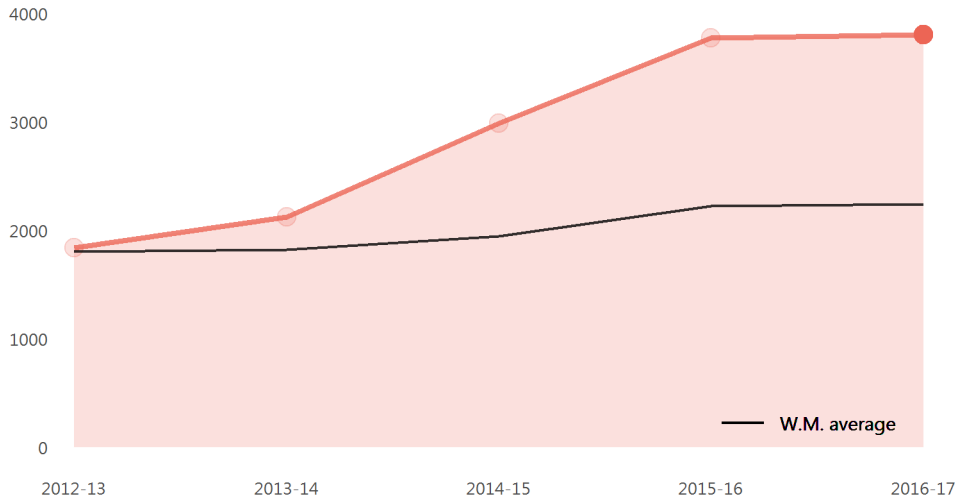
1. children (0–17)
2. adults (18+)

No Overnight Stay, No Procedure, Discharged

Adults

Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]

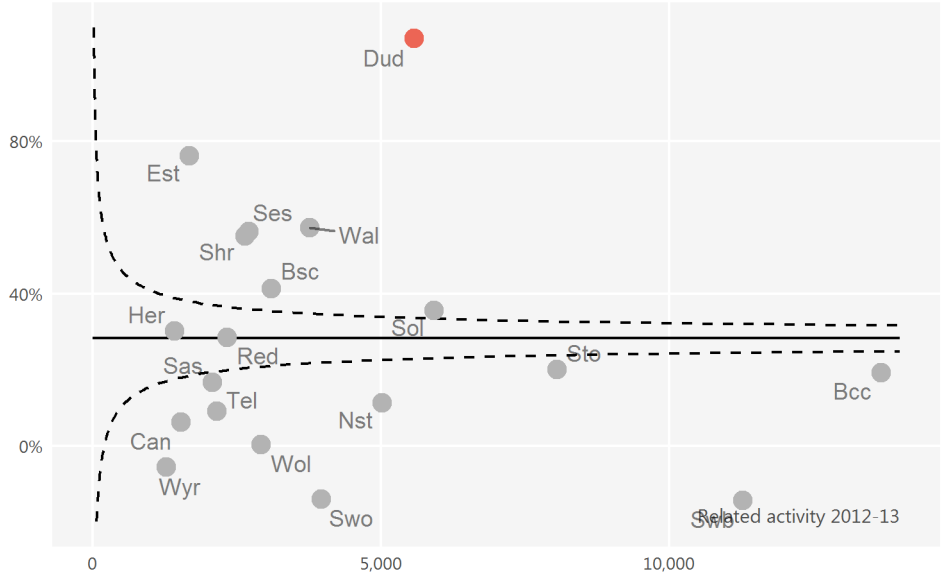


Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]

Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



11,840
admissions

£6.8M
spent

13.1%
of all admissions

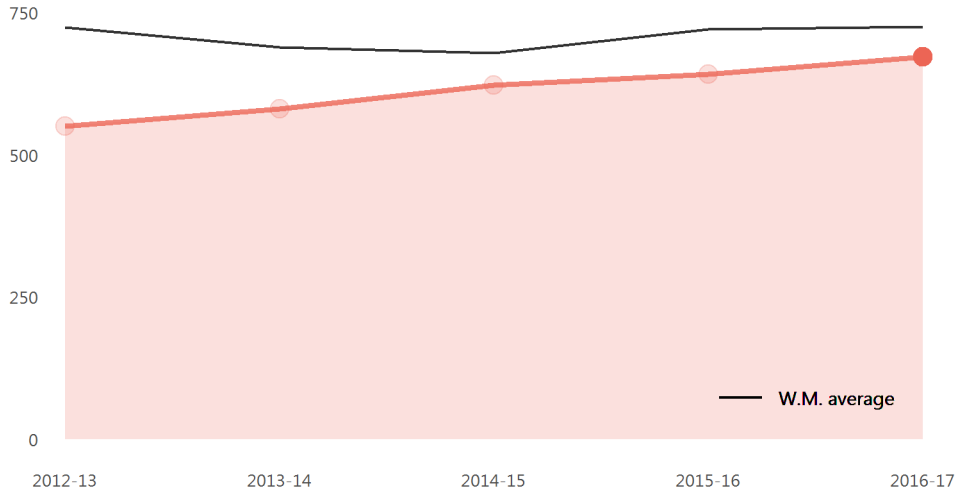
£570
per unit activity

No Overnight Stay, No Procedure, Discharged

Children

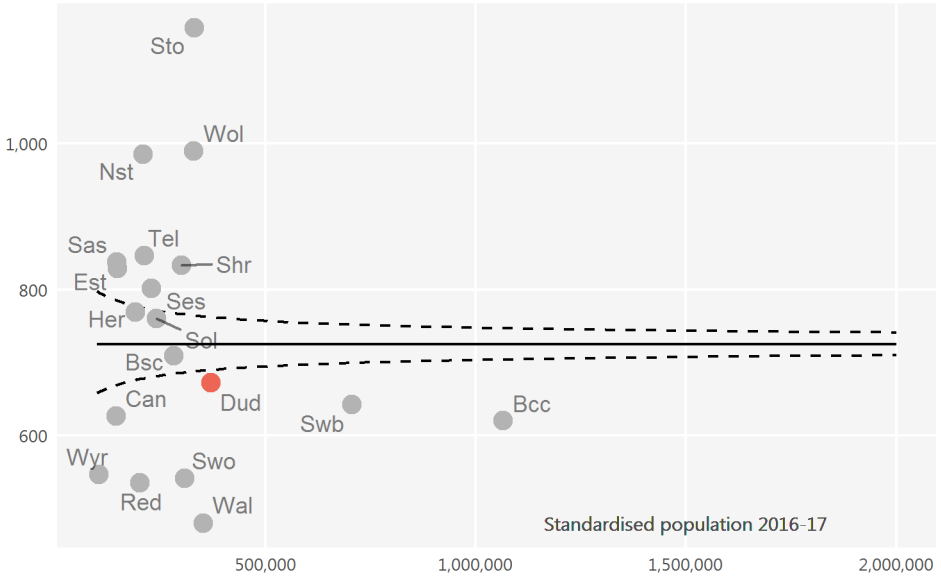
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



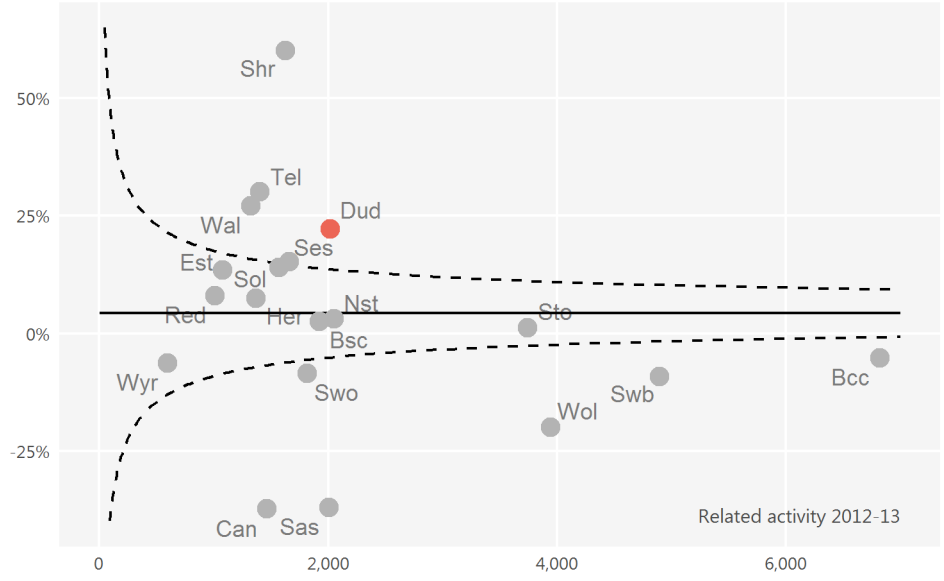
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



2,490
admissions

£1.5M
spent

2.8%
of all admissions

£600
per unit activity

Obesity-Related Admissions

Obesity is a condition in which weight gain has reached the point of seriously endangering health. Obese people are more likely to suffer from a number of serious chronic diseases, many of which are life limiting. Besides the physical effects, the psychological and social burdens of obesity can also be debilitating. The contribution of a risk factor to a disease (or death) is quantified using population attributable fractions (PAF). Population attributable fractions, or attributable fraction values, are the proportion of a health condition or external cause that is attributable to the exposure of a specific risk factor (such as obesity) in a given population. These fractions are typically derived from measures of the relative risk associated with the exposure of interest, in combination with information about the prevalence of the exposure in the target population. The population attributable fraction calculation assumes a causal association between risk factor and outcome, meaning that the attributable fraction can also be viewed as the expected proportional reduction in cases of an outcome arising in the population as a result of removing the exposure.

We use a set of obesity-attributable fractions produced for a National Audit Office report.(1) Obesity-attributable fractions were calculated for 13 separate conditions. Attributable fractions are sex and age specific to reflect the difference in exposure, prevalence and physiological differences between males and females and between age groups.

When identifying obesity-related admissions we consider only primary diagnosis codes as oppose to primary and any secondary codes recorded in relation to a patient's admission record.

We group conditions based on estimates of the proportion of attributable cases.

- Largely attributable (>50% cases attributable to obesity)
- Somewhat attributable (25-49%)
- Marginally attributable (<25%)

It is important to remember that we identify all admissions that *may* be attributable, not all admissions that *are* attributable.

References

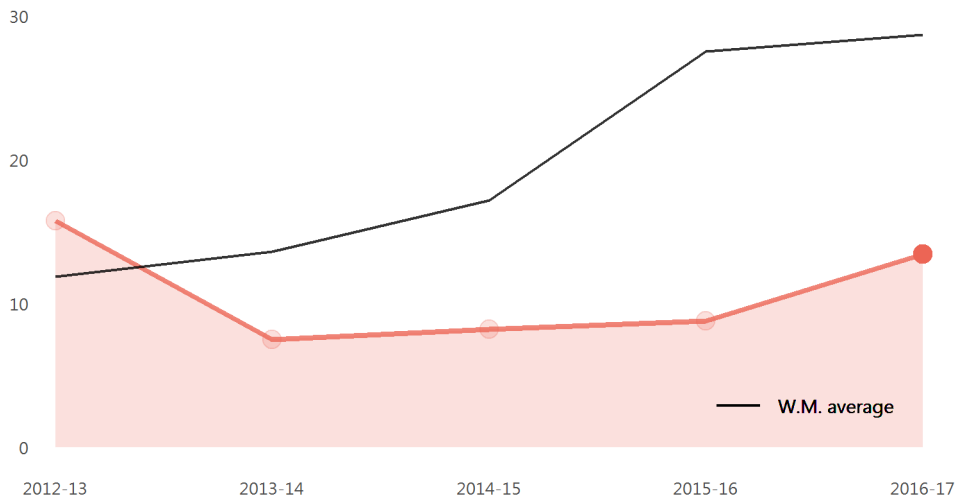
1. National Audit Office (2001).Tackling Obesity in England report by the Comptroller and Auditor General. London. The Stationery Office. Available from:https://www.nao.org.uk/report/tackling-obesity-in-england/ [accessed on 1 April 2017].

Obesity-Related

Largely Attributable (50 -100%)

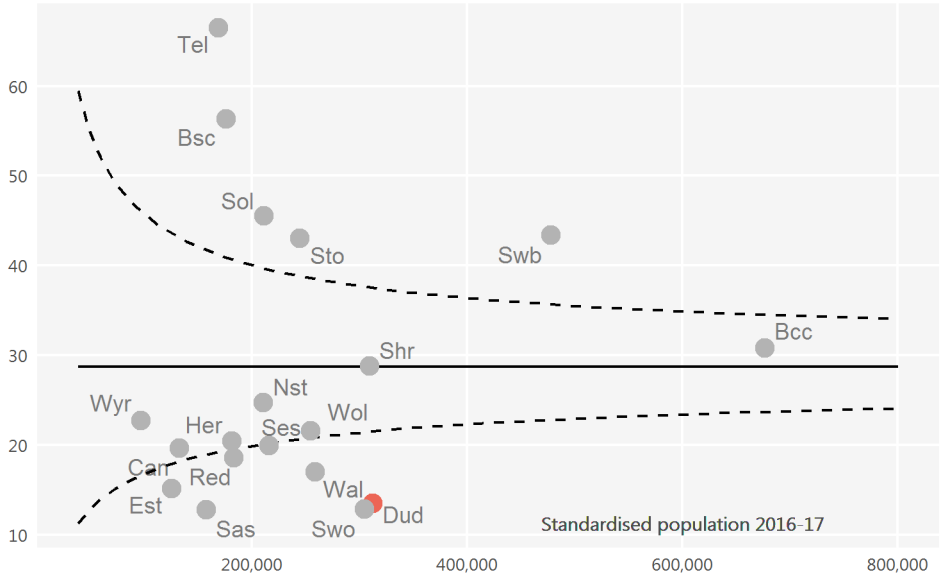
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



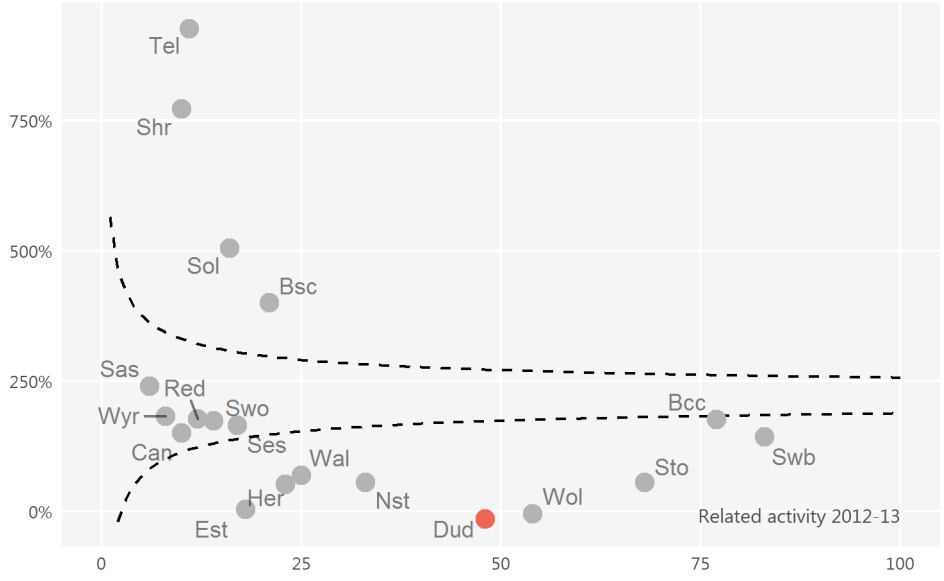
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



40
admissions

£0.2M
spent

0%
of all admissions

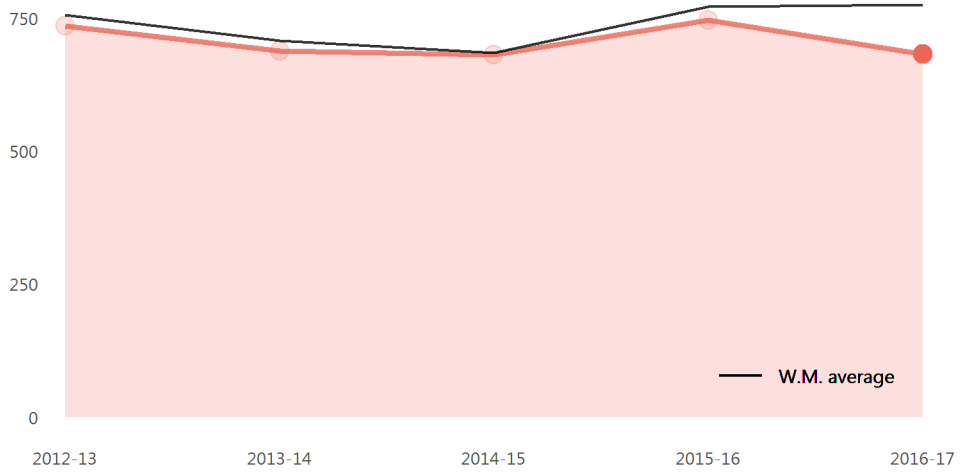
£4,650
per unit activity

Obesity-Related

Somewhat Attributable (25-49%)

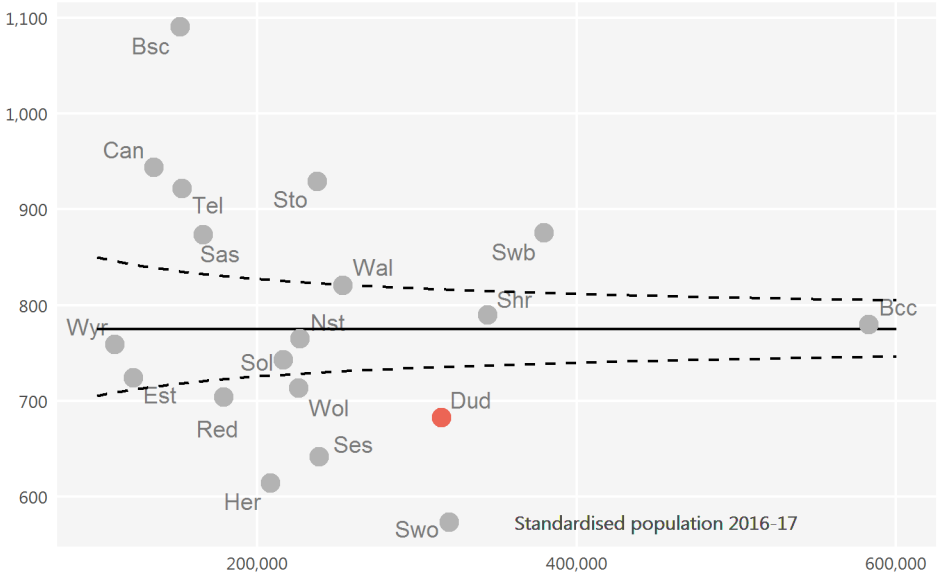
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



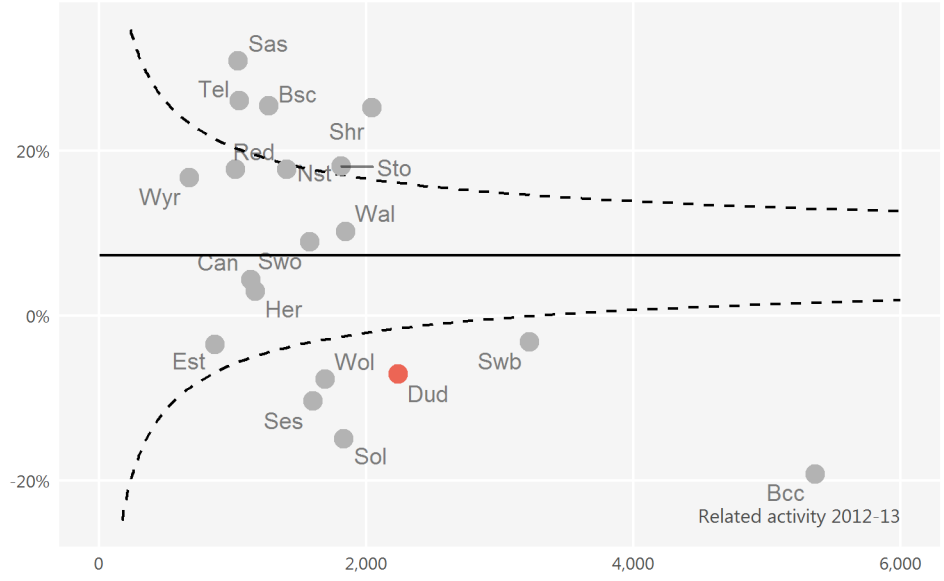
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



2,150
admissions

£4.8M
spent

2.4%
of all admissions

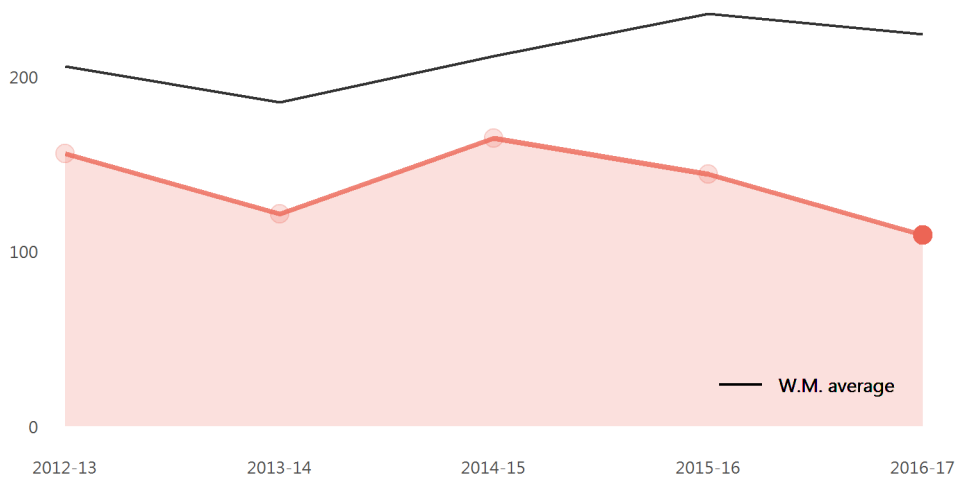
£2,210
per unit activity

Obesity-Related

Marginally Attributable (<25%)

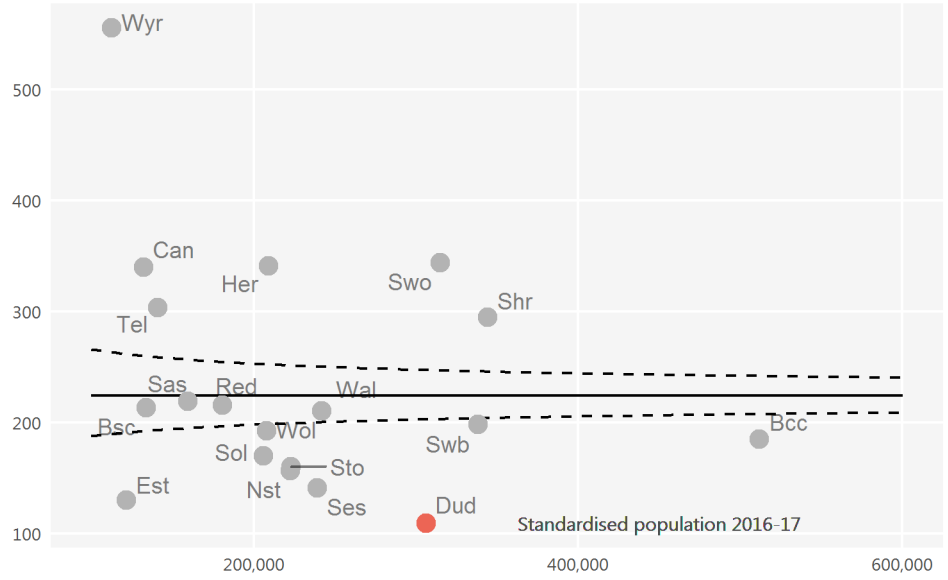
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



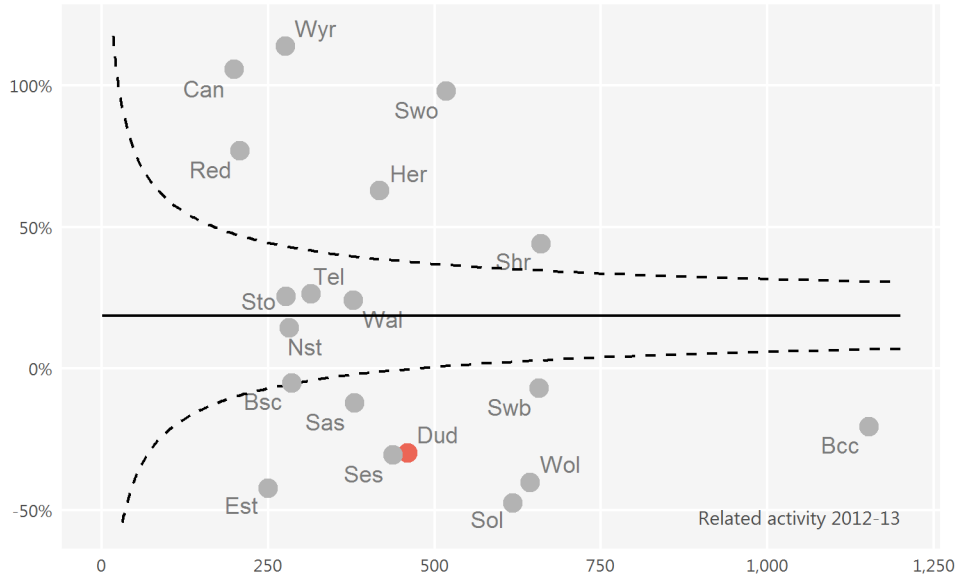
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



340
admissions

£0.7M
spent

0.4%
of all admissions

£2,190
per unit activity

Procedures Of Limited Clinical Value (PLCV)

A procedure of limited clinical value is considered either clinically ineffective, or cost-ineffective. Reducing expenditure on procedures of low clinical value will enable CCGs to invest in services with better clinical outcomes (1).

Whilst a definitive list of PLCVs does not exist, the "Croydon List", originally produced by Croydon PCT, was adopted in the London area and has gained widespread acceptance among commissioners across England. The Croydon List, which is used in this report, names 34 low priority treatments from more than 250 which have been identified as ineffective or cost-ineffective by different CCGs.

PLCVs are usually broken into four groups:

- Relatively ineffective interventions
- Probably aesthetic interventions
- Effective interventions with a close benefit/risk balance in mild cases
- Effective interventions where cost effective interventions should be tried first

References

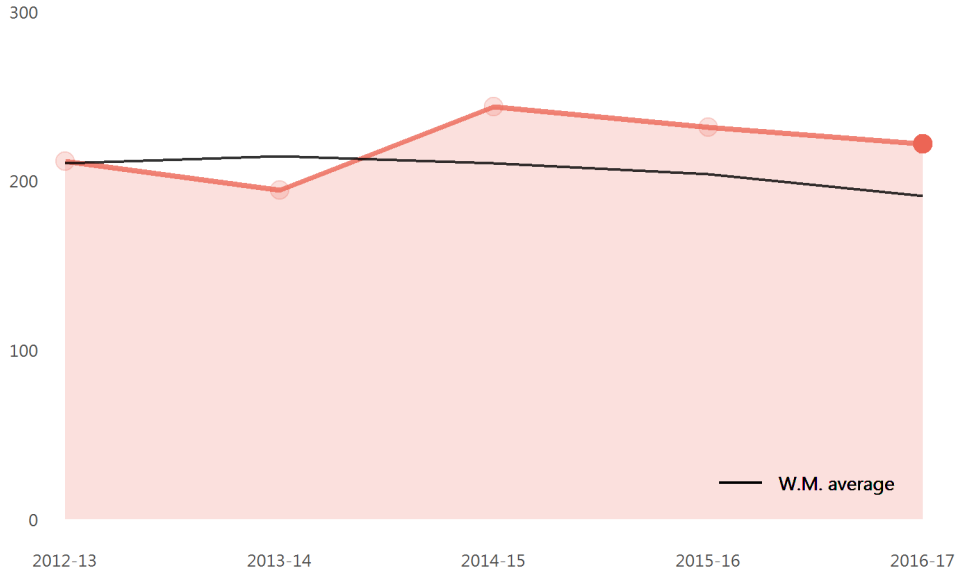
1. Audit Commission (2011) Reducing spending on low clinical value treatments. Available from: http://webarchive.nationalarchives.gov.uk/20150423184111/http://archive.audit-commission.gov.uk/auditcommission/subwebs/publications/studies/studyPDF/3683.pdf [Accessed 27th October 2017]

Procedures of Limited Clinical Value

Probably Aesthetic

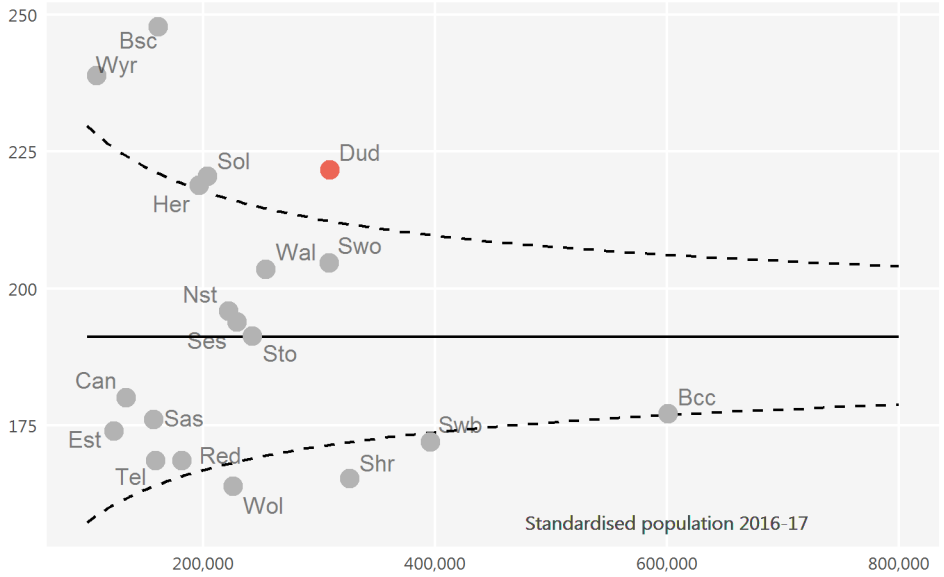
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



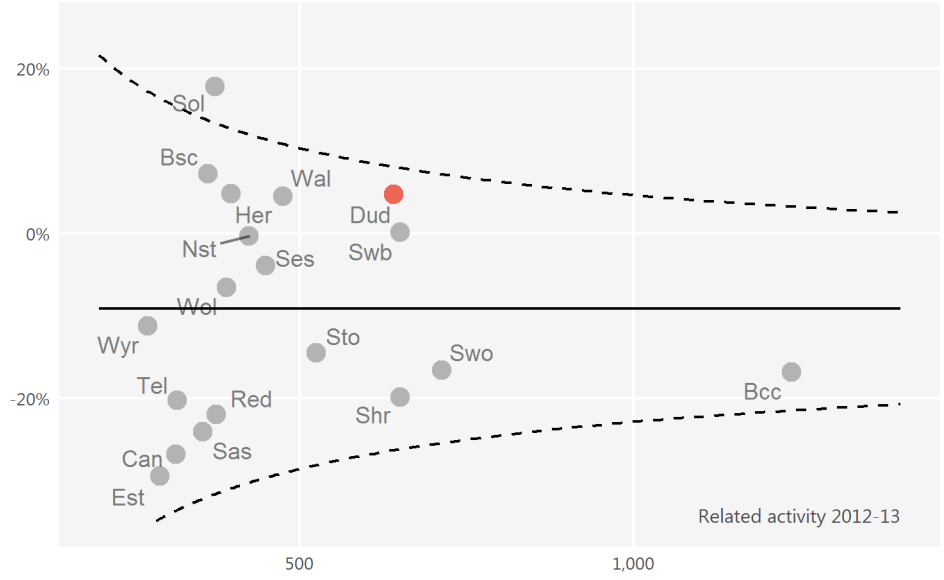
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



690
admissions

£1M
spent

0.8%
of all admissions

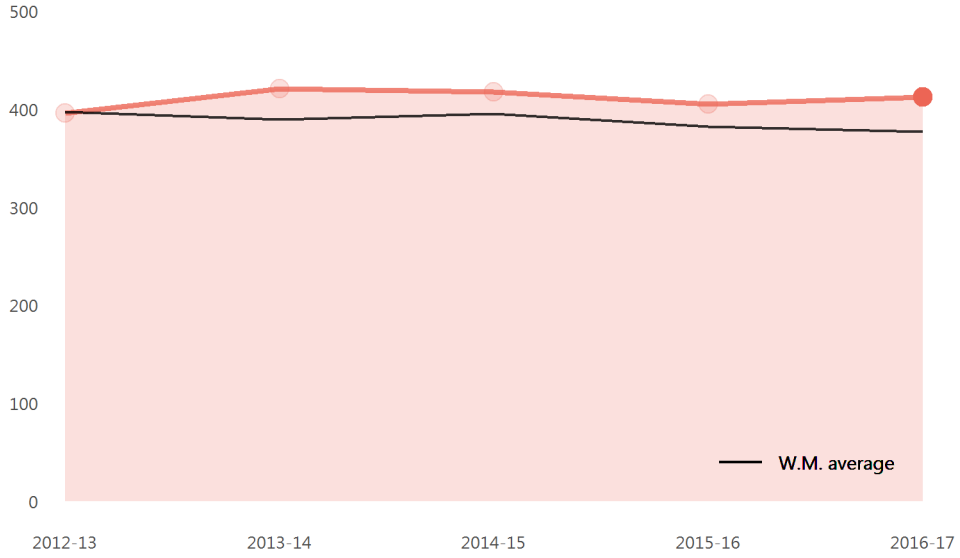
£1,430
per unit activity

Procedures of Limited Clinical Value

Effective but More Cost-Effective Options should be Tried First

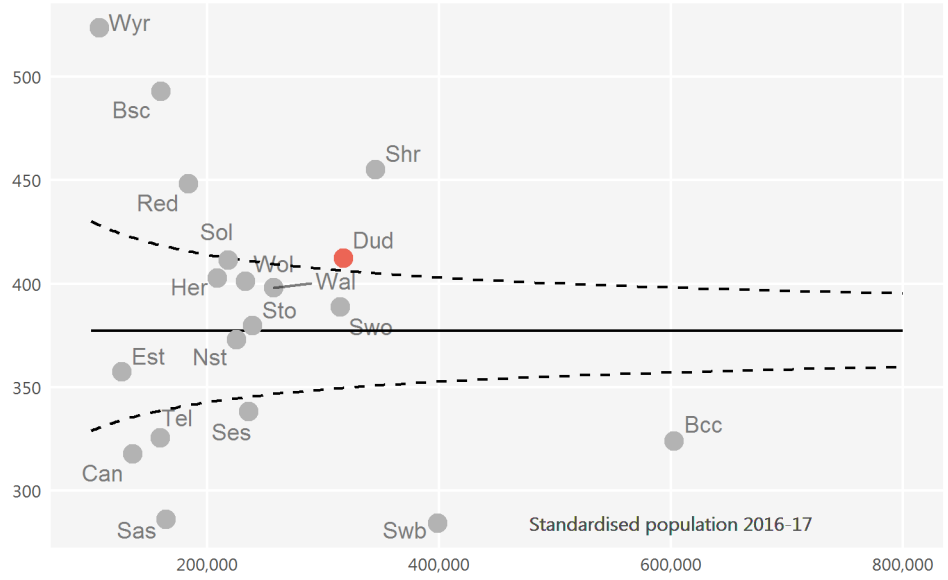
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



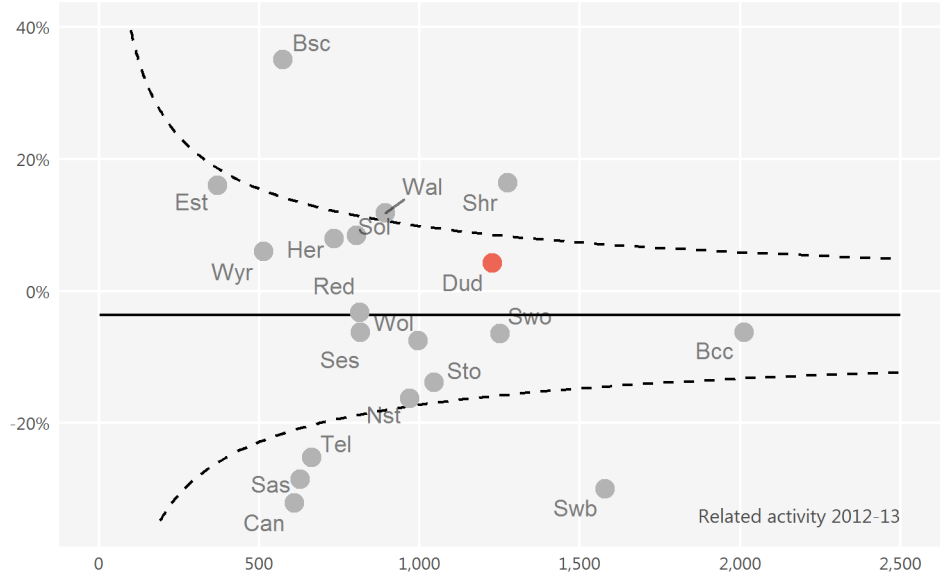
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



1,310
admissions

£4.1M
spent

1.4%
of all admissions

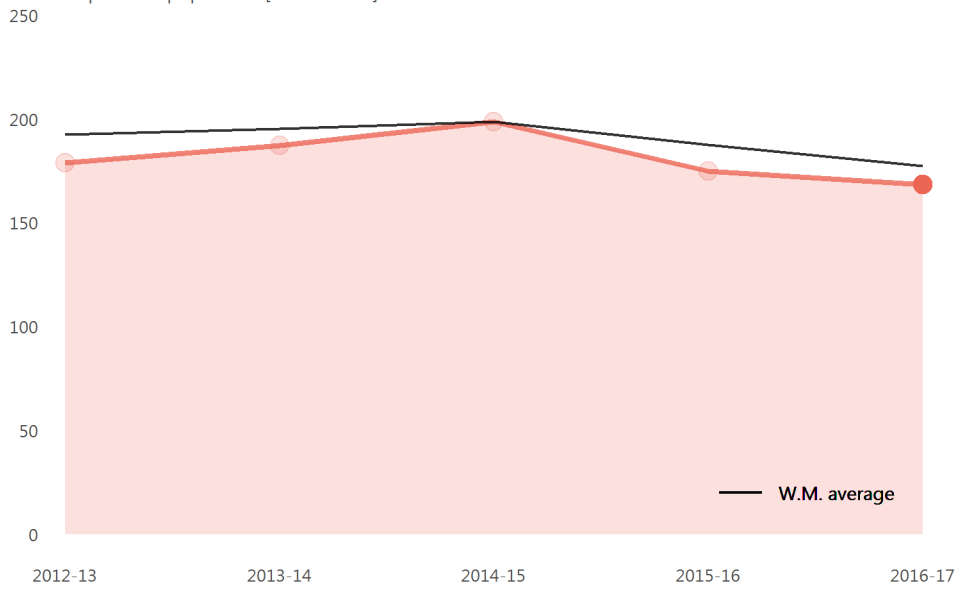
£3,110
per unit activity

Procedures of Limited Clinical Value

Relatively Ineffective

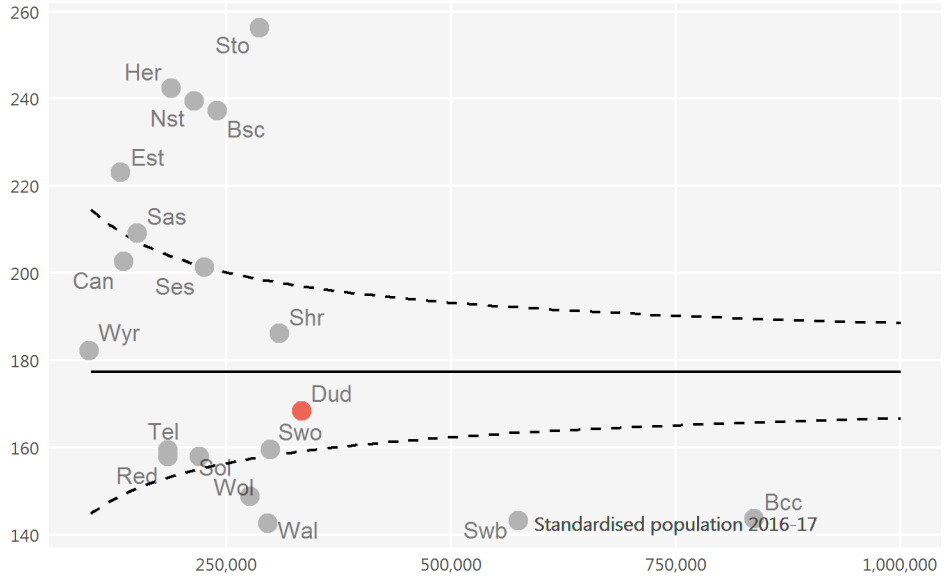
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



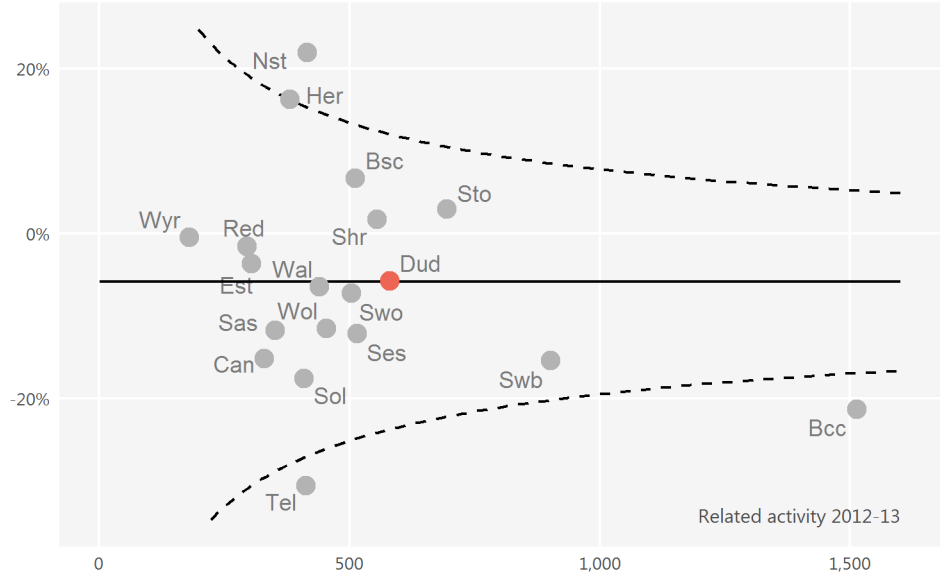
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



560
admissions

£0.6M
spent

0.6%
of all admissions

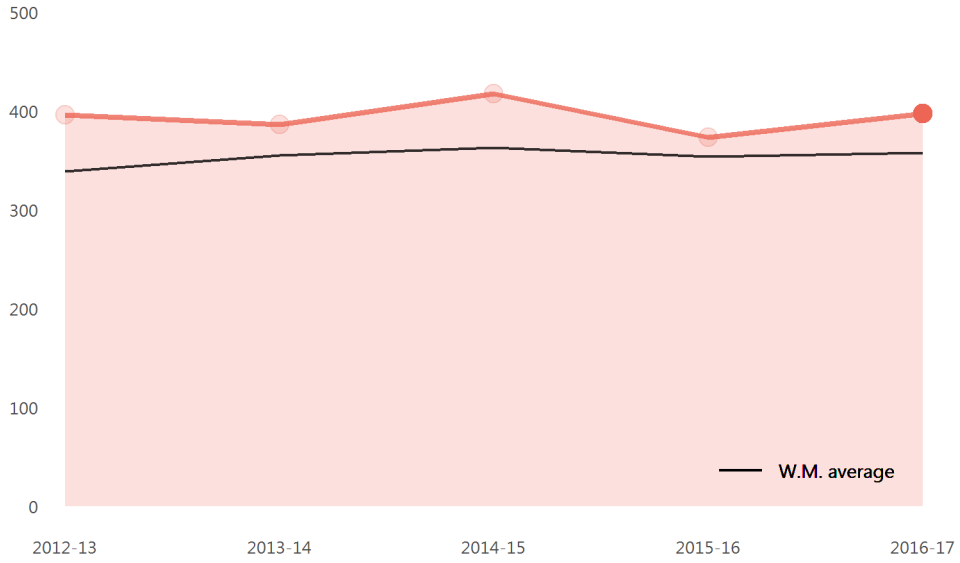
£1,150
per unit activity

Procedures of Limited Clinical Value

Effective but with a Close Risk/Benefit Balance in Mild Cases

Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]

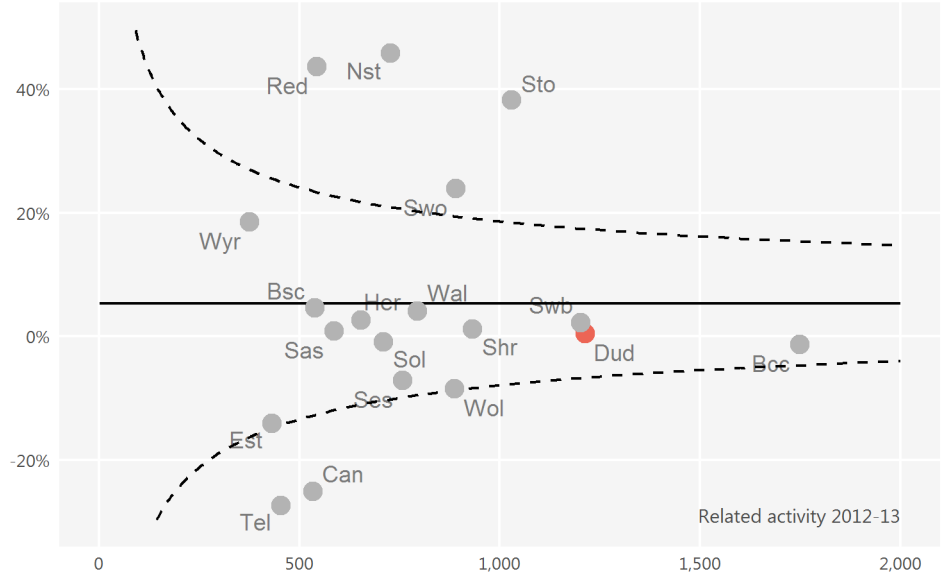


Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]

Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



1,260
admissions

£5M
spent

1.4%
of all admissions

£3,970
per unit activity

Self-Harm Related Admissions

Deliberate self-harm is a common reason for emergency medical admission.(1) The benefits of admission are, however, uncertain and some patients could be managed by primary or community mental health services.

We identify all admissions with an ICD10 cause code relating to intentional self-harm or intentional self-poisoning.

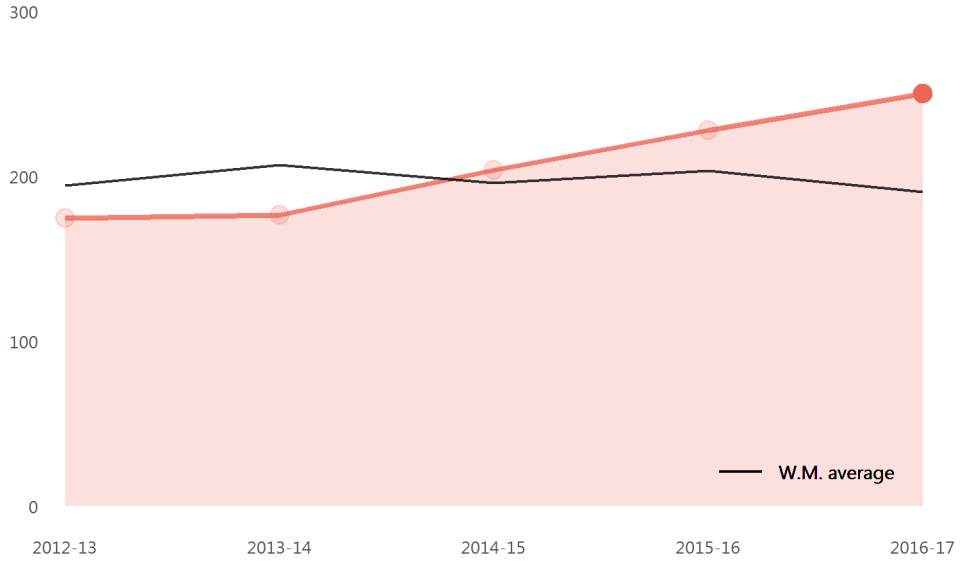
References

1. Bennewith O M, Sharp D, Gunnell D, Peters T J, Stocks N. Deliberate self harm is common reason for emergency medical admission *BMJ* 2001; 322 :1065. Available from: http://dx.doi.org/10.1136/bmj.322.7293.1065

Self-Harm

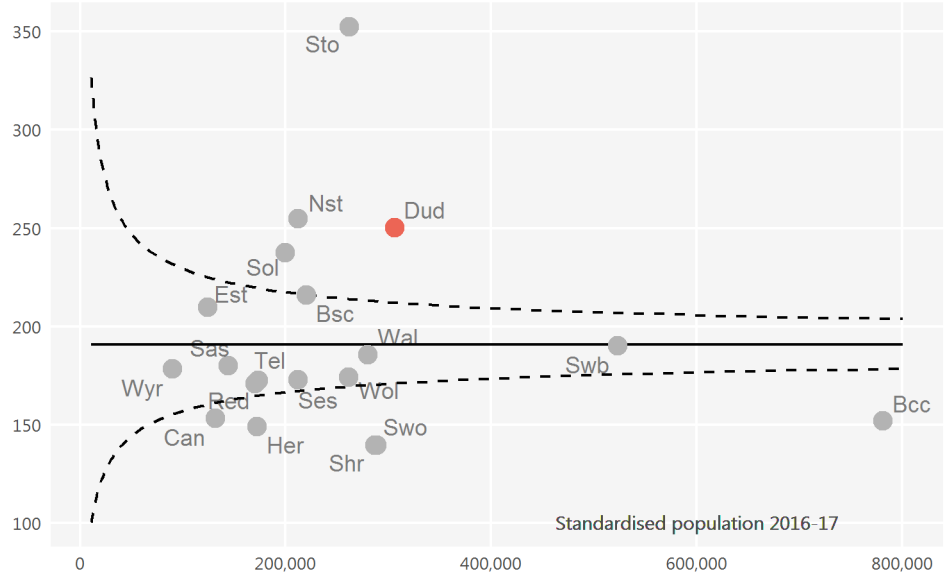
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



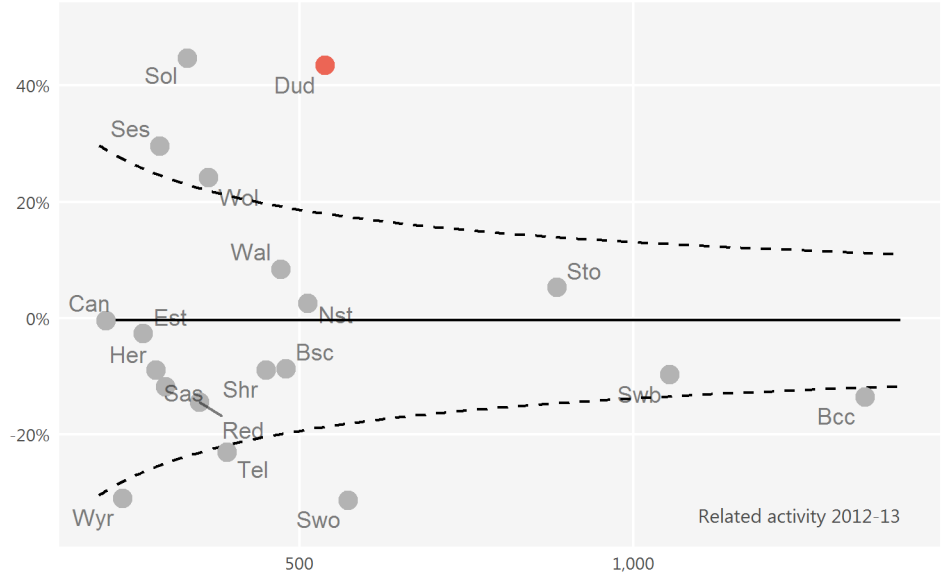
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



770
admissions

£0.5M
spent

0.8%
of all admissions

£690
per unit activity

Smoking-Related Admissions

Smoking is the most important cause of preventable ill health and premature mortality in the UK. Smoking is a major risk factor for many diseases, such as lung cancer, chronic obstructive pulmonary disease (COPD) and heart disease. It is also associated with cancers in other organs, including lip, mouth, throat, bladder, kidney, stomach, liver and cervix.

The contribution of a risk factor to a disease (or death) is quantified using population attributable fractions (PAF). Population attributable fractions, or attributable fraction values, are the proportion of a health condition or external cause that is attributable to the exposure of a specific risk factor (such as smoking) in a given population. These fractions are typically derived from measures of the relative risk associated with the exposure of interest, in combination with information about the prevalence of the exposure in the target population. The population attributable fraction calculation assumes a causal association between risk factor and outcome, meaning that the attributable fraction can also be viewed as the expected proportional reduction in cases of an outcome arising in the population as a result of removing the exposure.

We use a set of smoking-attributable fractions produced for the West Midlands Public Health Group.(1) Smoking-attributable fractions were estimated for 34 diseases.

When identifying smoking-related admissions we consider only primary diagnosis codes as oppose to primary and any secondary codes recorded in relation to a patient's admission record.

We group diseases/conditions based on estimates of the proportion of attributable cases.

- Largely attributable (>50% cases attributable to smoking)
- Somewhat attributable (25-49%)

It is important to remember that we identify all admissions that *may* be attributable, not all admissions that *are* attributable.

References

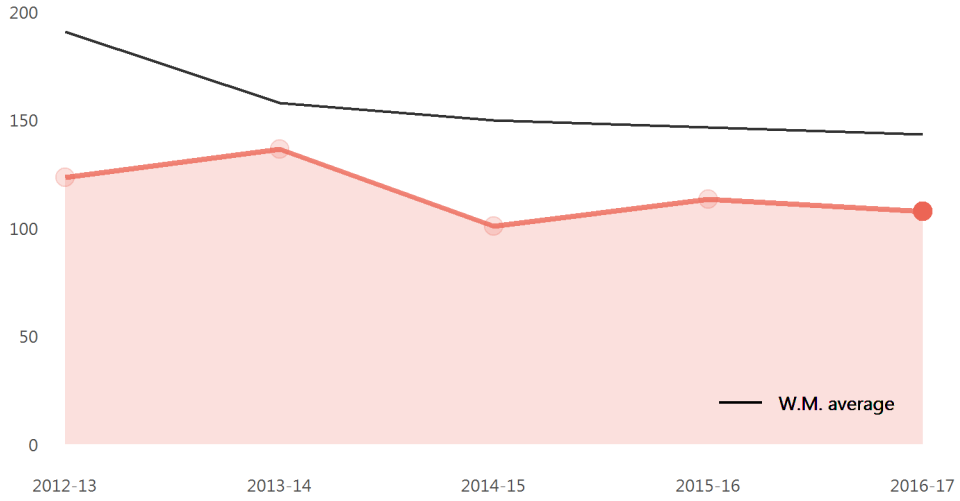
1. UK Research Partnership Ltd and The Mackinnon Partnership (2004). Modelling the economic impact of tobacco control measures in the West Midlands.

Smoking-Related

Largely Attributable (>50%)

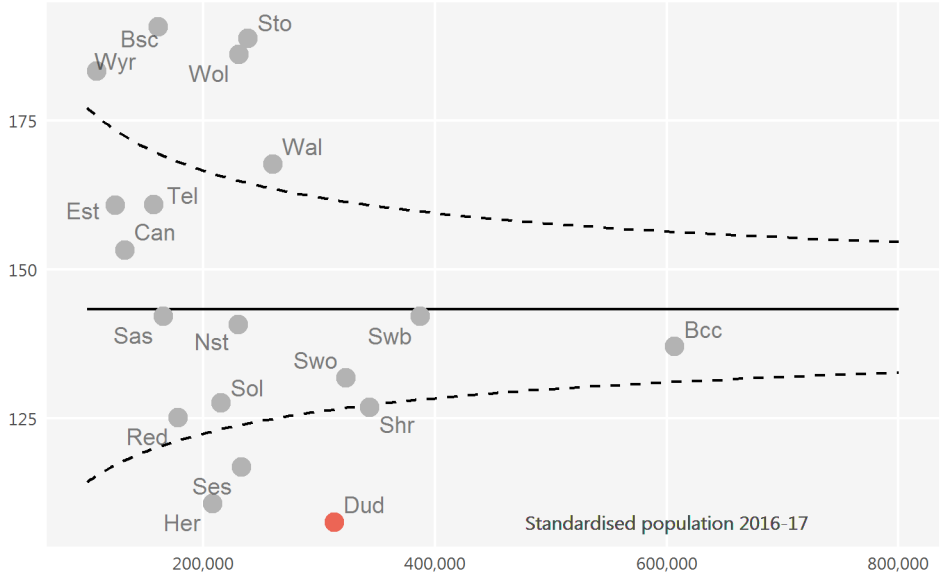
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



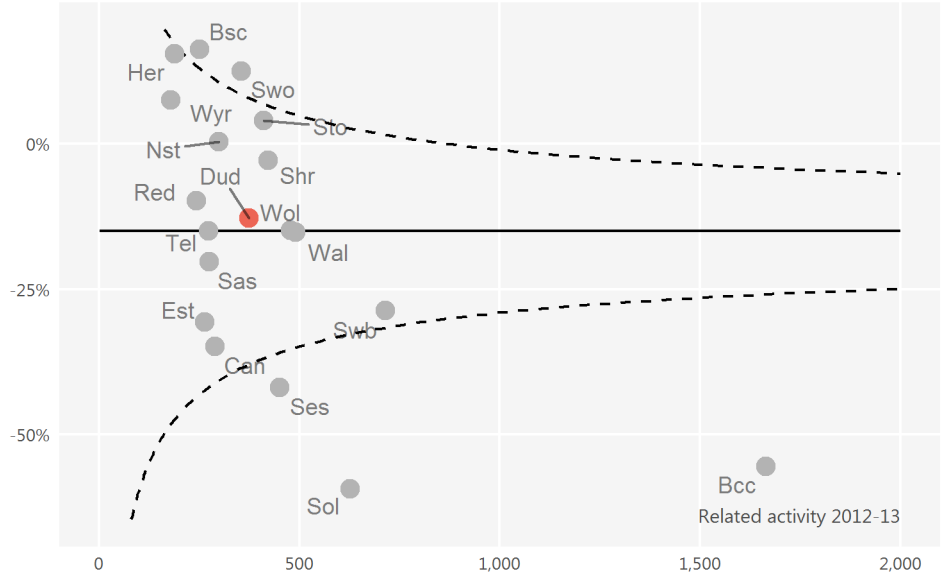
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



340
admissions

£0.7M
spent

0.4%
of all admissions

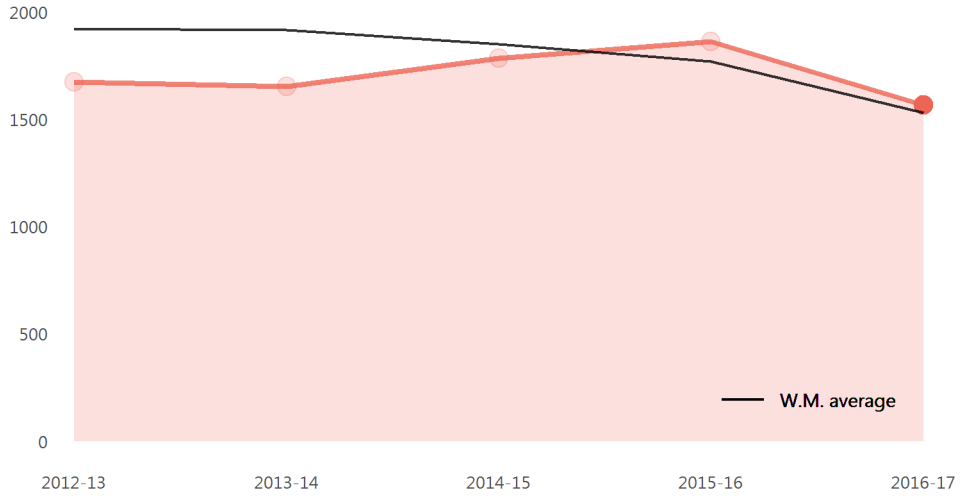
£2,110
per unit activity

Smoking-Related

Somewhat Attributable (25-49%)

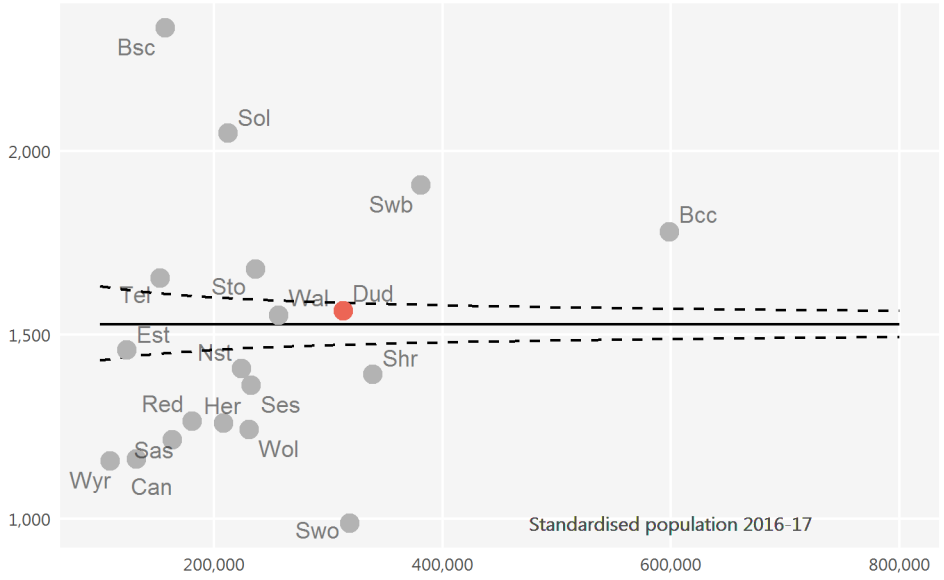
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



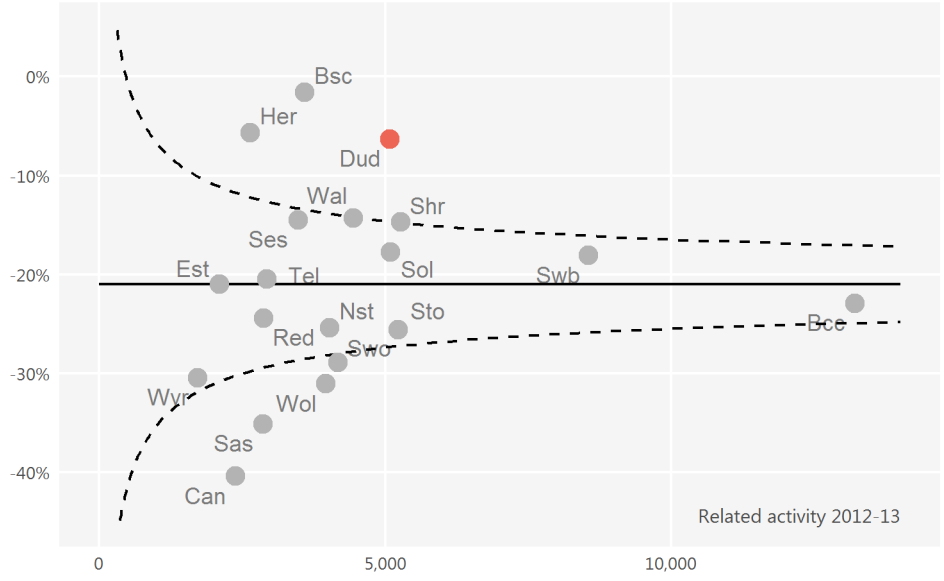
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



4,910
admissions

£7.3M
spent

5.4%
of all admissions

£1,490
per unit activity

Emergency Department Opportunities

Emergency Department Summary

Opportunity	Activity	2016-17 Spend (000s)	Rate	Rate of Change
Ambulance Conveyed, No Treatment	1,400	£103	High	High
Frequent Attenders	17,530	£2,092	Low	High
Left Before Seen	1,860	£137	Low	Low
Low Acuity ED	24,570	£1,885	Low	Low

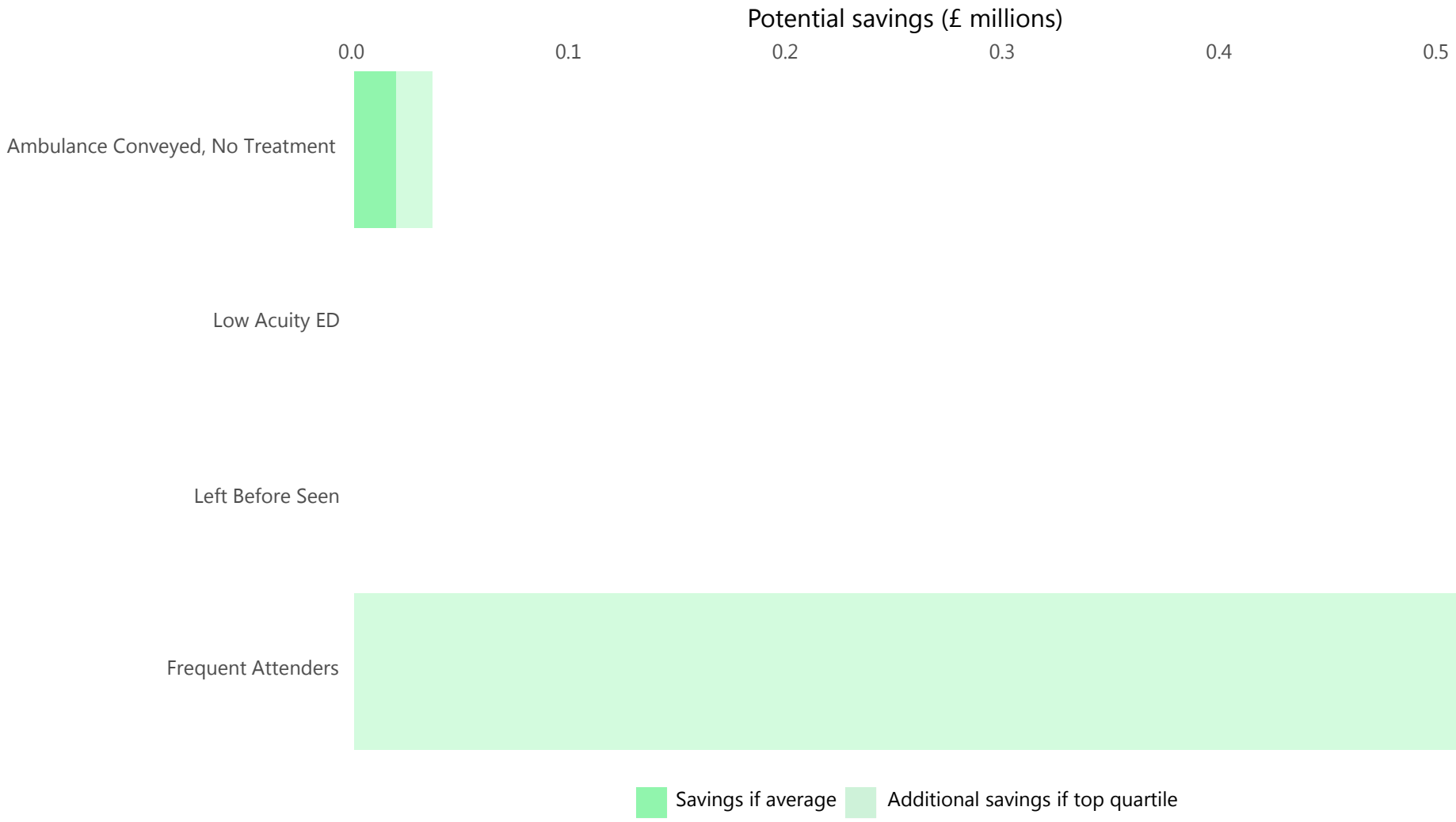
Notes: Rate and rate of change comparisons are with other West Midlands CCGs.

Potential Savings

Opportunity	2016-17 Spend (000s)	Savings if Average (000s)	Savings if Top Quartile (000s)
Ambulance Conveyed, No Treatment	£103	£19	£36
Frequent Attenders	£2,092	£0	£508
Left Before Seen	£137	£0	£0
Low Acuity ED	£1,885	£0	£0

Notes: Savings estimates are the total savings achievable if activity for a particular sub-group was reduced from its current level to the average or top quartile of other West Midlands CCGs.

Savings by Opportunity



Notes: Savings estimates are the total savings achievable if activity for a particular sub-group was reduced from its current level to the average or top quartile of other West Midlands CCGs.

Frequent Attenders

Frequent attenders is a term used to describe patients who attend a health care facility repeatedly. This group of patients make a disproportionate number of visits to emergency departments. There is no common definition on what constitutes a “frequent attender” and study definitions vary from more than 4 to 12 or more visits per year (1). We identify all attendances of patients that attended the same ED 3 or more times in a 12-month period.

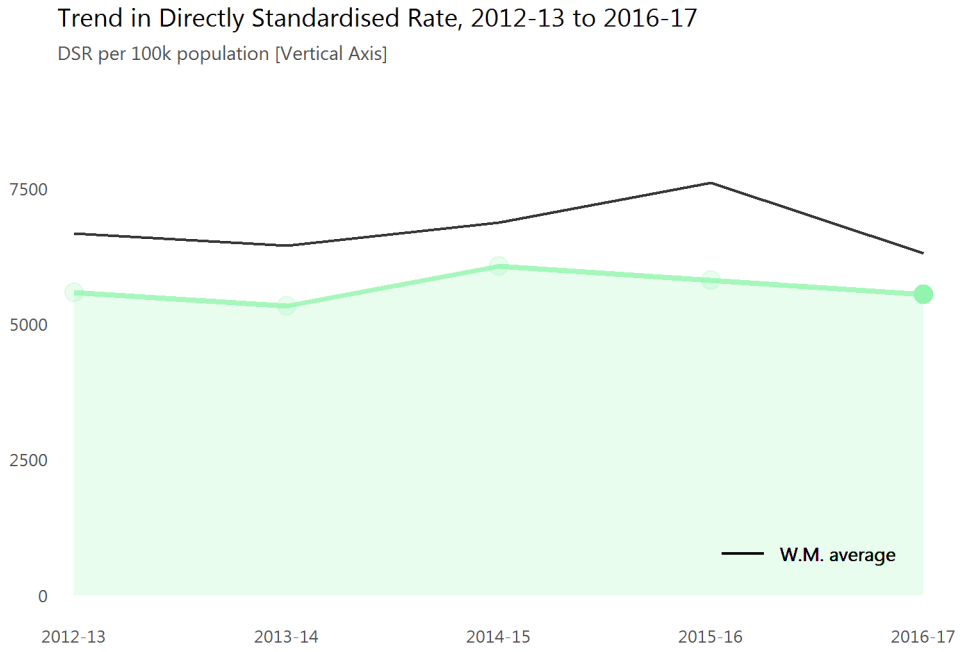
The College of Emergency Medicine has produced a best practice guideline on managing frequent attenders in the emergency department (2).

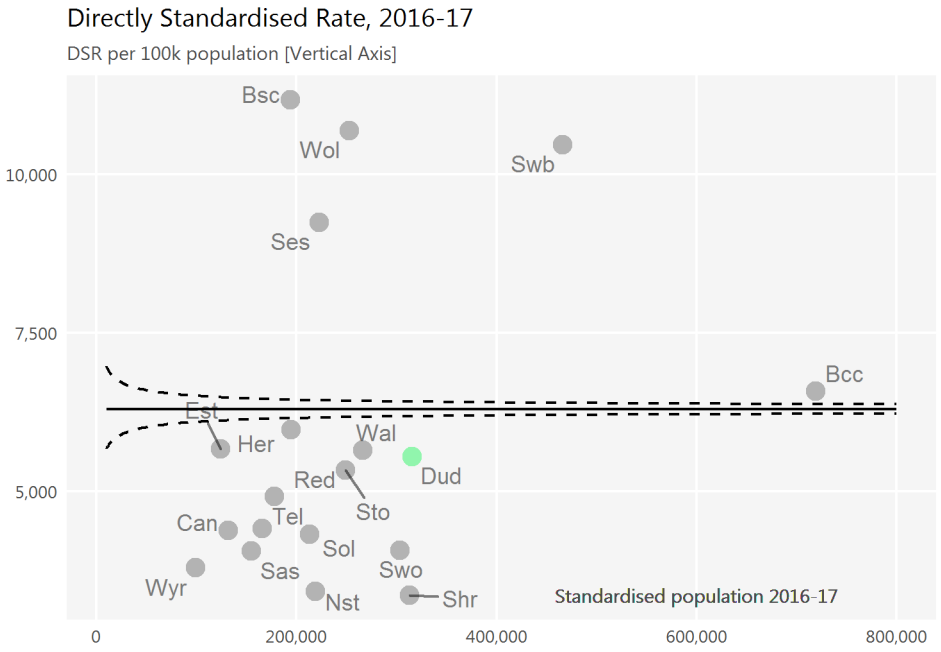
References

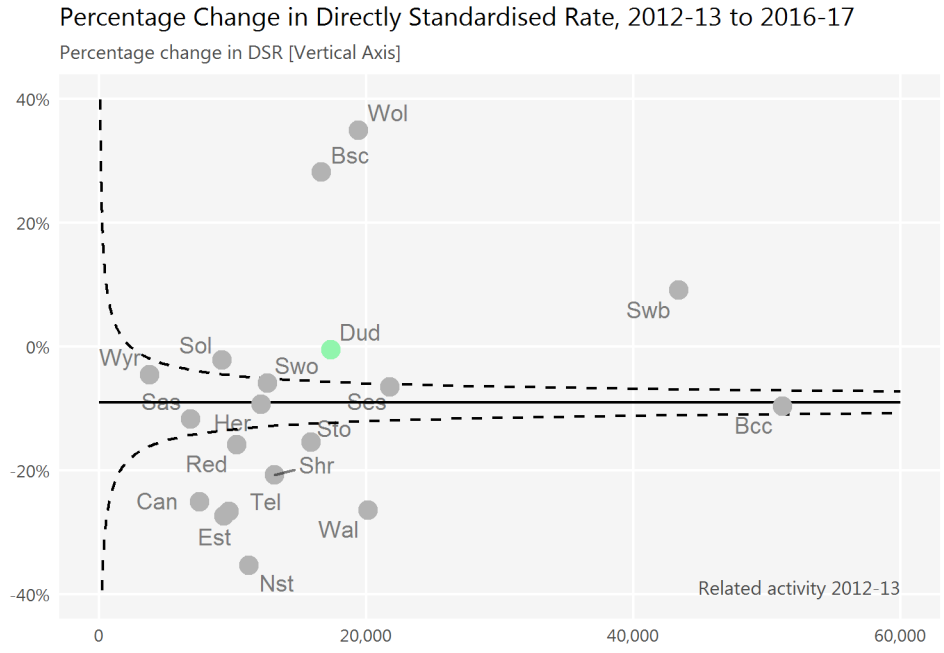
1. Kennedy D, Ardagh M. Frequent attenders at Christchurch hospital's emergency department: a 4-year study of attendance patterns. N Z Med J. 2004; 117: U871.

2. The College of Emergency Medicine. (2014). Frequent Attenders in the Emergency Department. Retrieved from https://www.rcem.ac.uk/docs/College%20Guidelines/5x.%20Frequent%20Attenders%20in%20the%20Emergency%20Department(August%202014).pdf

Frequent Attenders







17,530
attendances

£2.1M
spent

19.7%
of all attendances

£120
per unit activity

Ambulance Conveyed, No Investigations, Not Admitted

Approximately 70% of patients treated by the ambulance service are conveyed to hospital, reducing the number of avoidable conveyances will save the health service money and will improve patient care, especially for the elderly (1). Initiatives such as Hear & Treat and See & Treat are alternatives responses and are aimed at shifting the balance of care away from acute hospitals into home and community settings. It allows patients who require urgent medical attention to receive the care they need and allows minor problems to be dealt with over the phone or be treated and discharged at the scene, with no need for conveyance (2).

This indicator identifies attendances of those where patients were conveyed to ED via ambulance but were subsequently discharged following no investigation and no treatment. The following combination of codes are used to identify these cases:

- Arrival mode is "1" (brought in by ambulance) and
- Investigation code is null or 'none' and
- Treatment code is "NULL" or "22" (guidance/advice only) or "99" (none) and
- Disposal code is "3" (discharged – did not require any follow-up treatment)

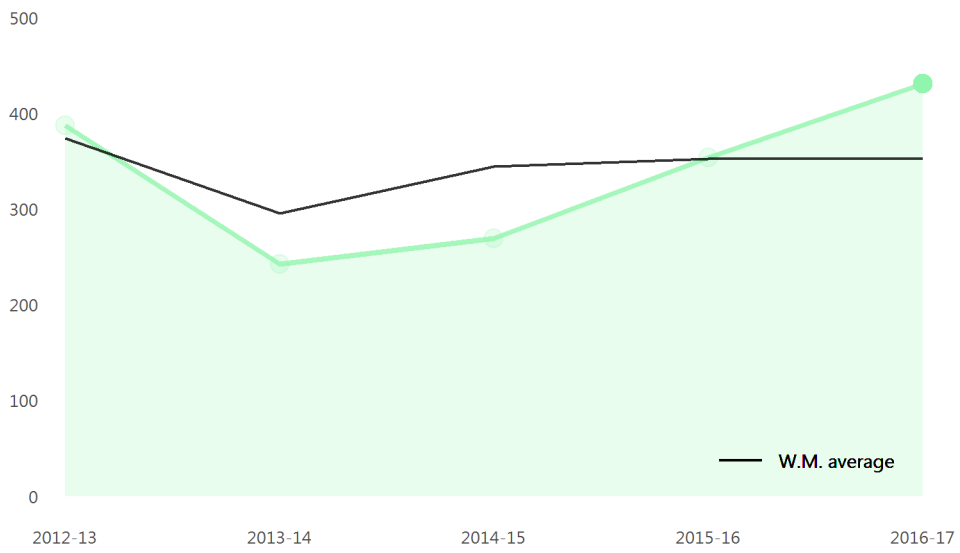
References

1. Ambulance Service Network (2010) Seeing ambulance services in a different light, More than a patient transport service. Available from: http://www.nhsconfed.org/~/media/Confederation/Files/Publications/Documents/Factsheet_ASN_June_2010.pdf [Accessed 19th October 2017]
2. Association of Ambulance Chief Executives (2015) NHS Ambulance Services – Leading the way to care. Available from: http://aace.org.uk/wp-content/uploads/2015/10/AACE-Leading-the-way-to-care-FINAL-W.pdf [Accessed 19th October 2017]

Ambulance Conveyed, No Investigations, Not Admitted

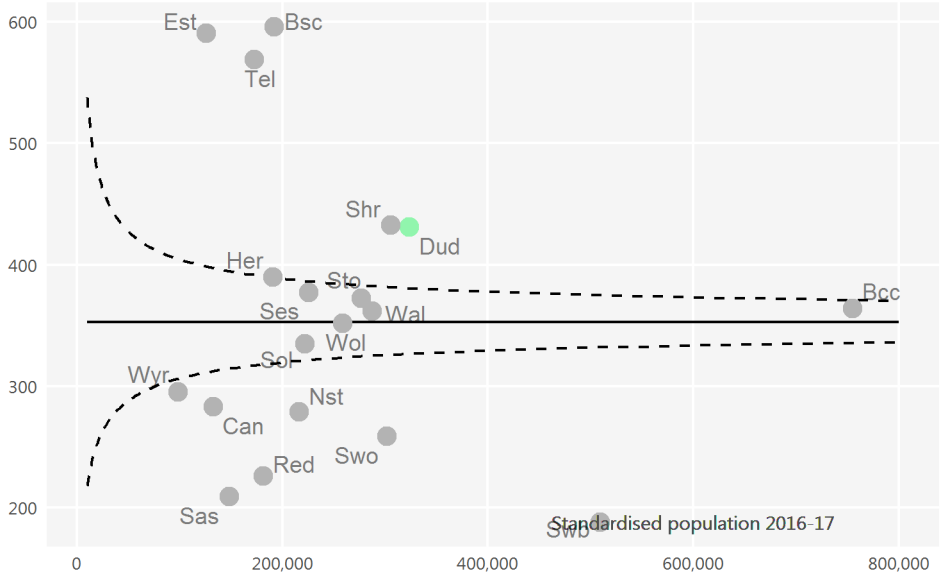
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



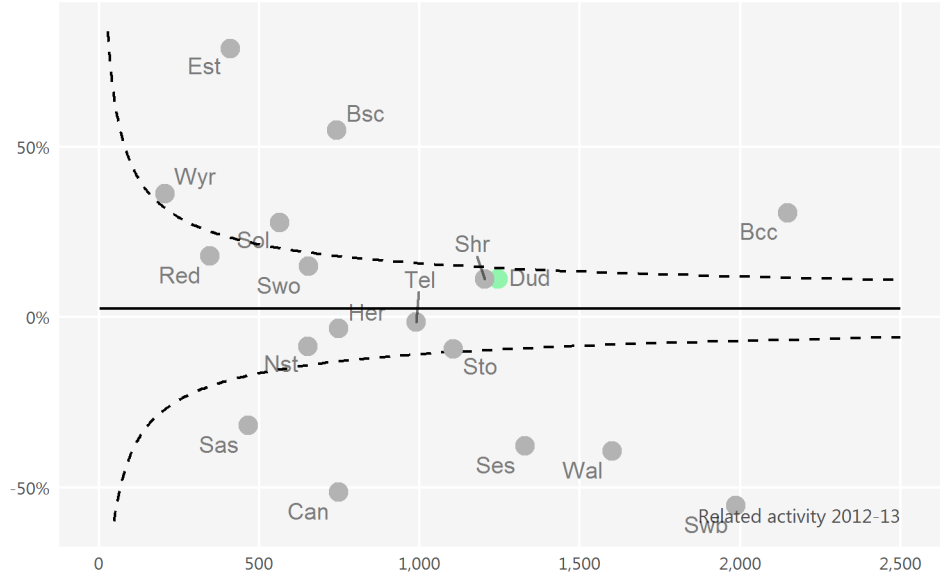
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



1,400
attendances

£0.1M
spent

1.6%
of all attendances

£70
per unit activity

Low Acuity ED Attendances

This indicator identifies attendances where low cost investigations or treatments were carried out and the patients were discharged or referred back to their GP. Between 10 and 30% of patients presenting to ED could be classified as primary cases meaning they are cases that are regularly seen in general practice and do not require specialisms in emergency medicine (1). Primary care or Urgent care centre services could safely and appropriately deal with low acuity conditions such as fever, diarrhoea and vomiting. These attendances could be avoided if patients understood better which services to access and when, therefore campaigns promoting alternative services for lower acuity cases may alleviate some pressure on ED (2).

We identify all attendances where no or low cost investigations or treatments were carried out and the patient was either discharged without follow-up treatment or discharged with follow-up treatment to be provided by their general practitioner.

The following HRG codes are used to identify these attendances.

- VB06Z – Category 1 investigation with category 3-4 treatment
- VB07Z – Category 2 investigation with category 2 treatment
- VB08Z – Category 2 investigation with category 1 treatment
- VB09 – Category 1 investigation wit category 1-2 treatment
- VB10Z – Dental care
- VB11Z – No investigation with no significant treatment

References

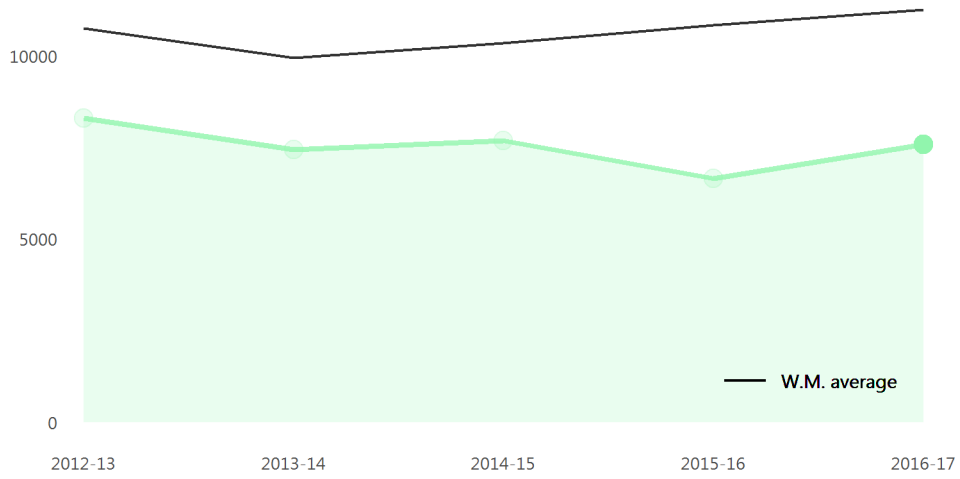
1. Primary Care Foundation (2010) Primary care and emergency departments. Available from: http://www.primarycarefoundation.co.uk/images/PrimaryCareFoundation/Downloading_Reports/Reports_and_Articles/Primary_Care_and_Emergency_Departments/Primary_Care_and_Emergency_Departments_RELEASE.pdf [Accessed 19th October]

2. Blunt, I. (2014) Focus on: A&E Attendances, Why are patients waiting longer? Available from: http://www.qualitywatch.org.uk/sites/files/qualitywatch/field/field_document/QW%20Focus%20on%20A%26E%20attendances%20%28for%20web%29.pdf [Accessed 19th October 2017]

Low Acuity ED Attendances

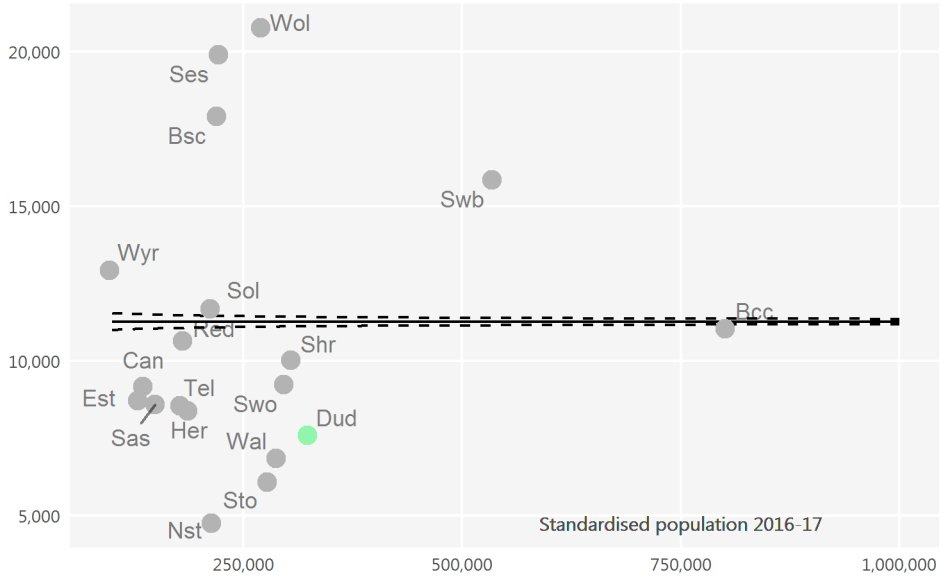
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



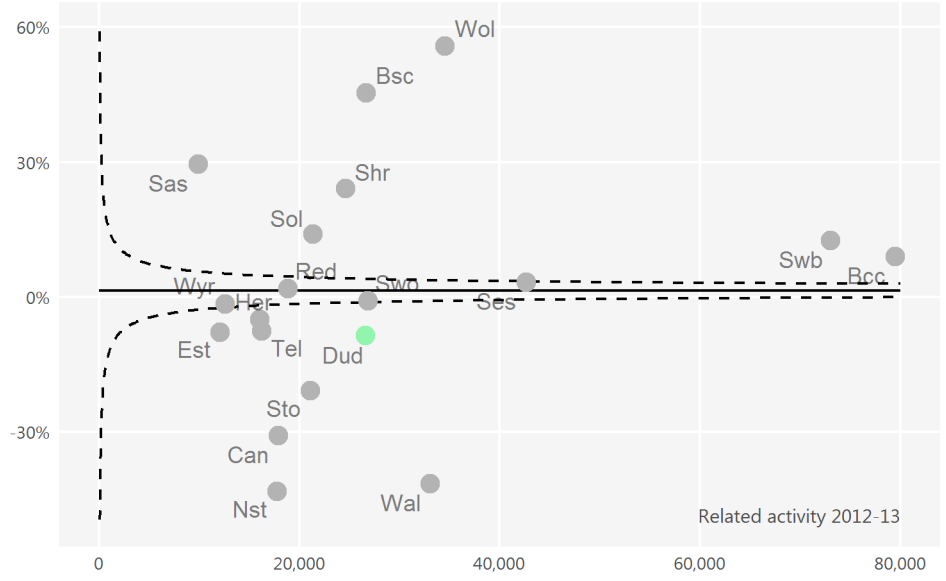
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



24,570
attendances

£1.9M
spent

27.7%
of all attendances

£80
per unit activity

Patients Leaving ED Before Being Seen

A small percentage of patients leave the emergency department before being seen. The number of patients who leave before being seen increases with extended waiting times and is often used as an indicator of patient experience. Alarmingly 50% of those patients that leave ED require urgent medical attention which can increase the clinical risk of these patients as they may have health conditions that will deteriorate without treatment. Emergency departments have started checking up on patients to ensure they are still waiting and have implemented strategies to reduce waiting times. For those patients that leave without being seen and do not require urgent medical attention, attention should be directed towards educating them regarding alternatives such as urgent care centres or GP practices (1).

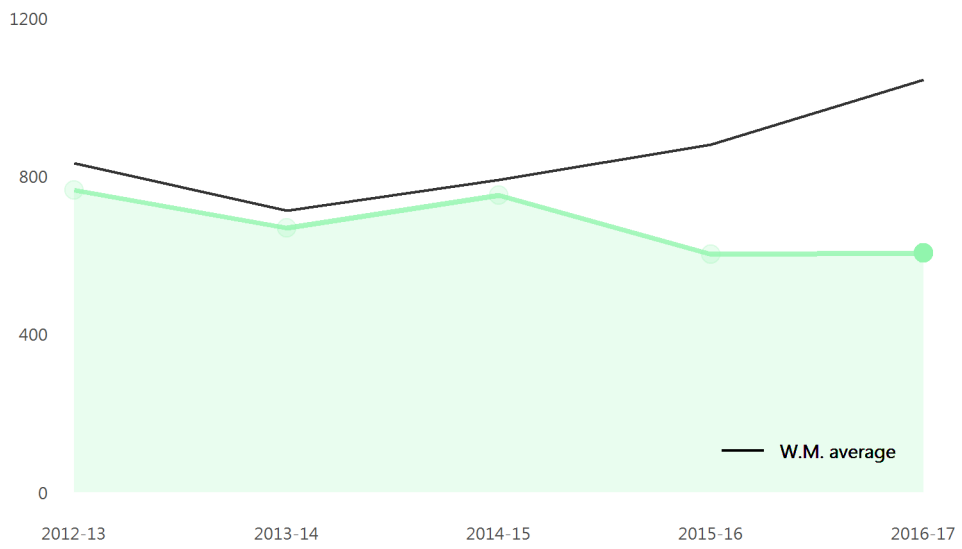
References:

1. Department of Health (2010) A&E Clinical Quality Indicators Implementation Guidance. Available from: http://webarchive.nationalarchives.gov.uk/20130105052012/http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/@ps/documents/digitalasset/dh_123055.pdf [Accessed 18th October 2017]

Patients Leaving ED Before Being Seen

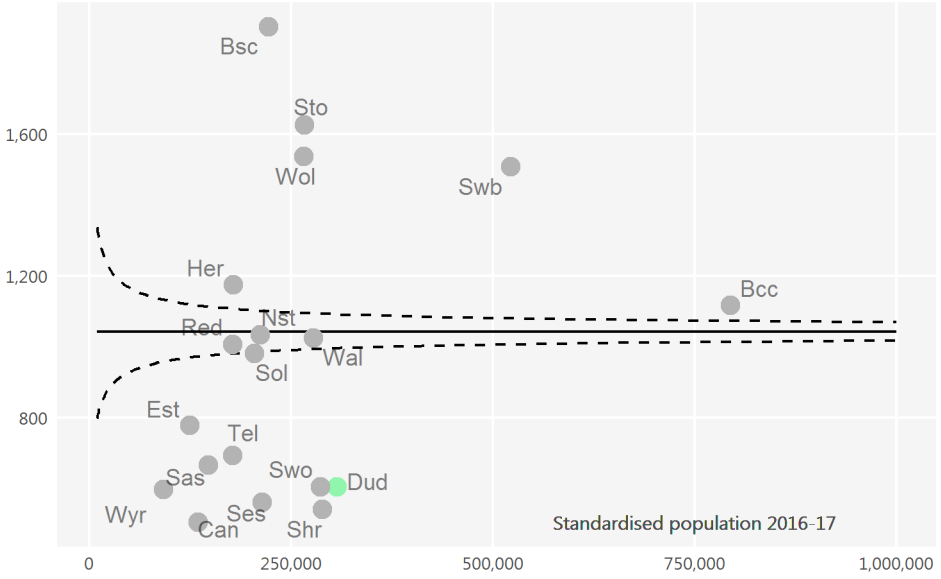
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



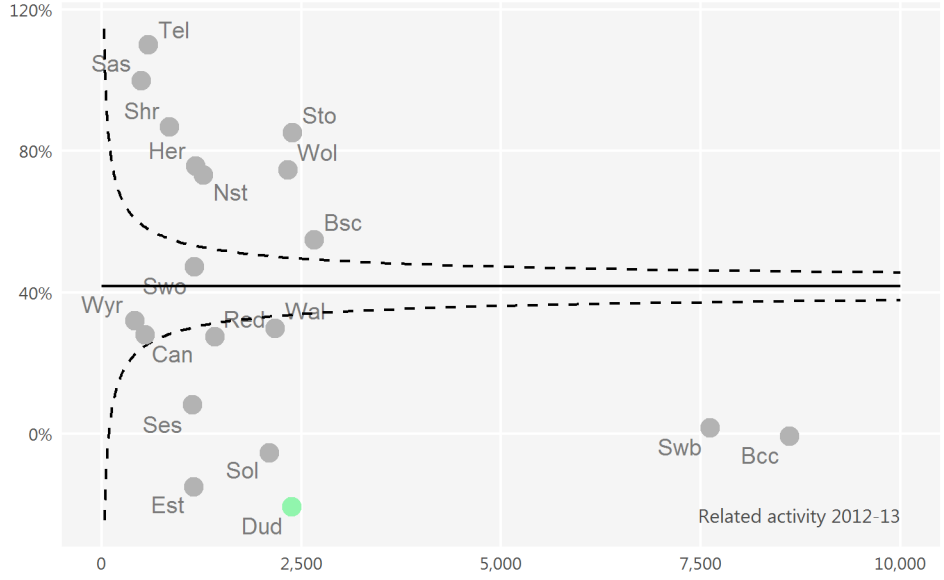
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



1,860
attendances

£0.1M
spent

2.1%
of all attendances

£70
per unit activity


Outpatients

Outpatient Summary Table

Opportunity	Activity	2016-17 Spend (000s)	Rate	Rate of Change
Consultant-Consultant Referral	26,030	£3,203	Low	Low
GP referred Medical (adult)	20,740	£3,172	Low	Low
GP referred Medical (child)	2,560	£580	Low	Low
GP referred Surg (adult)	23,760	£3,139	Low	High
GP referred Surg (child)	2,060	£283	Low	-

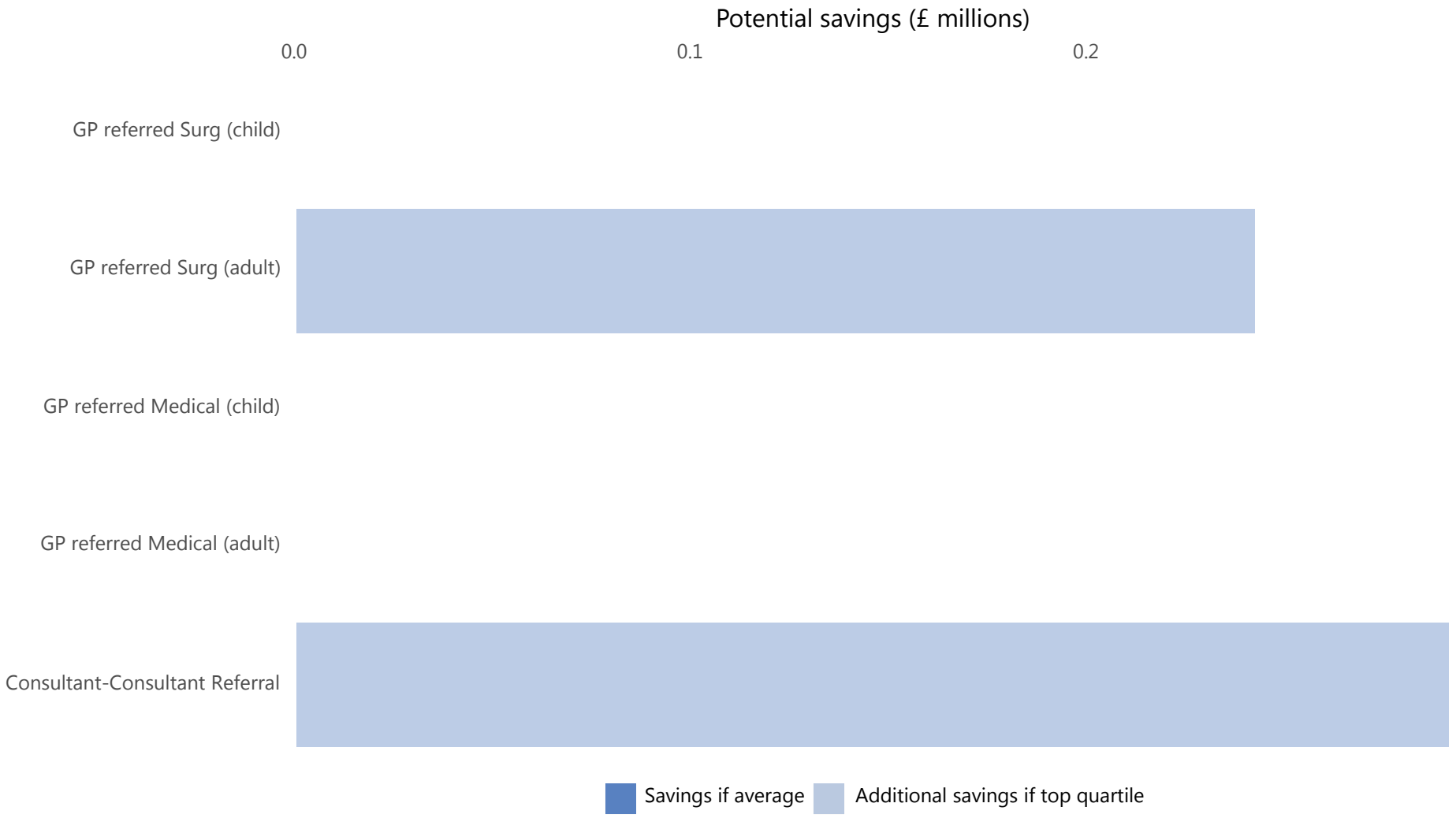
Notes: Rate and rate of change comparisons are with other West Midlands CCGs.

Potential Savings

Opportunity	2016-17 Spend (000s)	Savings if Average (000s)	Savings if Top Quartile (000s)
Consultant-Consultant Referral	£3,203	£0	£291
GP referred Medical (adult)	£3,172	£0	£0
GP referred Medical (child)	£580	£0	£0
GP referred Surg (adult)	£3,139	£0	£242
GP referred Surg (child)	£283	£0	£0

Notes: Savings estimates are the total savings achievable if activity for a particular sub-group was reduced from its current level to the average or top quartile of other West Midlands CCGs.

Savings by Opportunity



Notes: Savings estimates are the total savings achievable if activity for a particular sub-group was reduced from its current level to the average or top quartile of other West Midlands CCGs.

Consultant to Consultant Referrals

Consultant to consultant referrals represent a small proportion of referrals yet are the main source of non-GP referrals. Some CCGs have developed protocols and guidelines which only allow consultant to consultant referrals when an investigation or treatment is completed by another speciality or when it is deemed as clinically urgent. Commissioners may look to reduce the number of referrals to gain a greater control of their budget and free up consultant time (1).

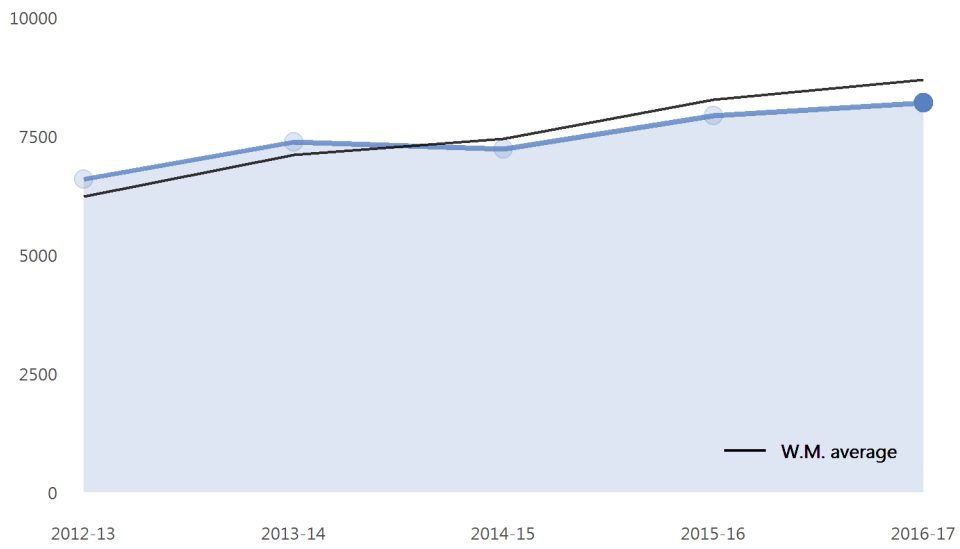
References

1. NHS England (2016) Demand Management Good Practice Guide. Available from: https://www.england.nhs.uk/wp-content/uploads/2016/12/demand-mgnt-good-practice-guid.pdf [Accessed 19th October 2017]

Consultant to Consultant Referrals

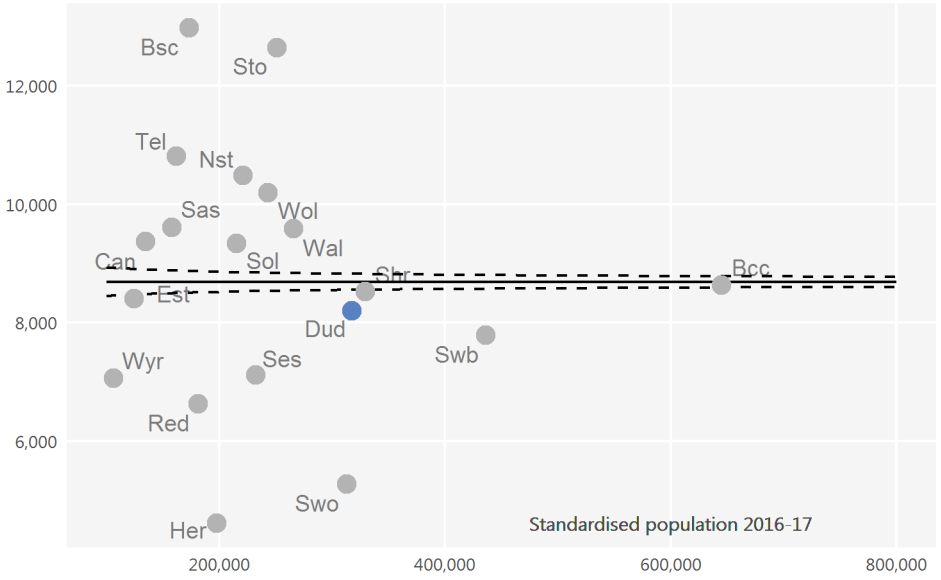
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



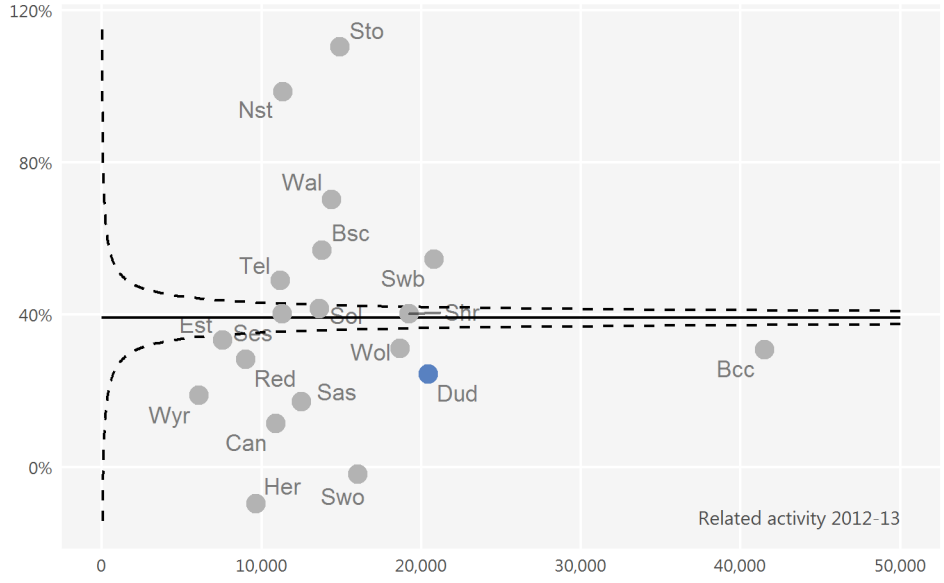
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



26,030
attendances

£3.2M
spent

5.3%
of all attendances

£120
per unit activity

GP Referred First Outpatient Attendances

Evidence suggests that not all GP referred Outpatient appointments are clinically necessary (1). Many commissioners have sought to reduce the rate at which GPs refer patients to secondary care by introducing referral management services, alternative triage services, peer review of referral and more detailed referral guidelines (2).

These attendances are split into 2 subcategories:

Surgical specialties:

- Adults
- Children

Non-surgical specialities

- Adults
- Children

References

1. Akbari, A., Mayhew, A., Al-Alawi, M.A., Grimshaw, J., Winkens, R., Glidewell, E., Pritchard, C., Thomas, R. & Fraser, C. (2008) Intervention to improve outpatient referrals from primary care to secondary care. *Cochrane Database of Systematic Reviews, 4*

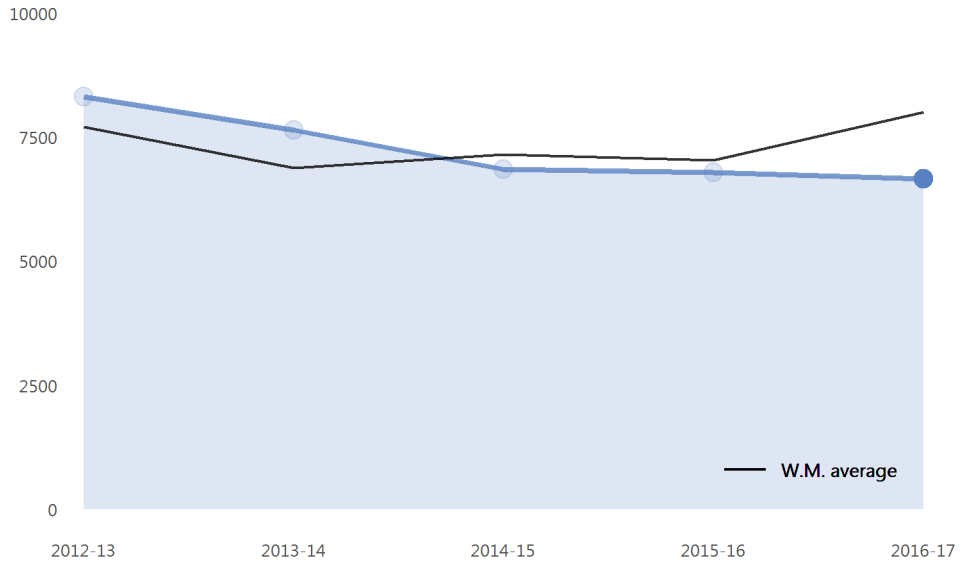
2. Imison, C. & Naylor, C. (2010) Referral Management lessons for success. Available from: http://www.em-online.com/download/medical_article/37623_Referral_management.pdf [Accessed 19th October 2017]

GP Referred First Outpatient Attendances

Adults Medical Specialties

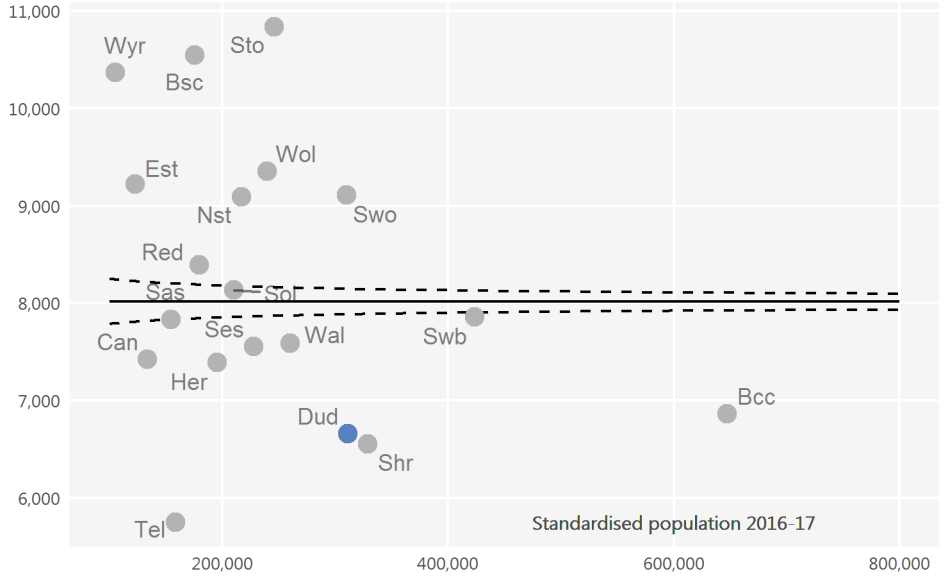
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



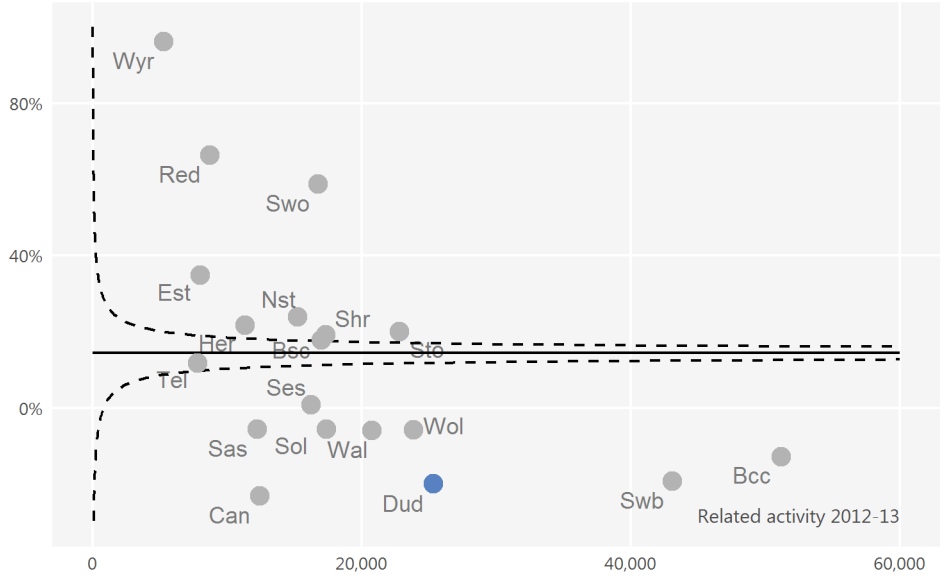
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



20,740
attendances

£3.2M
spent

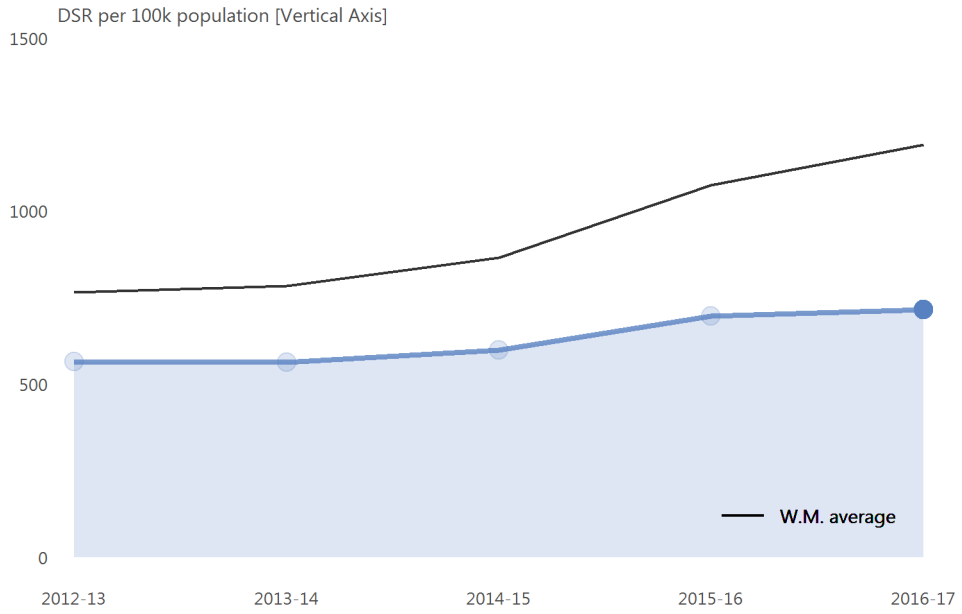
4.2%
of all attendances

£150
per unit activity

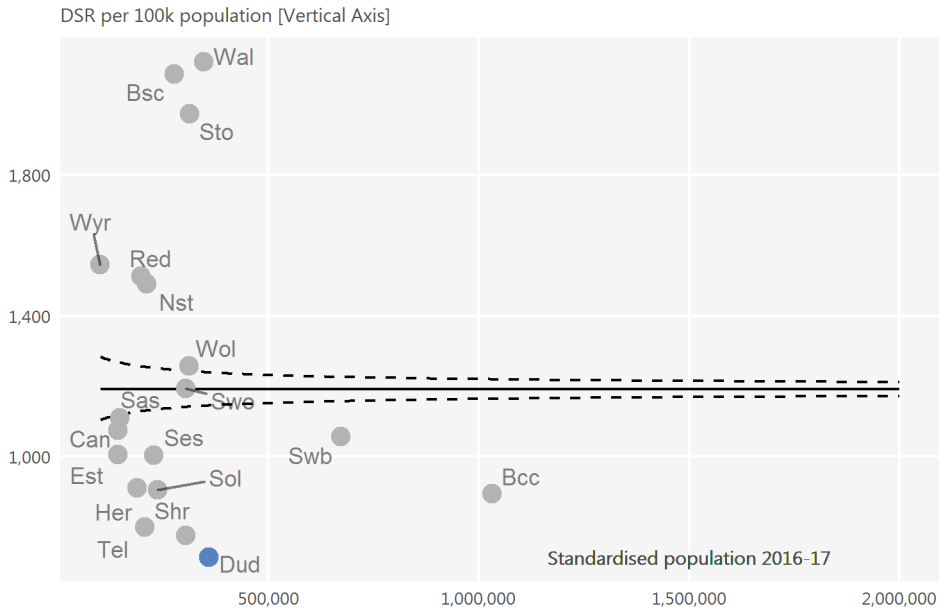
GP Referred First Outpatient Attendances

Children Medical Specialties

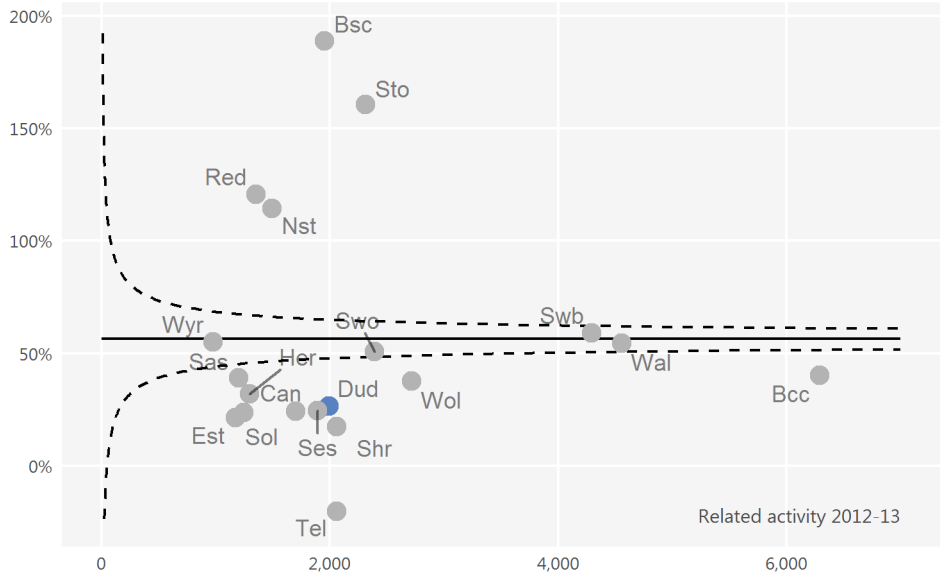
Trend in Directly Standardised Rate, 2012-13 to 2016-17



Directly Standardised Rate, 2016-17



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17



2,560
attendances

£0.6M
spent

0.5%
of all attendances

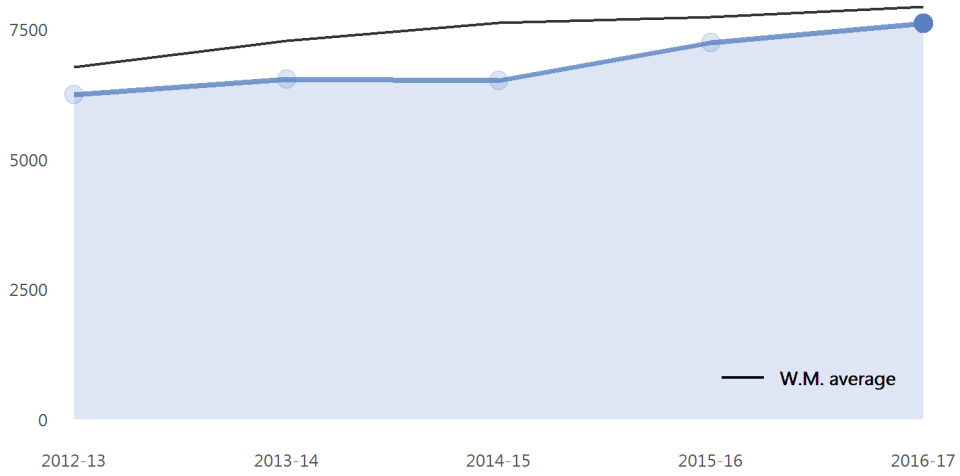
£230
per unit activity

GP Referred First Outpatient Attendances

Adults Surgical Specialties

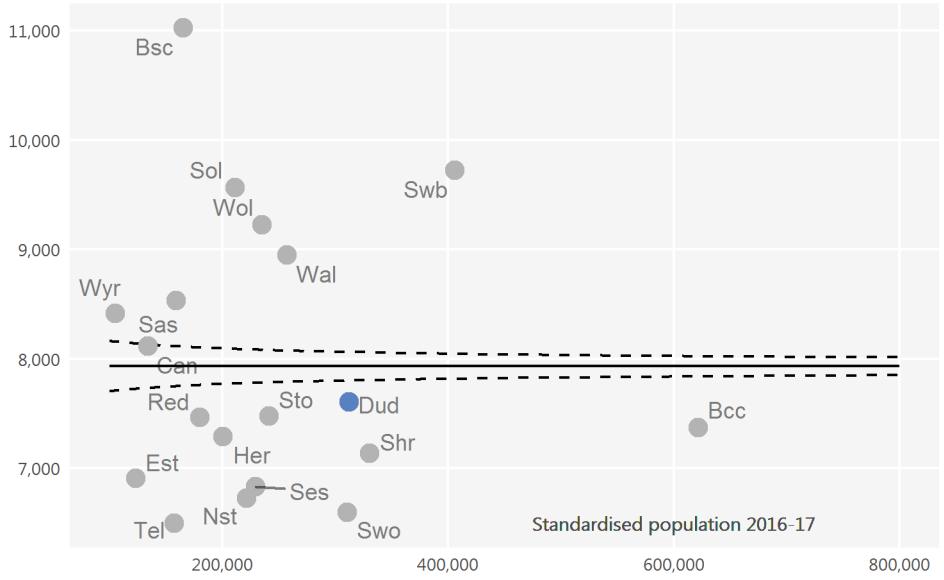
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



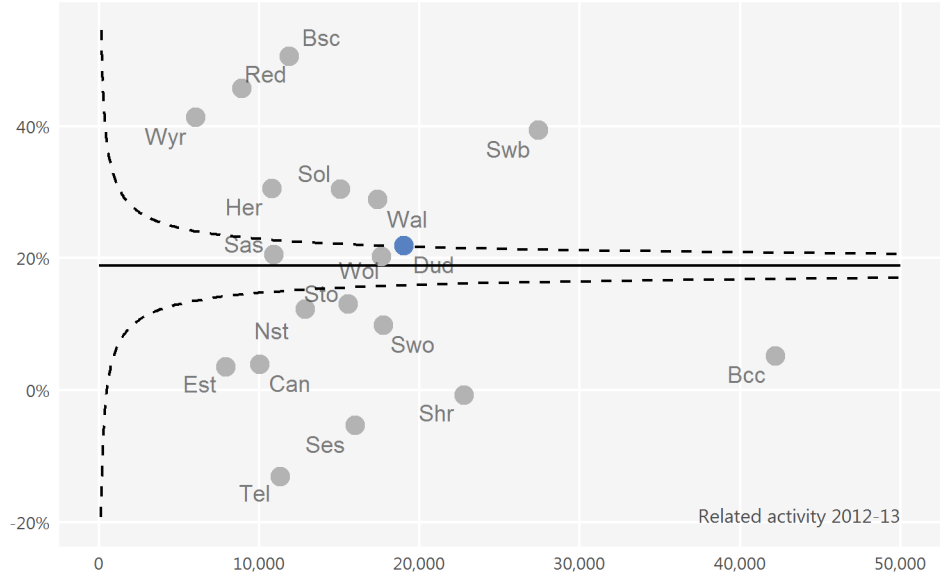
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



23,760
attendances

£3.1M
spent

4.8%
of all attendances

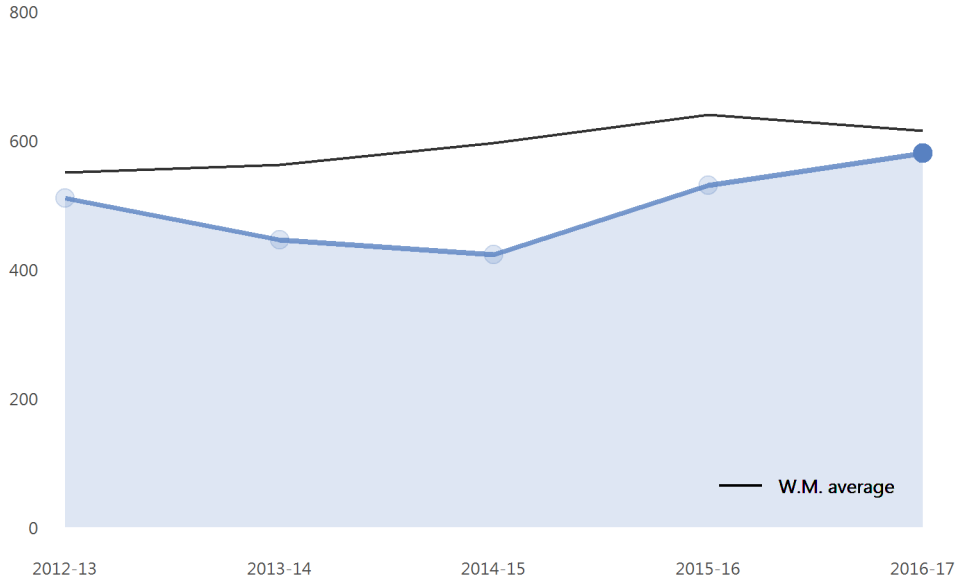
£130
per unit activity

GP Referred First Outpatient Attendances

Children Surgical Specialties

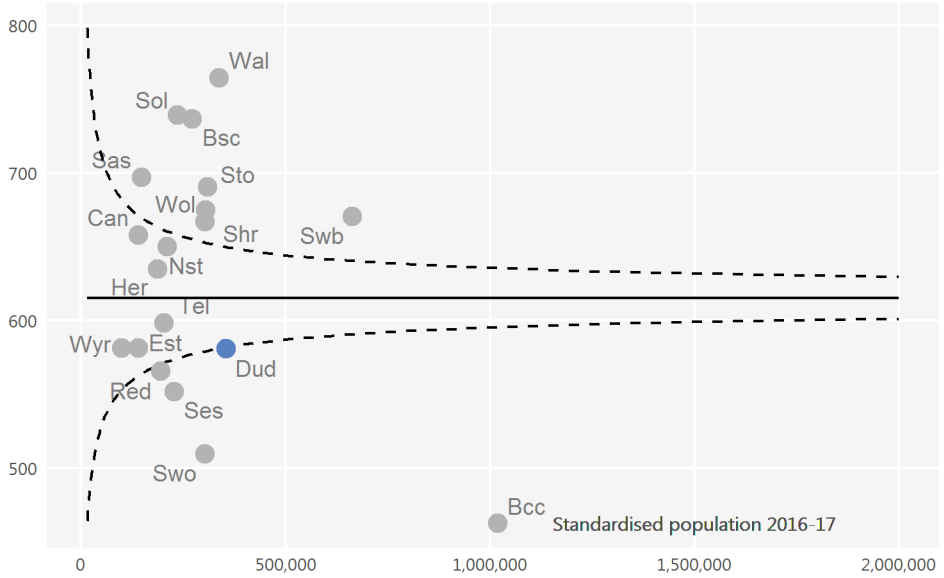
Trend in Directly Standardised Rate, 2012-13 to 2016-17

DSR per 100k population [Vertical Axis]



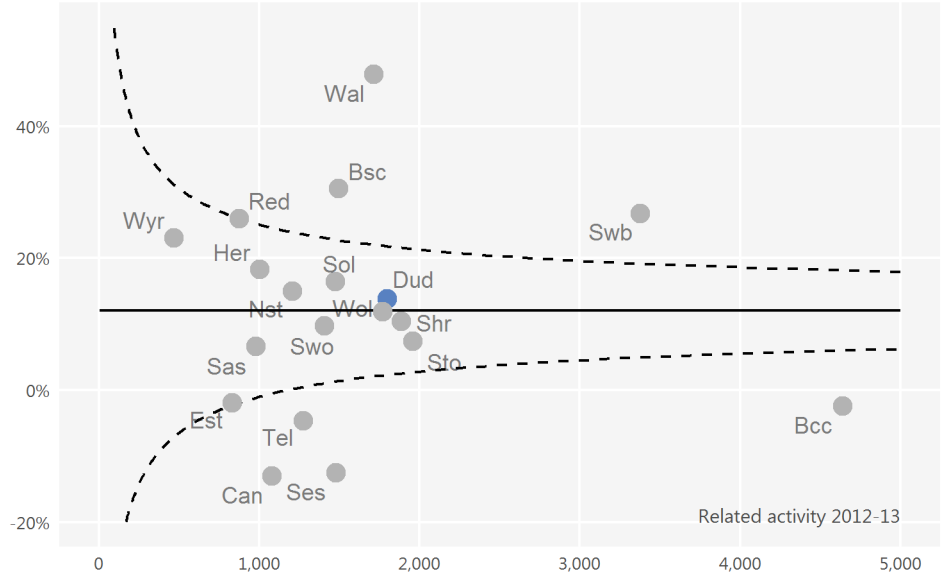
Directly Standardised Rate, 2016-17

DSR per 100k population [Vertical Axis]



Percentage Change in Directly Standardised Rate, 2012-13 to 2016-17

Percentage change in DSR [Vertical Axis]



2,060
attendances

£0.3M
spent

0.4%
of all attendances

£140
per unit activity

Image Attribution

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References

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4. https://flic.kr/p/a2o1VU

5. https://www.flickr.com/photos/lydiashiningbrightly/

Contact

If you have questions, comments, or wish to discuss this report further please contact:

Andrew Jones, Healthcare Analyst
t. 0121 612 1585
e. andrew.jones40@nhs.net

Paul Seamer, Analytics Manager
t. 0121 612 3875
e. paulseamer@nhs.net