All Wales Therapeutics and Toxicology Centre
Canolfan Therapiwteg a Thocsicoleg Cymru Gyfan

National Prescribing Indicators 2016–2017

Analysis of Prescribing Data to June 2016

All Wales Therapeutics and Toxicology Centre

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This report has been prepared by the Welsh Analytical Prescribing Support Unit (WAPSU), part of the All Wales Therapeutics and Toxicology Centre (AWTTC).

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EXECUTIVE SUMMARY

The All Wales Medicines Strategy Group (AWMSG) has endorsed the National Prescribing Indicators (NPIs) as a means of promoting safe and cost-effective prescribing since 2003. NPIs have historically focused on primary care prescribing; in 2015 a set of secondary care NPIs were developed by the All Wales Prescribing Advisory Group (AWPAG) and launched by AWMSG for use in 2016–2017. This report contains data relating to the primary and secondary care NPIs for the first quarter of 2016–2017.

PRIMARY CARE

- For 2016–2017, there are 13 primary care NPIs focusing on seven areas of prescribing and the reporting of adverse events (Yellow Cards)[*]. Two of the indicators, lipid-regulating drugs and gabapentin and pregabalin, are new for 2016–2017.
- A threshold level of prescribing/reporting is set for 12 of the 13 NPIs[*].
- For the twelve NPIs with a threshold, there was an overall improvement (in line with the aim of each indicator) across Wales in ten of the indicators, compared to the equivalent quarter of the previous year (quarter ending June 2015). The two indicators which did not show an improvement were PPIs (2% increase) and gabapentin and pregabalin (17% increase).
- At a national level, the NPIs associated with the largest improvements in prescribing compared to the equivalent quarter of the previous year were cephalosporins (13% reduction), co-amoxiclav (11% reduction) and low strength inhaled corticosteroids (6.6% increase).
- Hypnotic and anxiolytic prescribing decreased across all of the health boards compared to the equivalent quarter of the previous year. The largest decrease (approximately 14%) was seen in Cardiff and Vale UHB.
- In line with the aim of the NPI, tramadol prescribing decreased across all of the health boards compared to the equivalent quarter of the previous year. The largest decrease of almost 8% was seen in Cwm Taf UHB.
- Prescribing of co-amoxiclav decreased in all of the health boards compared to the equivalent quarter of the previous year (in line with the aim of the NPI). The largest decrease of almost 19% was seen in Cwm Taf UHB.
- Prescribing of cephalosporins decreased in all of the health boards compared to the equivalent quarter of the previous year (in line with the aim of the NPI). The largest decreases were seen in both Powys Teaching HB (21.9%) and Cardiff and Vale UHB (21.6%).
- Prescribing of fluoroquinolones decreased in all of the health boards compared to the equivalent quarter of the previous year (in line with the aim of the NPI). The largest decrease of 12.9% was seen in Powys Teaching HB.

[*] For full details, including unit of measure and threshold for each NPI please see Appendix 1. For primary care NPI prescribing data for GP clusters please see Appendix 2.

SECONDARY CARE

- For 2016–2017, there are three secondary care NPIs focusing on three areas of prescribing:
  - Insulin prescribing
  - Prescribing of biosimilars
  - Antibiotic surgical prophylaxis*
- Baseline data for April–June 2015 are also provided to enable comparison with the previous year.
- For two of the NPIs (insulin prescribing and biosimilars), primary care data are also provided to facilitate a more comprehensive analysis.
- Prescribing of long-acting insulin analogues increased in secondary care compared to the equivalent quarter of the previous year; however, there was a decrease in primary care usage (in line with the aim of the NPI).
- In line with the aim of the NPI, filgrastim and infliximab biosimilar prescribing increased when compared to the equivalent quarter of the previous year. There are no baseline data available for the insulin glargine biosimilar, as this medicine was appraised by AWMSG in December 2015.
- Data for duration of colorectal surgical antibiotic prophylaxis indicate that there has been a 4% reduction in the percentage of patients who are not treated in line with health board guidelines compared to the previous year. It should, however, be noted that these data do not cover all health boards and the numbers involved are small.
- Background information supporting the choice of NPIs is detailed in the document Secondary Care National Prescribing Indicators 2016–2017 available from the AWMSG website.

The 2016–2017 NPI report for quarter to September 2016 will be available on 9 January 2017.

* For full details, including unit of measure and threshold for each NPI please see Appendix 1. For primary care NPI prescribing data for GP clusters please see Appendix 2.

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PRIMARY CARE

1.0 PROTON PUMP INHIBITORS

Although proton pump inhibitors (PPIs) are generally well tolerated, there is emerging evidence that serious adverse effects may be linked with long-term PPI use. These include fractures of the hip, wrist and spine, *Clostridium difficile* infection, hospital- or community-acquired pneumonia, and hypomagnesaemia.

PPI use (measured in DDDs per 1,000 PUs) is continuing to increase across Wales at a rate of 3% per year, with over 4 million prescriptions for PPIs dispensed in Wales in 2015–2016. In the quarter to June 2016, prescribing in Wales was 16% higher than that seen in England.

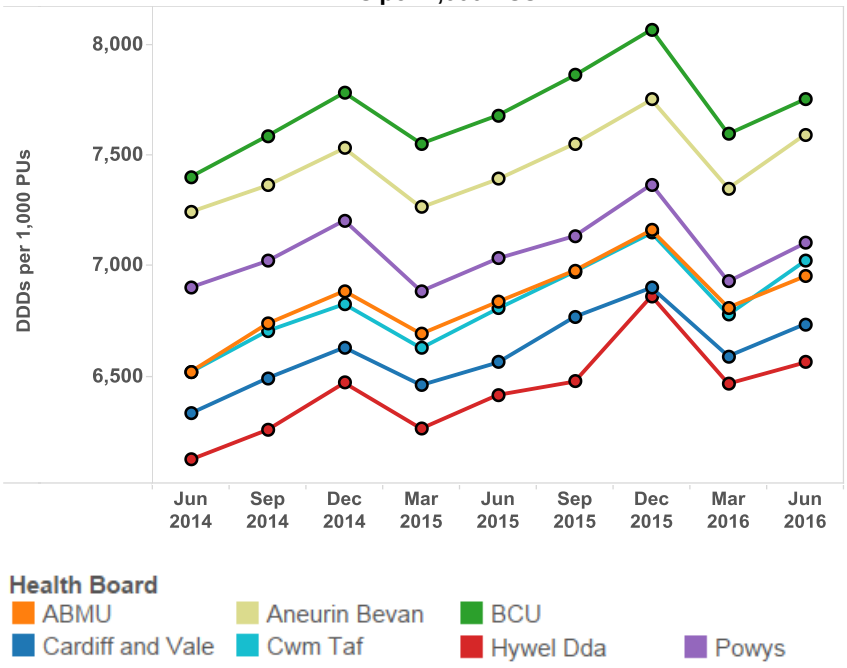
The aim of this indicator is to ensure appropriate use of PPIs and to encourage a review and reduction in prescribing where possible.

- For the quarter ending June 2016, PPI usage ranged from 6,562 to 7,752 DDDs per 1,000 PUs across the health boards.
- The health board with the lowest prescribing was Hywel Dda UHB whilst the highest prescribing was seen in Betsi Cadwaladr UHB.
- PPI prescribing for the quarter ending June 2016 was greater than the equivalent quarter of the previous year across all of the health boards.
- The smallest percentage increase compared to the equivalent quarter of the previous year was seen in Betsi Cadwaladr UHB and the largest increase was seen in Cwm Taf UHB.

Table 1. PPI DDDs per 1,000 PUs

	2015–2016 Qtr 1	2016–2017 Qtr 1	% Change
BCU	7,679	7,752	0.95%
Powys	7,033	7,102	0.98%
ABMU	6,837	6,952	1.68%
Hywel Dda	6,416	6,562	2.28%
Cardiff and Vale	6,562	6,736	2.64%
Aneurin Bevan	7,391	7,592	2.73%
Cwm Taf	6,806	7,021	3.16%
Wales	**7,043**	**7,183**	**2.00%**

Figure 1. Trend in PPI prescribing DDDs per 1,000 PUs



2.0 LIPID-REGULATING DRUGS

This is a new indicator for 2016–2017 and replaces the low acquisition cost statin indicator.

This indicator aims to encourage prescribers to review prescribing of certain lipid-regulating medicines – bile acid sequestrants, fibrates, nicotinic acid and omega-3 fatty acid compounds – to ensure it is in line with NICE guidance.

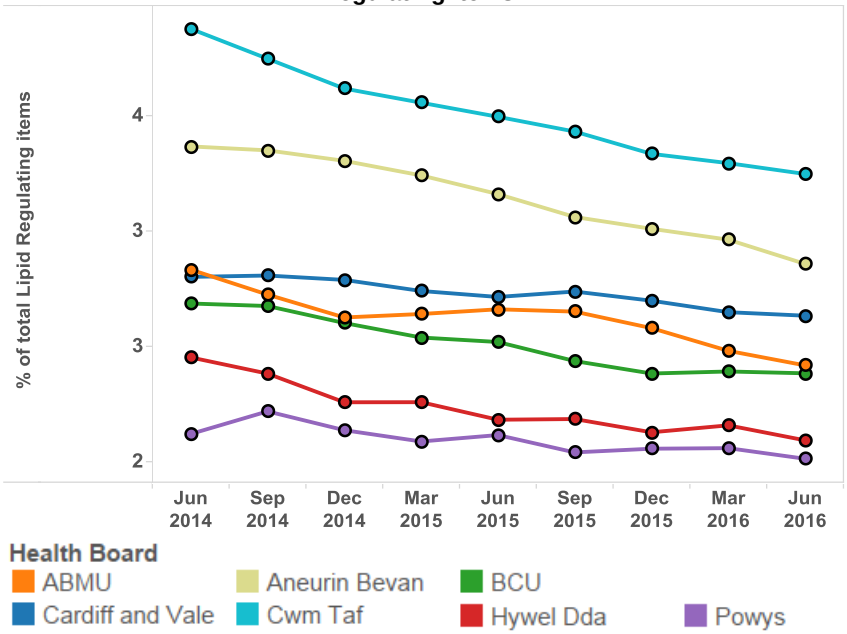
In line with the aim of this indicator, the intention is for there to be a decrease in the prescribing of bile acid sequestrants, fibrates, nicotinic acid and omega-3 fatty acid compounds, as a percentage of total lipid-regulating items.

- For the quarter ending June 2016, the percentage of bile acid sequestrants, fibrates, nicotinic acid and omega-3 fatty acid compounds prescribed ranged from 2.01% to 3.25% across the health boards.
- The health board with the highest percentage was Cwm Taf UHB, whilst the lowest percentage was seen in Powys Teaching HB.
- The proportion of bile acid sequestrant, fibrate, nicotinic acid and omega-3 fatty acid compound prescribing decreased compared to the equivalent quarter of the previous year in all seven health boards.
- The largest decrease was seen in Aneurin Bevan UHB and the smallest decrease was seen in Cardiff and the Vale UHB.

Table 2. Items of bile acid sequestrants, fibrates, nicotinic acid and omega-3 fatty acid compounds as a percentage of total lipid-regulating items

	2015–2016 Qtr 1	2016–2017 Qtr 1	% Change
Aneurin Bevan	3.16	2.86	-9.56%
ABMU	2.66	2.42	-9.11%
Cwm Taf	3.49	3.25	-7.08%
BCU	2.52	2.38	-5.37%
Powys	2.12	2.01	-4.84%
Hywel Dda	2.18	2.09	-4.08%
Cardiff and Vale	2.71	2.63	-2.98%
Wales	**2.75**	**2.57**	**-6.74%**

Figure 2. Trend in prescribing of bile acid sequestrants, fibrates, nicotinic acid and omega-3 fatty acid compounds as a percentage of total lipid-regulating items



3.0 INHALED CORTICOSTEROIDS

The aim of this indicator is to encourage the routine review of inhaled corticosteroids (ICS) in people with asthma, particularly those on high strengths, encouraging step down of the strength when clinically appropriate.

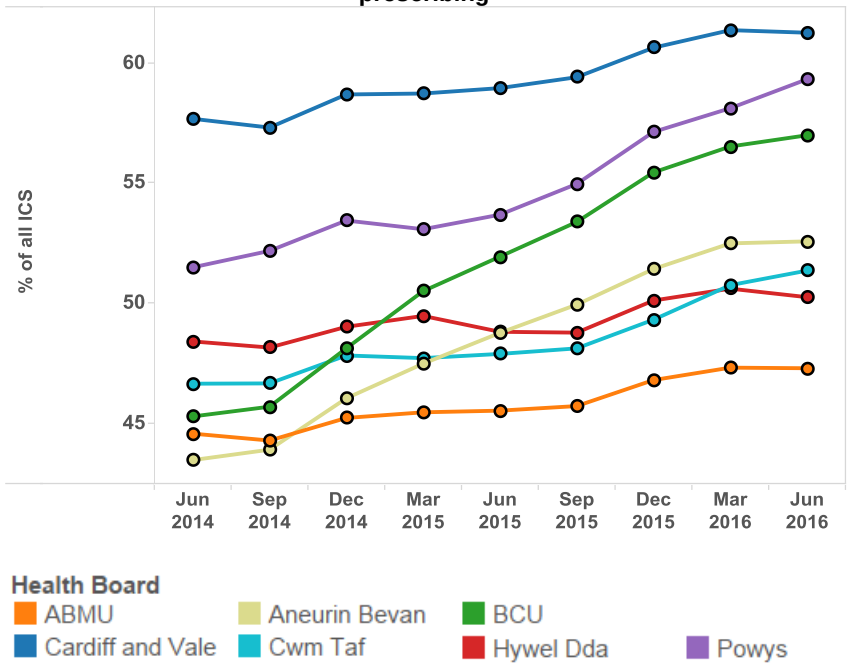
In line with the aim of the indicator, the intention is for there to be an increase in the proportion of low strength ICS prescribing as a percentage of total ICS prescribing.

- For the quarter ending June 2016, the proportion of low strength ICS prescribing ranged from 47.3% to 61.3% across the health boards.
- The health board with the highest percentage was Cardiff and Vale UHB, whilst the lowest percentage was seen in Abertawe Bro Morgannwg UHB.
- The proportion of low strength ICS prescribing increased across all health boards compared to the equivalent quarter of the previous year.
- The greatest increase was seen in Powys Teaching HB, and the smallest increase was seen in Hywel Dda UHB.

Table 3. Low strength ICS prescribing as a percentage of all ICS prescribing

	2015–2016 Qtr 1	2016–2017 Qtr 1	% Change
Powys	53.7	59.3	10.5%
BCU	51.9	57.0	9.74%
Aneurin Bevan	48.8	52.6	7.82%
Cwm Taf	47.9	51.3	7.25%
Cardiff and Vale	59.0	61.3	3.91%
ABMU	45.5	47.3	3.88%
Hywel Dda	48.8	50.2	2.96%
Wales	**50.2**	**53.6**	**6.59%**

Figure 3. Trend in low strength ICS prescribing as a percentage of all ICS prescribing



4.0 HYPNOTICS AND ANXIOLYTICS

There has been ongoing concern with regard to the high level of anxiolytic and hypnotic prescribing within NHS Wales. Some prescribing may be inappropriate and contribute to the problem of physical and psychological dependence, and/or may be responsible for masking underlying depression.

This indicator aims to reduce inappropriate prescribing of hypnotics and anxiolytics.

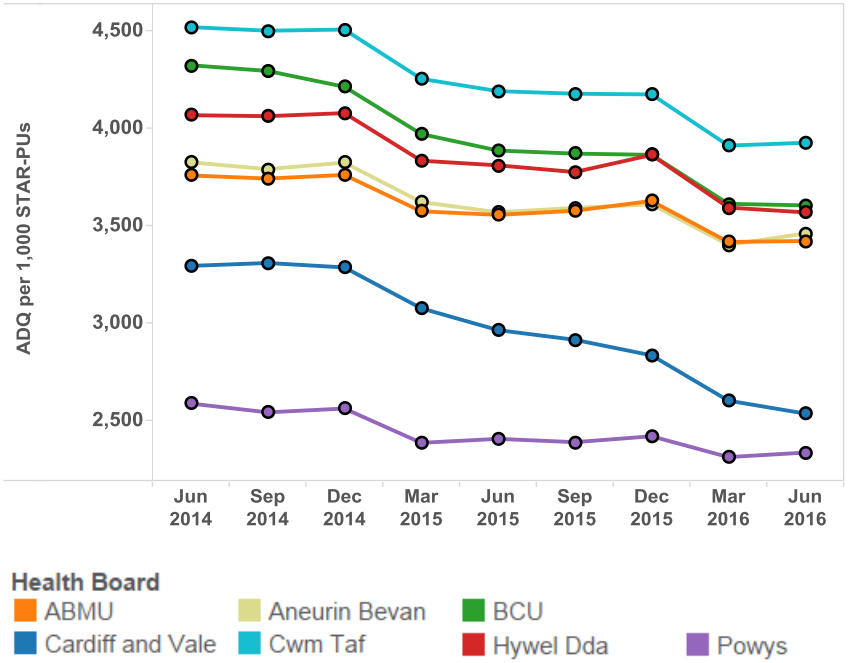
The prescribing of hypnotics and anxiolytics continues to decrease across Wales, in line with the aim of this indicator. However, prescribing remains almost 50% higher than that seen in England.

- For the quarter ending June 2016, hypnotic and anxiolytic prescribing ranged from 2,335 to 3,923 ADQs per 1,000 STAR-PUs (13) across the health boards.
- The health board with the highest prescribing was Cwm Taf UHB, whilst the lowest prescribing was seen in Powys Teaching HB.
- Hypnotic and anxiolytic prescribing decreased compared to the equivalent quarter of the previous year in all of the health boards.
- The largest decrease was seen in Cardiff and the Vale UHB, and the smallest decrease was seen in Powys Teaching HB.

Table 4. Hypnotic and anxiolytic ADQs per 1,000 STAR-PUs (13)

	2015–2016 Qtr 1	2016–2017 Qtr 1	% Change
Cardiff and Vale	2,963	2,535	-14.4%
BCU	3,883	3,602	-7.24%
Hywel Dda	3,808	3,566	-6.33%
Cwm Taf	4,188	3,923	-6.32%
ABMU	3,554	3,420	-3.76%
Aneurin Bevan	3,567	3,458	-3.05%
Powys	2,405	2,335	-2.93%
Wales	**3,586**	**3,359**	**-6.33%**

Figure 4. Trend in hypnotic and anxiolytic prescribing ADQs per 1,000 STAR-PUs (13)



5.0 ANALGESICS

There are two NPIs monitoring the usage of analgesics for 2016–2017:

1. Tramadol usage measured as DDDs per 1,000 patients
2. Gabapentin and pregabalin usage measured as DDDs per 1,000 patients

5.1 Tramadol

Tramadol accounts for an increasing number of deaths and reports to the National Poisons Information Service. It is subject to abuse and dependence and there are concerns with regard to patient safety resulting from drug interactions.

This NPI aims to encourage the appropriate use and review of tramadol.

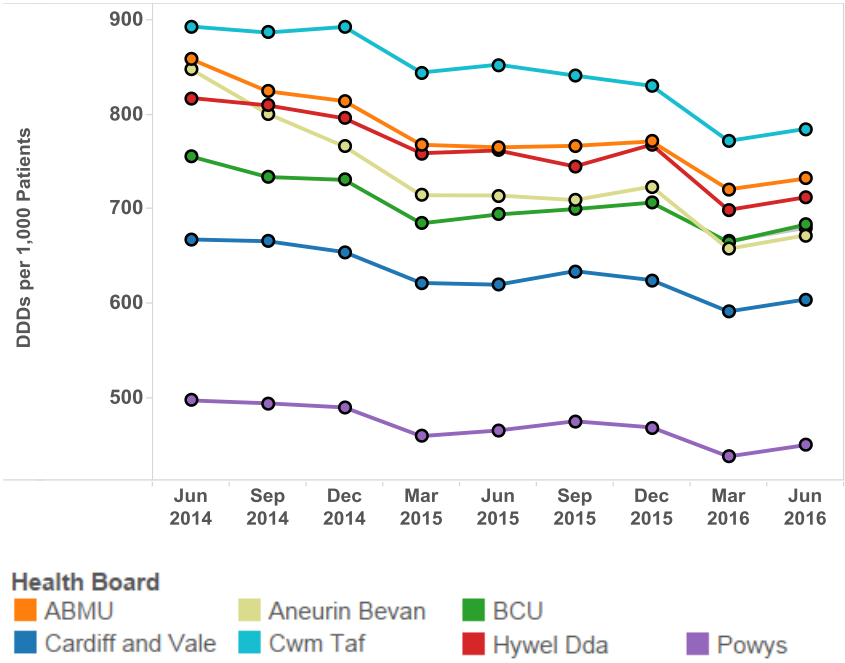
From June 2015 to June 2016 prescribing of tramadol decreased across Wales, in line with the aim of this indicator.

- For the quarter ending June 2016, tramadol prescribing ranged from 449 to 784 DDDs per 1,000 patients across the health boards.
- The health board with the lowest prescribing was Powys Teaching HB, whilst the highest prescribing was seen in Cwm Taf UHB.
- Tramadol prescribing decreased compared to the equivalent quarter of the previous year in all of the health boards.
- The largest decrease was seen in Cwm Taf UHB and the smallest decrease was seen in Betsi Cadwaladr UHB.

Table 5. Tramadol DDDs per 1,000 patients

	2015–2016 Qtr 1	2016–2017 Qtr 1	% Change
Cwm Taf	852	784	-7.99%
Hywel Dda	761	712	-6.52%
Aneurin Bevan	714	671	-5.92%
ABMU	765	732	-4.33%
Powys	465	449	-3.33%
Cardiff and Vale	619	604	-2.54%
BCU	694	683	-1.57%
Wales	**711**	**679**	**-4.47%**

Figure 5. Trend in tramadol prescribing DDDs per 1,000 patients



5.2 Gabapentin and pregabalin

Gabapentin and pregabalin have a well defined role in the management of a number of conditions including epilepsy and neuropathic pain, and for pregabalin, generalised anxiety disorder. Both gabapentin and pregabalin have known psychiatric side effects and there is a potential risk of dependence, misuse and diversion. Prescribers should make evidence-based, informed decisions, taking into account the risks and benefits of these medicines, when making a decision to prescribe.

This NPI aims to encourage the appropriate use and review of gabapentin and pregabalin, minimising the potential for diversion and misuse.

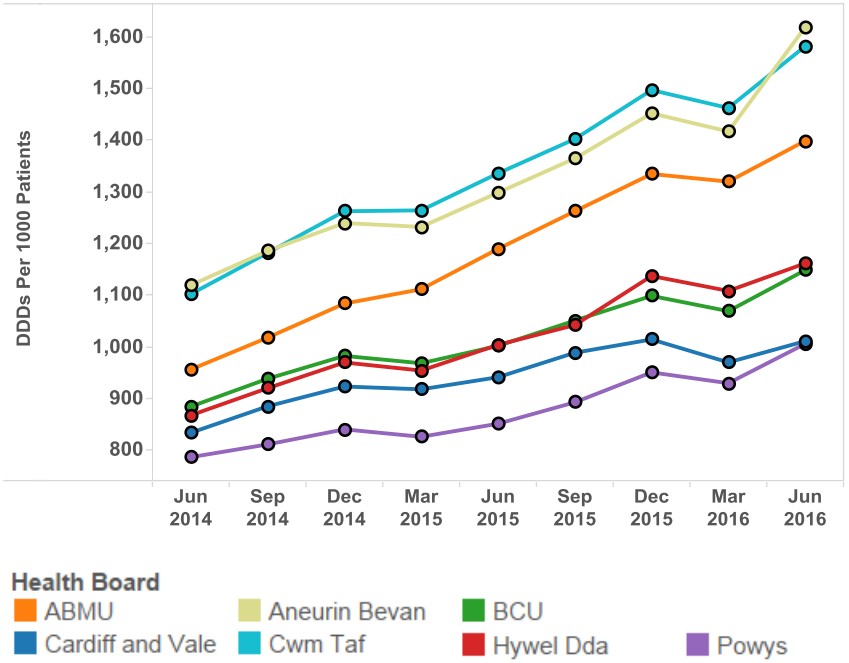
From June 2015 to June 2016, prescribing of gabapentin and pregabalin increased across Wales.

- For the quarter ending June 2016, gabapentin and pregabalin prescribing ranged from 1,006 to 1,619 DDDs per 1,000 patients across the health boards.
- The health board with the lowest prescribing was Powys Teaching HB, whilst the highest prescribing was seen in Aneurin Bevan UHB.
- Gabapentin and pregabalin prescribing increased compared to the equivalent quarter of the previous year in all of the health boards.
- The largest increase was seen in Aneurin Bevan UHB and the smallest increase was seen in Cardiff and Vale UHB.

Table 6. Gabapentin and pregabalin DDDs per 1,000 patients

	2015–2016 Qtr 1	2016–2017 Qtr 1	% Change
Cardiff and Vale	941	1,011	7.41%
BCU	1,002	1,148	14.6%
Hywel Dda	1,004	1,161	15.7%
ABMU	1,189	1,398	17.6%
Powys	851	1,006	18.2%
Cwm Taf	1,336	1,582	18.4%
Aneurin Bevan	1,298	1,619	24.7%
Wales	**1,105**	**1,294**	**17.0%**

Figure 6. Trend in gabapentin and pregabalin prescribing DDDs per 1,000 patients



6.0 ANTIBIOTICS

The development of NPIs for antibiotic prescribing supports one of the key elements of the Welsh Antimicrobial Resistance Programme: to inform, support and promote the prudent use of antimicrobials.

There are four antibiotic NPIs for 2016–2017:

1. Total antibacterial items
2. Co-amoxiclav
3. Cephalosporins
4. Fluoroquinolones

6.1 Total antibacterial items

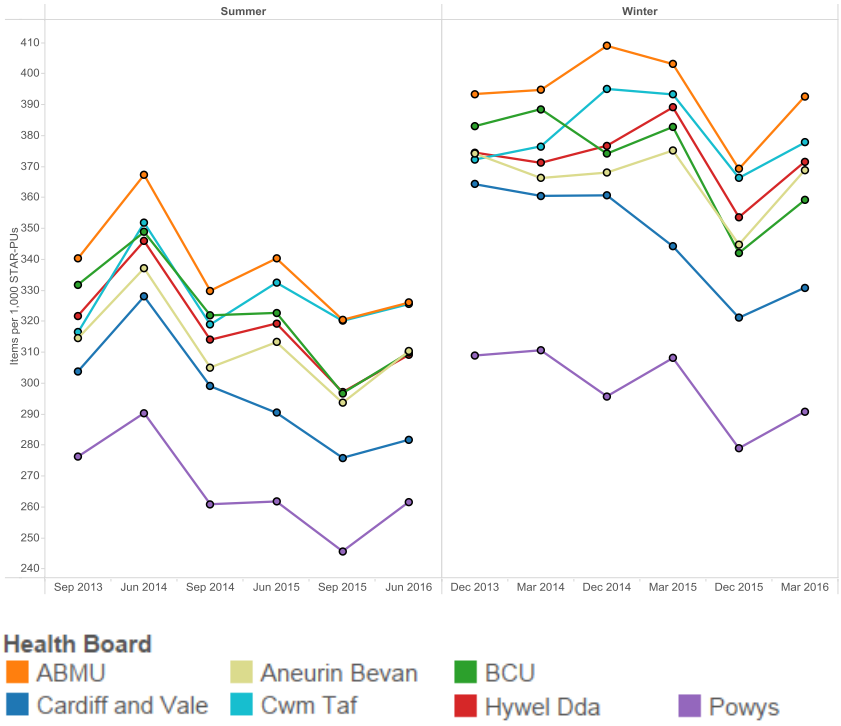
No target is set for this indicator due to seasonal variations in prescribing, although a reduction in prescribing year on year is encouraged – with measurement based on quarter 3 data.

- For the quarter ending June 2016, the total number of antibacterial items per 1,000 STAR-PUs (13) ranged from 262 to 326 across the health boards.
- The health board with the lowest prescribing was Powys Teaching HB, whilst the highest prescribing was seen in Abertawe Bro Morgannwg UHB and Cwm Taf UHB.
- The total number of antibacterial items decreased compared to the equivalent quarter of the previous year in all of the health boards.
- The largest decrease was seen in Abertawe Bro Morgannwg UHB, and the smallest decrease in Powys Teaching HB.

Table 7. Total antibacterial items per 1,000 STAR-PUs (13)

	2015–2016 Qtr 1	2016–2017 Qtr 1	% Change
ABMU	340	326	-4.20%
BCU	323	310	-3.99%
Hywel Dda	319	309	-3.18%
Cardiff and Vale	290	282	-3.00%
Cwm Taf	332	326	-2.09%
Aneurin Bevan	313	310	-0.94%
Powys	262	262	-0.06%
Wales	**317**	**308**	**-2.89%**

Figure 7. Trend in antibacterial prescribing items per 1,000 STAR-PUs (13)



6.2 Co-amoxiclav, cephalosporins and fluoroquinolones

Prescribing of co-amoxiclav, cephalosporins and fluoroquinolones are monitored, as these antibacterials are associated with an increased risk of *Clostridium difficile* infection.

Each of these antibacterial indicators is monitored using two measures:

1. Items as a percentage of total antibacterial items
2. Items per 1,000 patients

6.2.1 Co-amoxiclav, cephalosporins and fluoroquinolones as a percentage of total antibacterial items

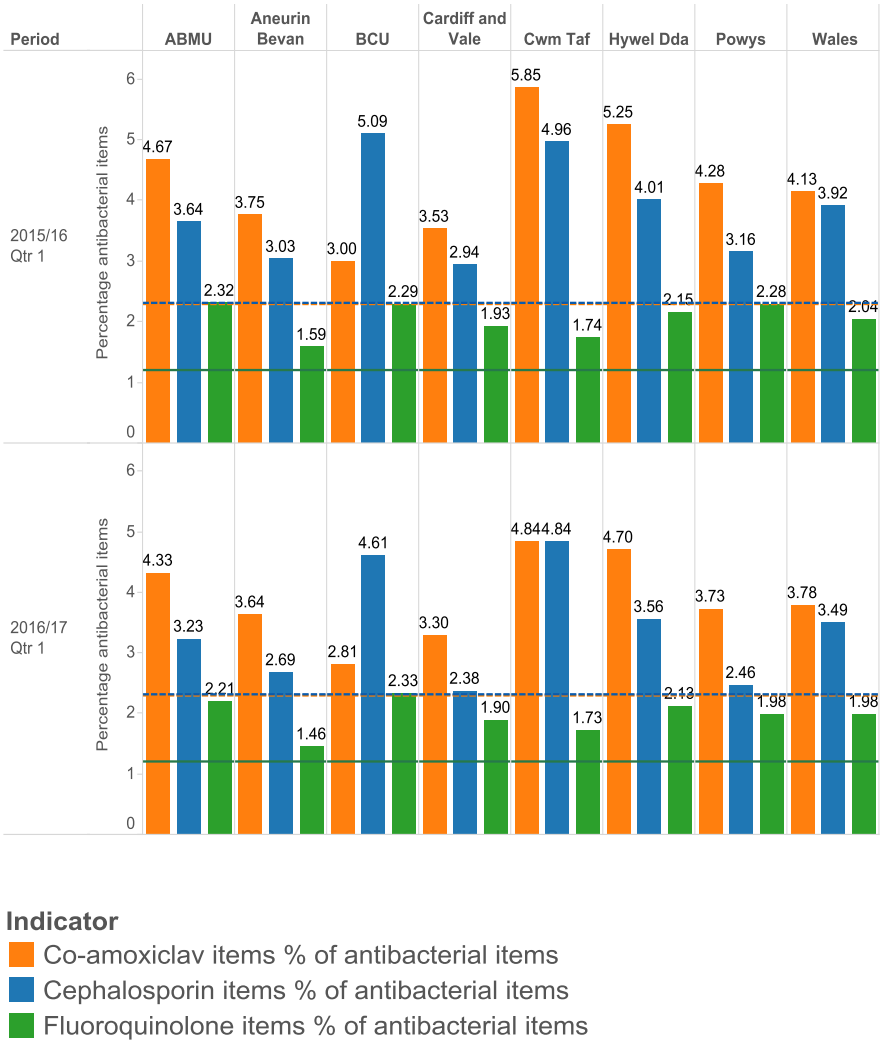
From June 2015 to June 2016 the number of items of each antibacterial or group of antibacterials as a percentage of all antibacterial prescribing decreased across Wales, in line with the aim of this indicator.

- The proportion of co-amoxiclav prescribing decreased, compared to the equivalent quarter of the previous year, in all seven health boards. The largest decrease was seen in Cwm Taf UHB (17%), and the smallest decrease was seen in Aneurin Bevan UHB (3%).

- The proportion of cephalosporin prescribing decreased, compared to the equivalent quarter of the previous year, all seven health boards. The largest decrease was seen in Powys Teaching HB (22%), and the smallest decrease was seen in Cwm Taf UHB (2%).

- The proportion of fluoroquinolone prescribing decreased, compared to the equivalent quarter of the previous year, in six out of the seven health boards. The largest decrease was seen in Powys Teaching HB (13%), and the smallest decrease was seen in Cwm Taf UHB (1%). There was an increase in Betsi Cadwaladr UHB (1.6%)

Figure 8. Co-amoxiclav, cephalosporins and fluoroquinolones as a percentage of total antibacterial prescribing



6.2.2 Co-amoxiclav items per 1,000 patients

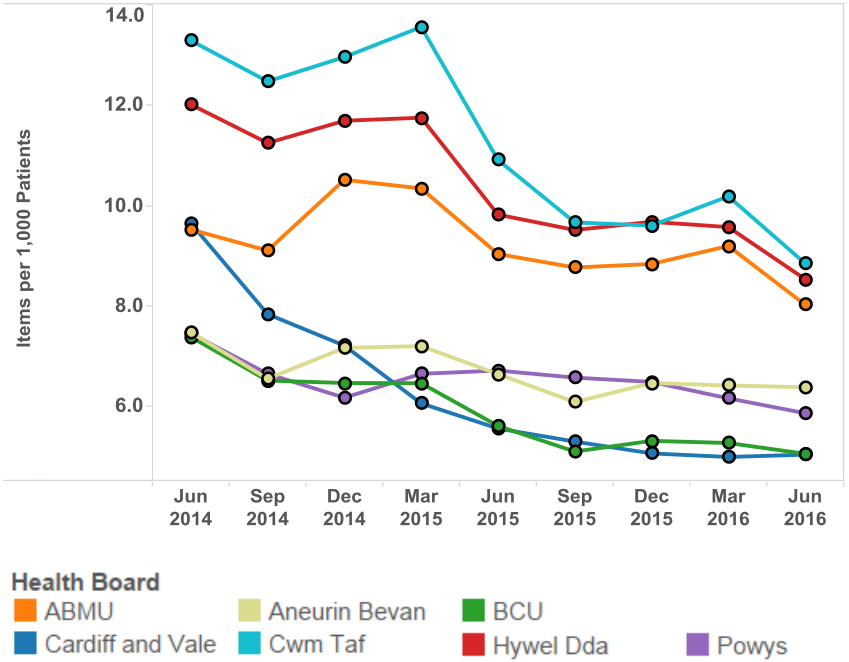
From June 2015 to June 2016 prescribing of co-amoxiclav items per 1,000 patients decreased across Wales by 11%, in line with the aim of this indicator.

- For the quarter ending June 2016, co-amoxiclav prescribing ranged from 5.04 to 8.85 items per 1,000 patients across the health boards.
- The health board with the lowest prescribing was Cardiff and Vale UHB, whilst the highest prescribing was seen in Cwm Taf UHB.
- Co-amoxiclav prescribing decreased compared to the equivalent quarter of the previous year in all of the seven health boards.
- The largest decrease was seen in Cwm Taf UHB, and the smallest decrease was seen in Aneurin Bevan UHB.

Table 8. Co-amoxiclav items per 1,000 patients

	2015–2016 Qtr 1	2016–2017 Qtr 1	% Change
Cwm Taf	10.9	8.85	-18.9%
Hywel Dda	9.82	8.54	-13.1%
Powys	6.72	5.87	-12.7%
ABMU	9.04	8.03	-11.2%
BCU	5.61	5.06	-9.89%
Cardiff and Vale	5.56	5.04	-9.38%
Aneurin Bevan	6.65	6.38	-3.96%
Wales	**7.45**	**6.63**	**-11.0%**

Figure 9. Trend in co-amoxiclav prescribing items per 1,000 patients



6.2.3 Cephalosporin items per 1,000 patients

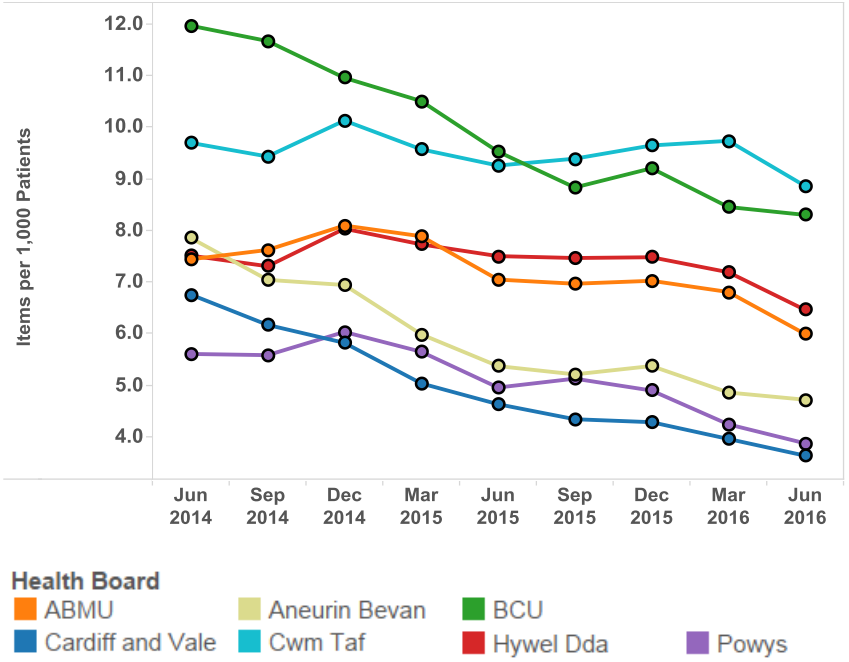
From June 2015 to June 2016 prescribing of cephalosporin items per 1,000 patients decreased across Wales by approximately 13%, in line with the aim of this indicator.

- For the quarter ending June 2016, cephalosporin prescribing ranged from 3.63 to 8.86 items per 1,000 patients across the health boards.
- The health board with the lowest prescribing was Cardiff and Vale UHB, whilst the highest prescribing was seen in Cwm Taf UHB.
- Cephalosporin prescribing decreased compared to the equivalent quarter of the previous year in all of the seven health boards.
- The largest decreases were seen in Powys Teaching HB and Cardiff and Vale UHB (approximately 22%), and the smallest decrease was seen in Cwm Taf UHB.

Table 9. Cephalosporins items per 1,000 patients

	2015–2016 Qtr 1	2016–2017 Qtr 1	% Change
Powys	4.95	3.87	-21.9%
Cardiff and Vale	4.63	3.63	-21.6%
ABMU	7.04	5.99	-15.0%
Hywel Dda	7.50	6.46	-13.9%
BCU	9.53	8.30	-12.9%
Aneurin Bevan	5.37	4.71	-12.2%
Cwm Taf	9.26	8.86	-4.29%
Wales	**7.07**	**6.12**	**-13.4%**

Figure 10. Trend in cephalosporin prescribing items per 1,000 patients



6.2.4 Fluoroquinolone items per 1,000 patients

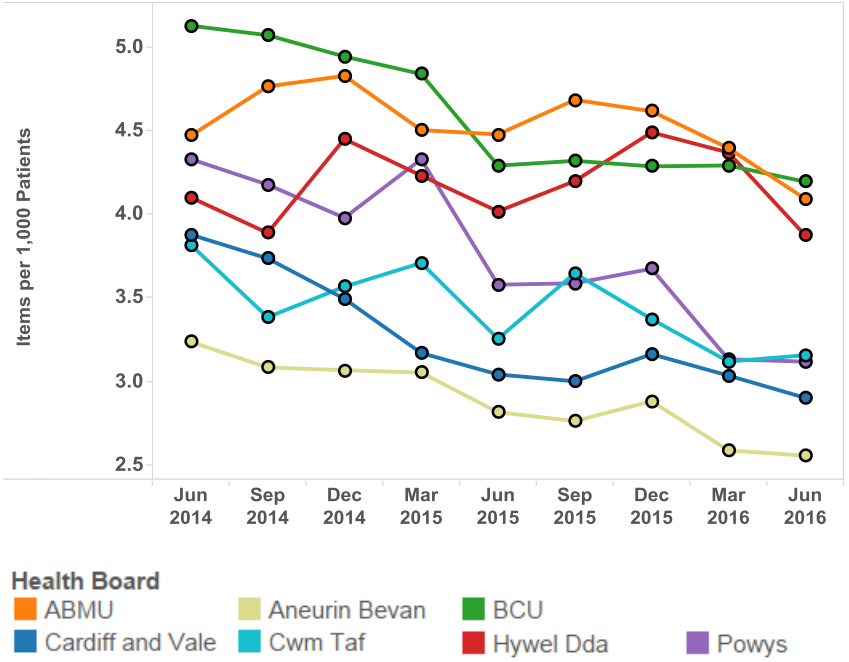
From June 2015 to June 2016 the prescribing of fluoroquinolone items decreased across Wales by approximately 6%, in line with the aim of this indicator.

- For the quarter ending June 2016, fluoroquinolone prescribing ranged from 2.55 to 4.19 items per 1,000 patients across the health boards.
- The health board with the lowest prescribing was Aneurin Bevan UHB, whilst the highest prescribing was seen in Betsi Cadwaladr UHB.
- Fluoroquinolone prescribing decreased compared to the equivalent quarter of the previous year in all seven of the health boards.
- The largest decrease was seen in Powys Teaching HB, and the smallest decrease was seen in Betsi Cadwaladr UHB.

Table 10. Fluoroquinolone items per 1,000 patients

	2015–2016 Qtr 1	2016–2017 Qtr 1	% Change
Powys	3.58	3.12	-12.9%
Aneurin Bevan	2.81	2.55	-9.25%
ABMU	4.48	4.09	-8.62%
Cardiff and Vale	3.04	2.90	-4.60%
Hywel Dda	4.02	3.87	-3.56%
Cwm Taf	3.25	3.16	-3.04%
BCU	4.29	4.19	-2.25%
Wales	**3.68**	**3.48**	**-5.56%**

Figure 11. Trend in fluoroquinolone prescribing items per 1,000 patients



7.0 NON-STEROIDAL ANTI-INFLAMMATORY DRUGS

There are two non-steroidal anti-inflammatory drug (NSAID) NPIs for 2016–2017.

1. NSAID ADQs per 1,000 STAR-PUs
2. Ibuprofen and naproxen items as a percentage of NSAID prescribing.

The aim of the indicators is to ensure that the risks associated with NSAIDs are minimised by appropriate choice and use.

7.1 NSAID ADQs per 1,000 STAR-PUs

This indicator aims to encourage a reduction in total NSAID prescribing, which has been consistently higher than that seen in England.

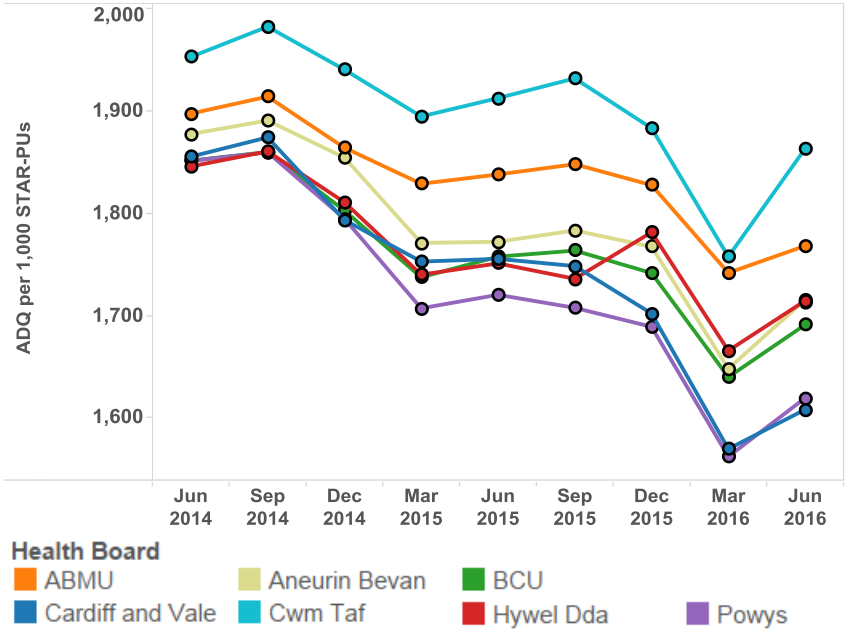
Since the introduction of this indicator, total NSAID prescribing has fallen across Wales, in line with the aim of the indicator.

- For the quarter ending June 2016, total NSAID prescribing ranged from 1,608 to 1,863 ADQs per 1,000 STAR-PUs across the health boards.
- The health board with the lowest prescribing was Cardiff and the Vale UHB, whilst the highest prescribing was seen in Cwm Taf UHB.
- Total NSAID prescribing decreased compared to the equivalent quarter of the previous year in all of the health boards.
- The largest decrease was seen in Cardiff and the Vale UHB, and the smallest decrease was seen in Hywel Dda UHB.

Table 11. NSAID ADQs per 1,000 STAR-PUs (13)

	2015–2016 Qtr 1	2016–2017 Qtr 1	% Change
Cardiff and Vale	1,755	1,608	-8.41%
Powys	1,720	1,619	-5.88%
ABMU	1,838	1,768	-3.80%
BCU	1,758	1,691	-3.79%
Aneurin Bevan	1,772	1,715	-3.21%
Cwm Taf	1,913	1,863	-2.58%
Hywel Dda	1,751	1,714	-2.09%
Wales	**1,785**	**1,712**	**-4.09%**

Figure 12. Trend in NSAID prescribing ADQs per 1,000 STAR-PUs (13)



7.2 Ibuprofen and naproxen items as a percentage of NSAID prescribing

This indicator aims to promote the prescribing of ibuprofen and naproxen at appropriate doses over other NSAIDs, as they are associated with a lower risk of cardiovascular adverse events.

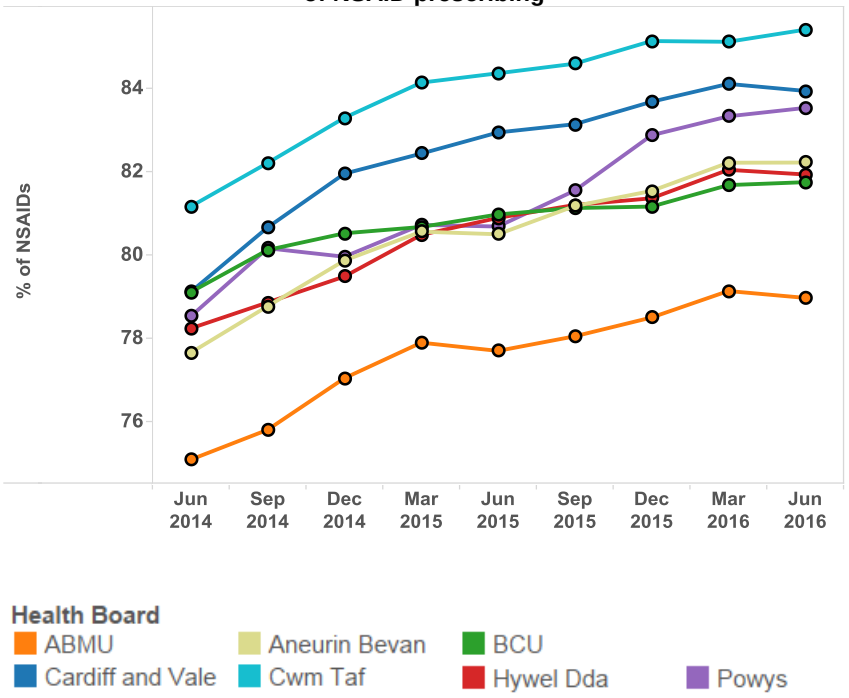
Since the introduction of this indicator, the proportion of ibuprofen and naproxen prescribing as a percentage of total NSAID usage has increased in line with the aim of this indicator.

- For the quarter ending June 2016, the proportion of ibuprofen and naproxen prescribing ranged from 79.0% to 85.4% across the health boards.
- The health board with the highest prescribing was Cwm Taf UHB, whilst the lowest prescribing was seen in Abertawe Bro Morgannwg UHB.
- The proportion of ibuprofen and naproxen prescribing increased compared to the equivalent quarter of the previous year in all of the health boards.
- The largest increase was seen in Powys Teaching HB, and the smallest increase was seen in Betsi Cadwaladr UHB.

Table 12. Ibuprofen and naproxen as a percentage of NSAID prescribing

	2015–2016 Qtr 1	2016–2017 Qtr 1	% Change
Powys	80.7	83.5	3.53%
Aneurin Bevan	80.5	82.2	2.14%
ABMU	77.7	79.0	1.64%
Hywel Dda	80.9	81.9	1.29%
Cwm Taf	84.3	85.4	1.24%
Cardiff and Vale	82.9	83.9	1.20%
BCU	81.0	81.7	0.96%
Wales	**80.9**	**82.1**	**1.52%**

Figure 13. Trend in ibuprofen and naproxen prescribing as a percentage of NSAID prescribing



8.0 YELLOW CARDS

Adverse drug reactions (ADRs) are a significant clinical problem, increasing morbidity and mortality. Approximately 6.5% of hospital admissions in adults and 2.1% in children are attributed to ADRs.

The Yellow Card Scheme is vital in helping the Medicines and Healthcare Products Regulatory Agency (MHRA) monitor the safety of medicines and vaccines that are on the market.

The aim of this NPI is to increase the number of Yellow Cards submitted by GPs in Wales.

There are two measures for this indicator:

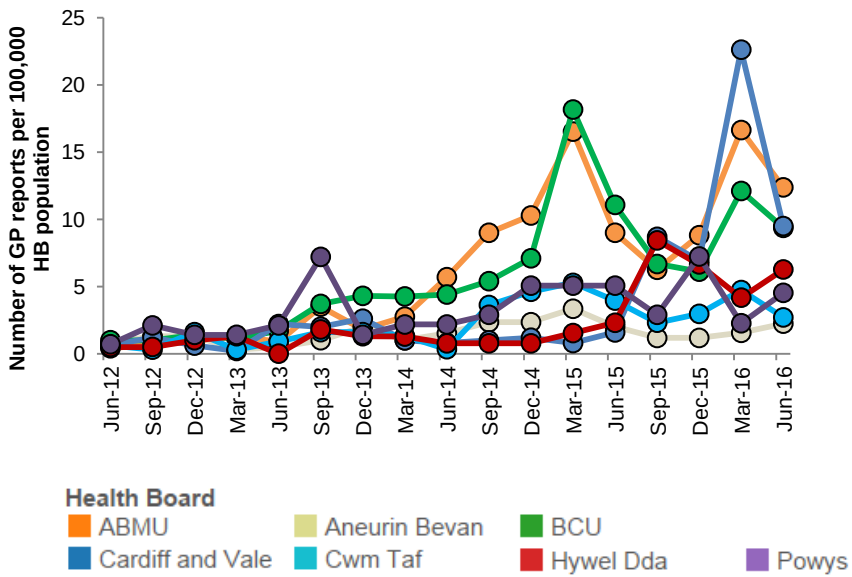
1. Number of Yellow Cards submitted per GP practice.
2. Number of Yellow Cards submitted per health board.

The number of Yellow Cards submitted by GPs in Wales increased by 30% compared to the equivalent quarter of the previous year.

Table 13. Number of Yellow Cards submitted by GPs

	2015–2016 Qtr 1	2016–2017 Qtr 1	% Change
Cardiff and Vale	8	46	475%
Hywel Dda	9	24	167%
ABMU	49	65	33%
Aneurin Bevan	12	13	8%
Powys	7	6	-14%
BCU	78	65	-17%
Cwm Taf	12	8	-33%
Wales	**175**	**227**	**30%**

Figure 14. Number of GP reports per 100,000 health board population



The number of Yellow Cards submitted by health boards in Wales increased by 23% compared to the equivalent quarter of the previous year.

Table 14. Number of Yellow Cards submitted by health boards

	2015–2016 Qtr 1	2016–2017 Qtr 1	% Change
Hywel Dda	40	71	78%
Cardiff and Vale	53	88	66%
Aneurin Bevan	33	46	39%
ABMU	73	97	33%
BCU	143	141	-1%
Cwm Taf	30	23	-23%
Powys	13	9	-31%
Wales	**385**	**475**	**23%**

SECONDARY CARE

1.0 INSULIN

NICE guidance on the management of type 2 diabetes mellitus (T2DM) recommends that human isophane insulin is the first choice regimen for insulin prescribing in T2DM. For most people with T2DM, long-acting insulin analogues offer no significant benefit over human isophane insulin and are more expensive.

The aim of this indicator is to reduce the prescribing of long-acting insulin analogues to achieve usage levels below the Welsh average for secondary care. However, as prescribing will usually be continued in the primary care setting, it is important to consider both data sets.

Secondary care prescribing

- For the quarter ending June 2016, the proportion of long-acting insulin analogues as a percentage of total long and intermediate-acting insulin ranged from 65% to 100% within secondary care settings across Wales.
- The health board/trust with the highest prescribing percentage was Velindre NHS Trust. However, it should be noted that this is not an acute hospital site and the quantity issued is small (five cartridges); therefore, this is not the main responsible factor for the 2% increase in secondary care usage across Wales.
- The proportion of long-acting insulin analogue prescribing increased in five out of the seven health boards/trusts, compared to the equivalent quarter of the previous year. Velindre NHS Trust, Abertawe Bro Morgannwg, Betsi Cadwaladr, Cardiff and Vale, and Hywel Dda UHBs all had a figure of 80% or more.
- The lowest prescribing was seen in Cwm Taf UHB; however, this health board had a 16% increase compared to the equivalent quarter of the previous year.
- Hywel Dda UHB demonstrated a 3.61% decrease in long-acting insulin analogues and Betsi Cadwaladr a 2.38% decrease.

Table 15. Long-acting insulin analogues as a percentage of total long and intermediate-acting insulin prescribing in secondary care

	2015–2016 Qtr 1 (%)	2016–2017 Qtr 1* (%)	% Change
Hywel Dda	83	80	−3.61%
BCU	84	82	−2.38%
Cardiff and Vale	81	82	1.23%
Aneurin Bevan	67	73	8.96%
ABMU	71	80	12.7%
Cwm Taf	56	65	16.1%
Velindre	0	100	100%
Wales	**76**	**78**	**2.63%**

*For the period April–June 2016, the combination product insulin degludec with liraglutide has also been included within the long-acting insulin basket.

Primary care prescribing

From June 2015 to June 2016 the prescribing of long-acting insulin analogues in primary care as a proportion of total long and intermediate-acting insulin prescribing decreased across Wales by approximately 0.22%, in line with the aim of the secondary care indicator.

- For the quarter ending June 2016, long-acting insulin analogue prescribing ranged from 80% to 94% across the health boards.
- The health board with the lowest prescribing was Cwm Taf UHB, whilst the highest prescribing was seen in Betsi Cadwaladr UHB.
- Prescribing decreased compared to the equivalent quarter of the previous year in five out of the seven health boards across Wales.
- The largest decrease was seen in Powys Teaching HB and the largest increase was seen in Cwm Taf UHB.

Figure 15. Trend in long-acting analogue prescribing as a percentage of total long and intermediate-acting insulin prescribed in primary care

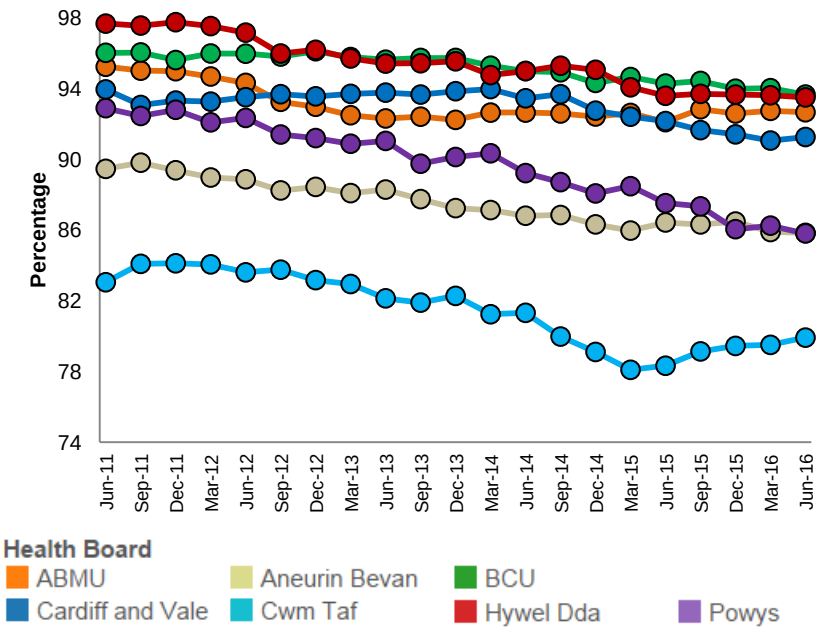


Table 16. Long-acting insulin analogues as a percentage of total long and intermediate-acting insulin prescribing in primary care

	2015–2016 Qtr 1 (%)	2016–2017 Qtr 1 (%)	% Change
Powys	88	86	−1.95%
Cardiff and Vale	92	91	−0.98%
Aneurin Bevan	86	86	−0.68%
BCU	94	94	−0.66%
Hywel Dda	94	93	−0.10%
ABMU	92	93	0.61%
Cwm Taf	78	80	2.03%
Wales	**90**	**90**	**−0.22%**

2.0 BIOSIMILARS

Biological medicines are those that are made or derived from a biological source and, as such, are complex, with inherent variability in their structure. Continuing development of biosimilar medicines offers an increased choice for patients and clinicians, and more cost-effective options for individual medicines.

The aim of this indicator is to increase the appropriate use of biosimilar medicines in line with guidance.

There is an increasing range of biosimilar products becoming available and therefore each new product introduced will be included within this section of the NPI report as they begin to be used within NHS Wales.

For this report, the insulin glargine biosimilar, Abasaglar®, is a new biosimilar addition for reporting purposes.

Biosimilar filgrastim and infliximab use as a percentage of total products prescribed within Wales has increased during the first quarter of 2016–2017, particularly the use of the infliximab biosimilar Inflectra®.

2.1 Filgrastim

Table 17. Quantity of filgrastim (Neupogen®) and filgrastim biosimilars prescribed within secondary care April–June 2016

Medicine	Biosimilar^	Quarter	Total quantity
Filgrastim (generic)	**Unknown**	2015–2016 Q1	1
		2016–2017 Q1	0
Filgrastim (Neupogen®)		2015–2016 Q1	97
		2016–2017 Q1	37
	Nivestim®	2015–2016 Q1	1,436
		2016–2017 Q1	1,049
	Zarzio®	2015–2016 Q1	4,375
		2016–2017 Q1	4,842

^Filgrastim biosimilars TevaGrastim® and Ratiograstim®, as within the baseline report, have not been used within the Q1 period.

Figure 16. Proportion of filgrastim prescribing as Neupogen® and biosimilars Nivestim® and Zarzio® in secondary care April–June 2016

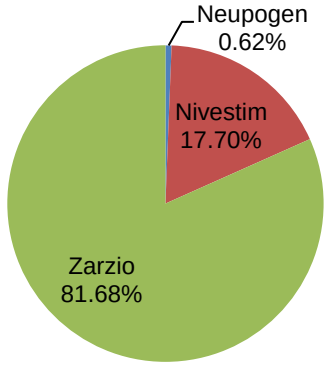


Figure 17. Health board filgrastim (Neupogen®) and filgrastim biosimilar medicines as a percentage of total filgrastim prescribed in secondary care April–June 2016

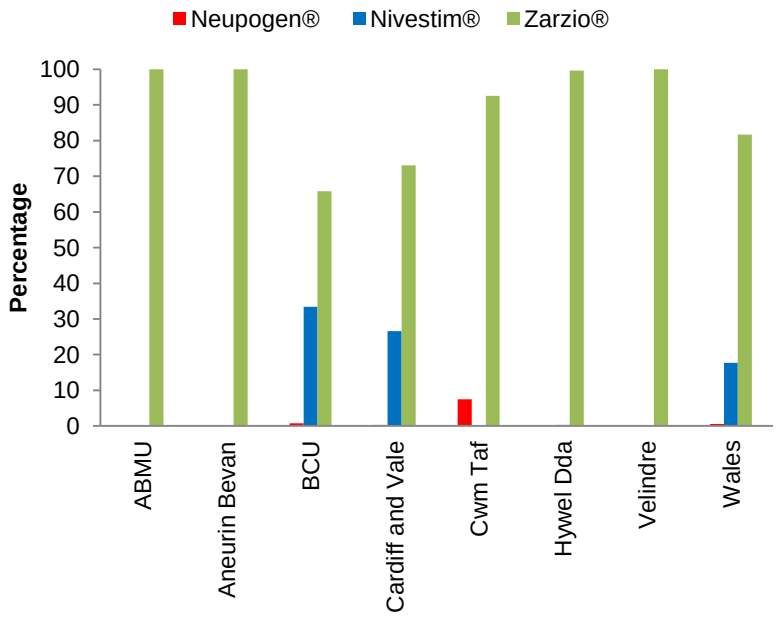


Table 18. Quantity of filgrastim (Neupogen®) and filgrastim biosimilars prescribed within primary care April–June 2016

Medicine	Biosimilar	Quarter	Total quantity
Filgrastim (generic)	**Unknown**	2015–2016 Q1	15
		2016–2017 Q1	27
Filgrastim (Neupogen®)		2015–2016 Q1	20
		2016–2017 Q1	0
	Nivestim®	2015–2016 Q1	0
		2016–2017 Q1	0
	Zarzio®	2015–2016 Q1	75
		2016–2017 Q1	14

Table 19. All Wales quantity of filgrastim (Neupogen®) and filgrastim biosimilars prescribed April–June 2016

Medicine	Biosimilar	Quarter	Total quantity
Filgrastim (generic)	**Unknown**	2015–2016 Q1	16
		2016–2017 Q1	27
Filgrastim (Neupogen®)		2015–2016 Q1	116
		2016–2017 Q1	37
	Nivestim®	2015–2016 Q1	1,436
		2016–2017 Q1	1,049
	Zarzio®	2015–2016 Q1	4,450
		2016–2017 Q1	4,856

There was an increase in the use of biosimilar filgrastim from 97.81% to 98.93% within NHS Wales from quarter 1 2015–2016 to quarter 1 2016–2017.

The use of biosimilar filgrastim has saved an estimated £273,430 compared to the cost of the filgrastim reference product (Neupogen®) for NHS Wales in Q1 of 2016–2017.

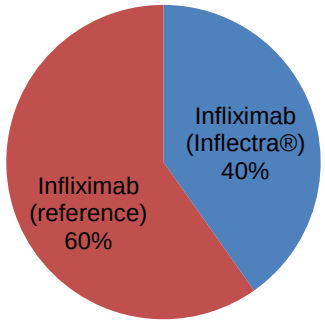
2.2 Infliximab

Table 20. Quantity of infliximab (Remicade®) and infliximab biosimilar Inflectra® prescribed within NHS Wales April–June 2016

Medicine	Biosimilar	Quarter	Total quantity
Infliximab (reference)ǂ		2015–2016 Q1	4,008
		2016–2017 Q1	3,012
	Inflectra®	2015–2016 Q1	327
		2016–2017 Q1	2,027*

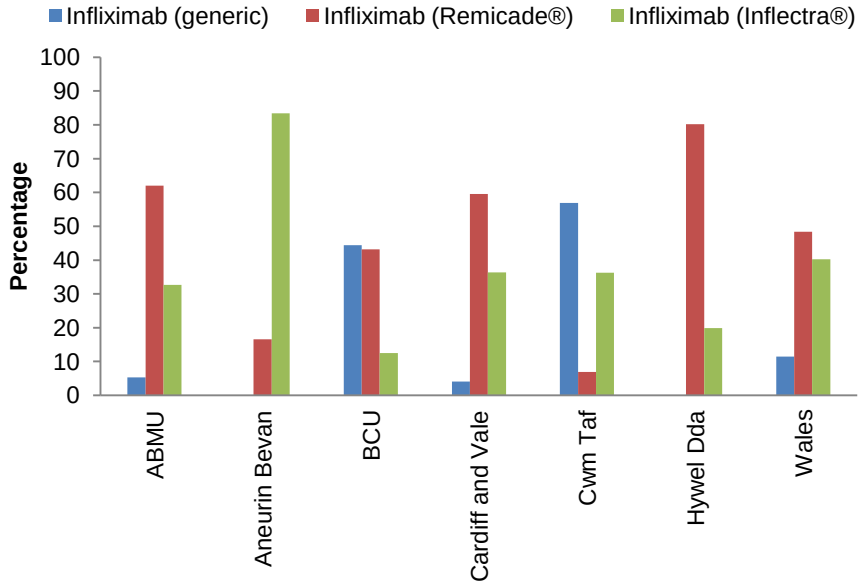
ǂ These data include supplies recorded through homecare
* Due to quantity number discrepancy within data set this number has been estimated.

Figure 18. Proportion of infliximab prescribing as 'reference' product and Inflectra® biosimilar April–June 2016



There was an increase in the use of biosimilar infliximab from 7.54% to 40.23% within NHS Wales from quarter 1 2015–2016 to quarter 1 2016–2017.

Figure 19. Infliximab (generic), Infliximab (Remicade®) and infliximab biosimilar (Inflectra®) as a proportion of total infliximab prescribed in secondary care April–June 2016



The above shows generic infliximab prescribing in four health boards, one of which supplied generic infliximab through homecare. In line with MHRA guidelines, biological medicines, including biosimilar medicines, must be prescribed by brand name to ensure automatic substitution does not take place without clinician and patient involvement, and to support ongoing pharmacovigilance of the individual products. Therefore supplies should be recorded under the brand name supplied; currently in Wales options are Remicade® or Inflectra®.

The use of biosimilar infliximab has saved an estimated £408,542 compared to the cost of the infliximab reference product (Remicade®) for NHS Wales in Q1 of 2016–2017.

2.3 Insulin glargine

The insulin glargine biosimilar (Abasaglar®) was appraised by AWMSG in December 2015. There are no baseline data available; however, it is expected that prescribing will be monitored as part of the escalating biosimilar products availability through future quarterly reports.

Table 21. Quantity of insulin glargine and insulin glargine biosimilar (Abasaglar®) prescribed within secondary care April–June 2016

Medicine	Biosimilar	AWMSG advice	Total quantity
Insulin glargine			1,882
	Abasaglar®	Recommended (December 2015)*	7

*The recommendation by AWMSG for insulin glargine (Abasaglar®) was restricted for use within its licensed indication in accordance with NICE or AWMSG guidance for insulin glargine (Lantus®).

Table 22. Quantity of insulin glargine and insulin glargine biosimilar (Abasaglar®) prescribed within primary care April–June 2016

Medicine	Biosimilar	AWMSG advice	Total quantity
Insulin glargine			31,672
	Abasaglar®	Recommended (December 2015)*	191

3.0 ANTIBIOTICS

The aim of this indicator is to maintain performance below the Welsh average or show a reduction towards the Welsh average.

Due to surgical prophylaxis numbers being small and prone to misinterpretation at hospital level, the data are presented at health board level. Hospital level data are available if required.

Figure 20. Percentage of patients whose duration of colorectal surgical prophylaxis is > 24 hours

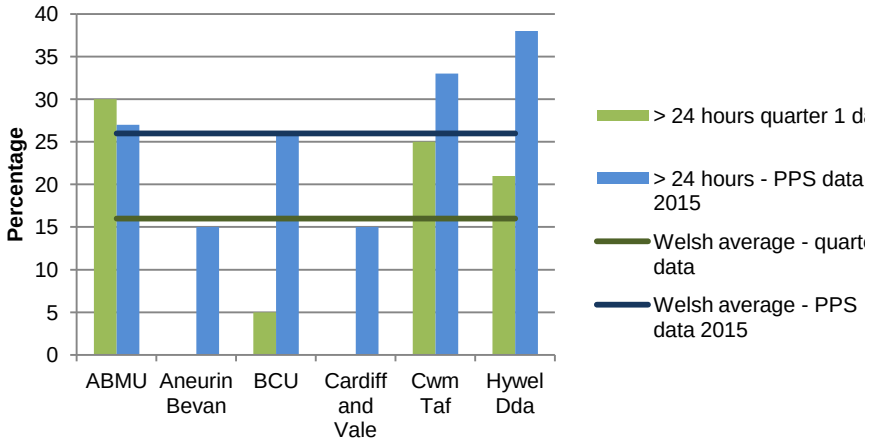


Figure 20 indicates that there has been a reduction in the number of patients receiving surgical prophylaxis for > 24 hours during the period between April and June 2016 (Q1) compared to the Point Prevalence Survey (PPS) data for 2015. When comparing the Welsh average for the PPS data (2015) and Q1 data there is a 10% decrease in the average percentage of patients receiving prophylaxis for > 24 hours. It should be noted that the PPS data are not specific to colorectal surgery and therefore any comparisons should be interpreted with caution. The data for Q1 indicate that three of the six health boards are below the Welsh average for the percentage of patients receiving colorectal surgery prophylaxis > 24 hours; when comparing the Q1 data to the Welsh average calculated from the PPS data, five of the six health boards are below this threshold.

Figure 21. Percentage of patients whose duration of colorectal surgical antibiotic prophylaxis is inconsistent with health board guidelines

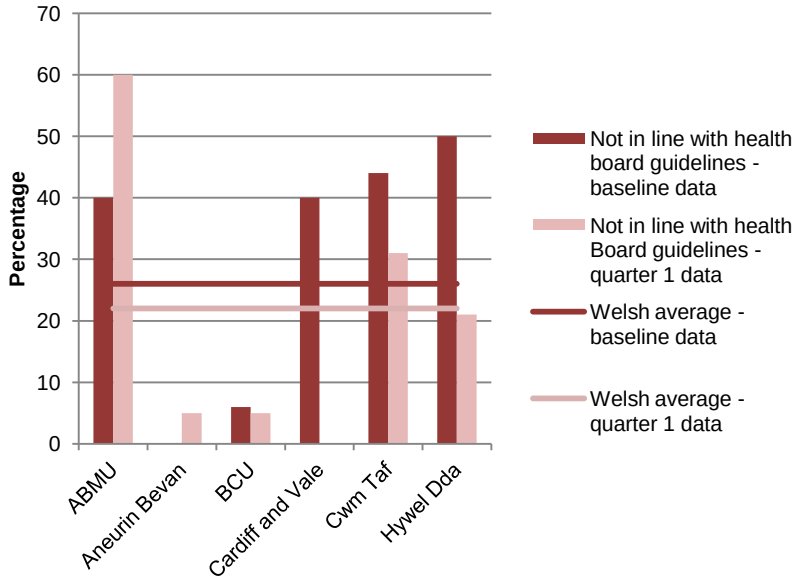


Figure 21 supports the data obtained for colorectal surgery prophylaxis presented in Figure 20 indicating a 4% reduction in the percentage of patients who are not treated in line with health board guidelines during Q1 compared to the baseline data. The baseline data indicate that two of the six health boards are below the Welsh average for the percentage of patients who are not treated in line with health board guidelines compared to three out of six health boards in Q1.

In summary, there has been an overall improvement in the percentage of patients receiving colorectal surgical prophylaxis in line with health board guidelines.

CAUTION WITH INTERPRETING NPI MONITORING DATA

The Medusa data warehouse is reliant on data input by individual hospital pharmacy departments. If the data on a medicine are input under an alternative name to the usual generic or brand name, it may not be identified at extraction.

The report includes medicines supplied by homecare, recorded through the hospital system; medicines supplied through other homecare providers are not included in this report.

Medicines supplied through hospitals in England or on FP10HP (issued by hospital clinicians in NHS England) to patients resident in Wales, which do not get issued via Medusa or recorded through CASPA, are not included in this report.

Combining data obtained from two different software systems provides challenges, particularly as CASPA and Medusa report data via different measurement criteria. Hence, in order to amalgamate data, total cost of medicine usage is reported for all indicators and, where relevant, other measures such as total quantity, items and number are also reported.

GLOSSARY

ADQ – The average daily quantity (ADQ) is a measure of prescribing volume based upon prescribing behaviour in England. It represents the assumed average maintenance dose per day for a medicine used for its main indication in adults. The ADQ is not a recommended dose but an analytical unit to compare prescribing activity.

DDD – The defined daily dose (DDD), developed by the World Health Organisation, is a unit of measurement whereby each medicine is assigned a value within its recognised dosage range. The value is the assumed average maintenance dose per day for a medicine when used for its main indication in adults. A medicine can have different DDDs depending on the route of administration.

PU – Prescribing units (PUs) were adopted to take account of the greater need of elderly patients for medication in reporting prescribing performance at both the practice and primary care organisational level.

PRESCRIBING – Although the term ‘prescribing’ is used in this report, the data presented represent prescriptions that have been dispensed and forwarded for pricing. It is assumed that the difference between the number of prescriptions issued and those dispensed is not significant, and that dispensing provides an accurate representation of prescribing.

STAR-PU – Specific therapeutic group age-sex related prescribing units (STAR-PUs) are designed to measure prescribing weighted for age and sex of patients. There are differences in the age and sex of patients for whom medicines in specific therapeutic groups are usually prescribed. To make such comparisons, STAR-PUs have been developed based on costs of prescribing of items within therapeutic groups.

APPENDIX 1. AWMSG NATIONAL PRESCRIBING INDICATORS 2016–2017

Primary care indicator	Unit of measure	Target for 2016–2017
Proton pump inhibitors	PPI DDDs per 1,000 PUs	Maintain performance levels within the lower quartile, or show a reduction towards the quartile below
Lipid-regulating drugs	Items of bile acid sequestrants, fibrates, nicotinic acid and omega-3 fatty acid compounds (BNF 2.12 sub-set) as a percentage of total lipid-regulating items	Maintain performance levels within the lower quartile, or show a reduction towards the quartile below
Inhaled corticosteroids	Low strength ICS items as a percentage of all ICS prescribing	Maintain performance levels within the upper quartile, or show an increase towards the quartile above
Hypnotics and anxiolytics	Hypnotic and anxiolytic ADQs per 1,000 STAR-PUs	Maintain performance levels within the lower quartile, or show a reduction towards the quartile below
Analgesics	Tramadol DDDs per 1,000 patients	Maintain performance levels within the lower quartile, or show a reduction towards the quartile below
	Gabapentin and pregabalin DDDs per 1,000 patients	Maintain performance levels within the lower quartile, or show a reduction towards the quartile below
Antibiotics	Total antibacterial items per 1,000 STAR-PUs	No performance target set; aim for reduction in prescribing year on year, measuring quarter to December only
	Co-amoxiclav items per 1,000 patients Co-amoxiclav items as a percentage of total antibacterial items	Maintain performance levels within the lower quartile, or show a reduction towards the quartile below
	Cephalosporin items per 1,000 patients Cephalosporin items as a percentage of total antibacterial items	Maintain performance levels within the lower quartile, or show a reduction towards the quartile below
	Fluoroquinolone items per 1,000 patients Fluoroquinolone items as a percentage of total antibacterial items	Maintain performance levels within the lower quartile, or show a reduction towards the quartile below
Non-steroidal anti-inflammatory drugs (NSAIDs)	NSAID ADQs per 1,000 STAR-PUs	Maintain performance levels within the lower quartile, or show a reduction towards the quartile below
	Ibuprofen and naproxen items as a percentage of NSAID prescribing	Maintain performance levels within the upper quartile, or show an increase towards the quartile above
Yellow cards	Number of yellow cards submitted per practice and per health board	Target for GP practice – GPs to submit one yellow card per 2,000 practice population. Target for each health board – submit yellow cards in excess of one per 2,000 health board population
Secondary care indicator	**Unit of measure**	
Insulin prescribing	Items/number of long-acting insulin analogues expressed as a percentage of total insulin prescribed within primary and secondary care.	
Prescribing of biosimilars	Quantity of biosimilar medicines prescribed as a percentage of total ‘reference’ product plus biosimilar.	
Antibiotic surgical prophylaxis	Proportion of elective colorectal patients receiving surgical prophylaxis for more than 24 hours.	

ADQ = average daily quantity; DDD = defined daily dose; PU = prescribing unit; STAR-PU = specific therapeutic group age-sex related prescribing unit

APPENDIX 2. PRIMARY CARE NPI PRESCRIBING BY GP CLUSTER

Figure 1. PPI prescribing – Quarter ending June 2015 versus quarter ending June 2016

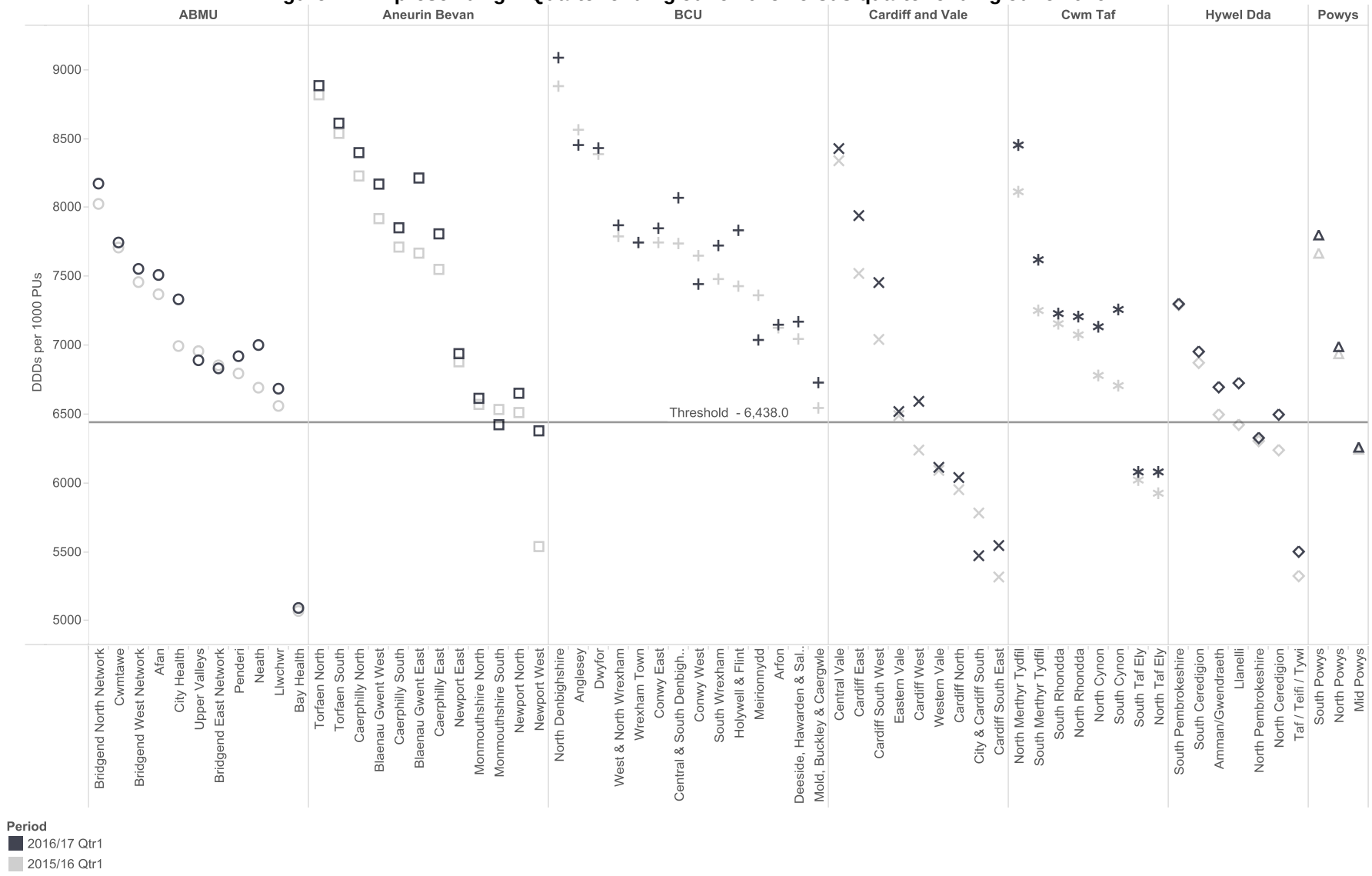


Figure 2. Bile acid sequestrants, fibrates, nicotinic acid and omega-3 fatty acid compounds as a percentage of the total number of lipid-regulating items – Quarter ending June 2015 versus quarter ending June 2016

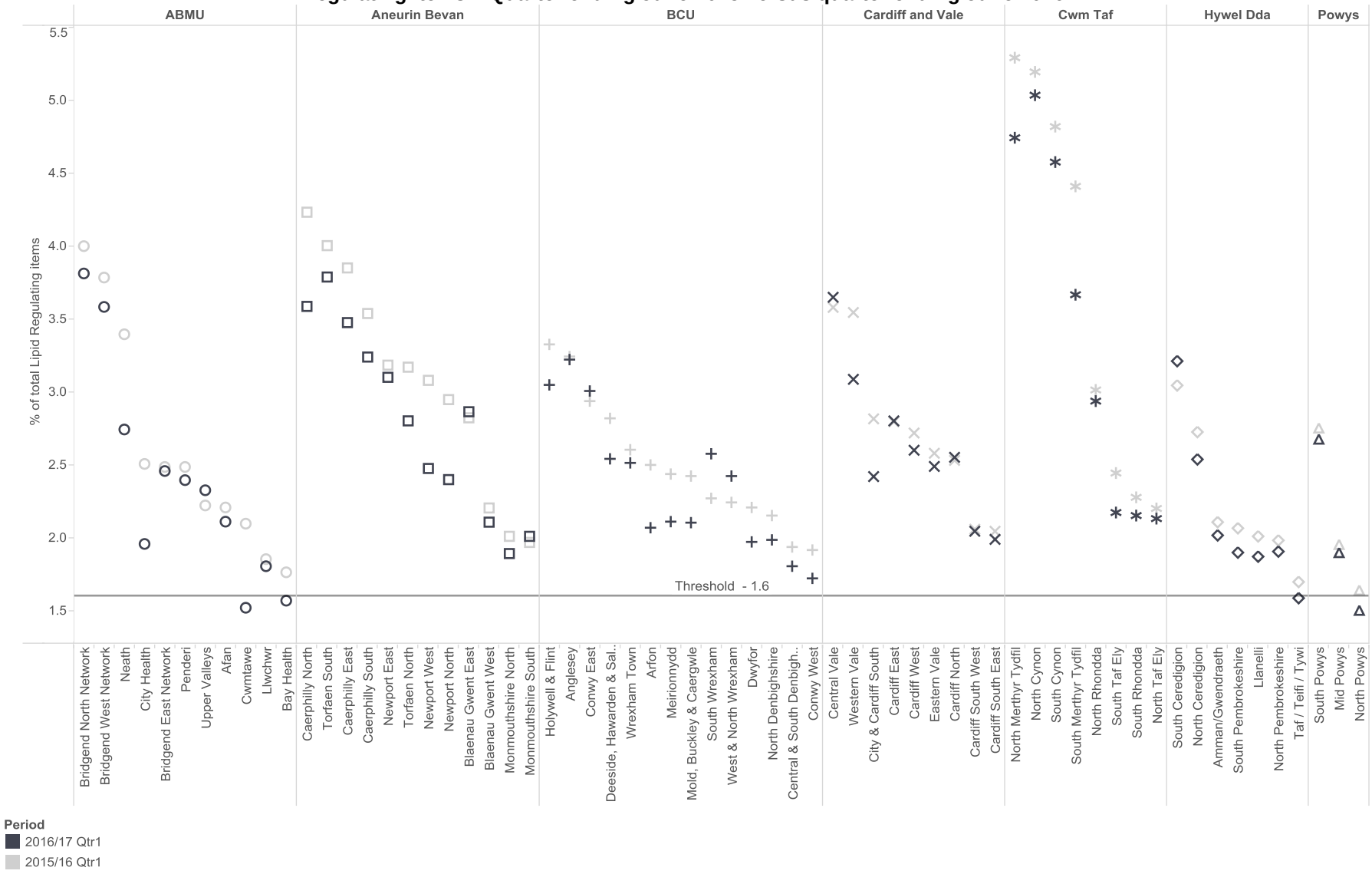


Figure 3. Low dose ICS prescribing as a percentage of all ICS prescribing – Quarter ending June 2015 versus quarter ending June 2016

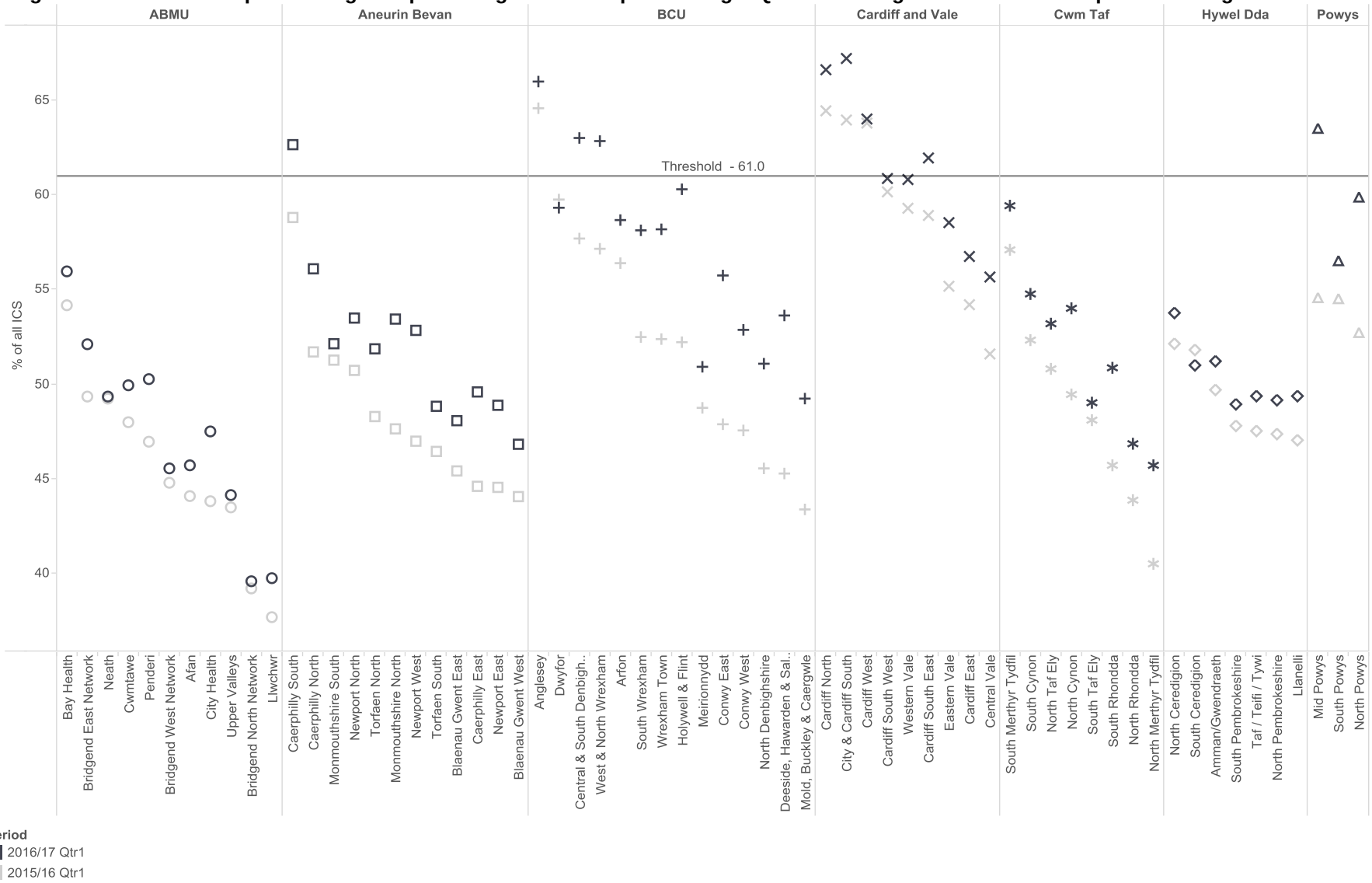


Figure 4. Hypnotic and anxiolytic prescribing – Quarter ending June 2015 versus quarter ending June 2016

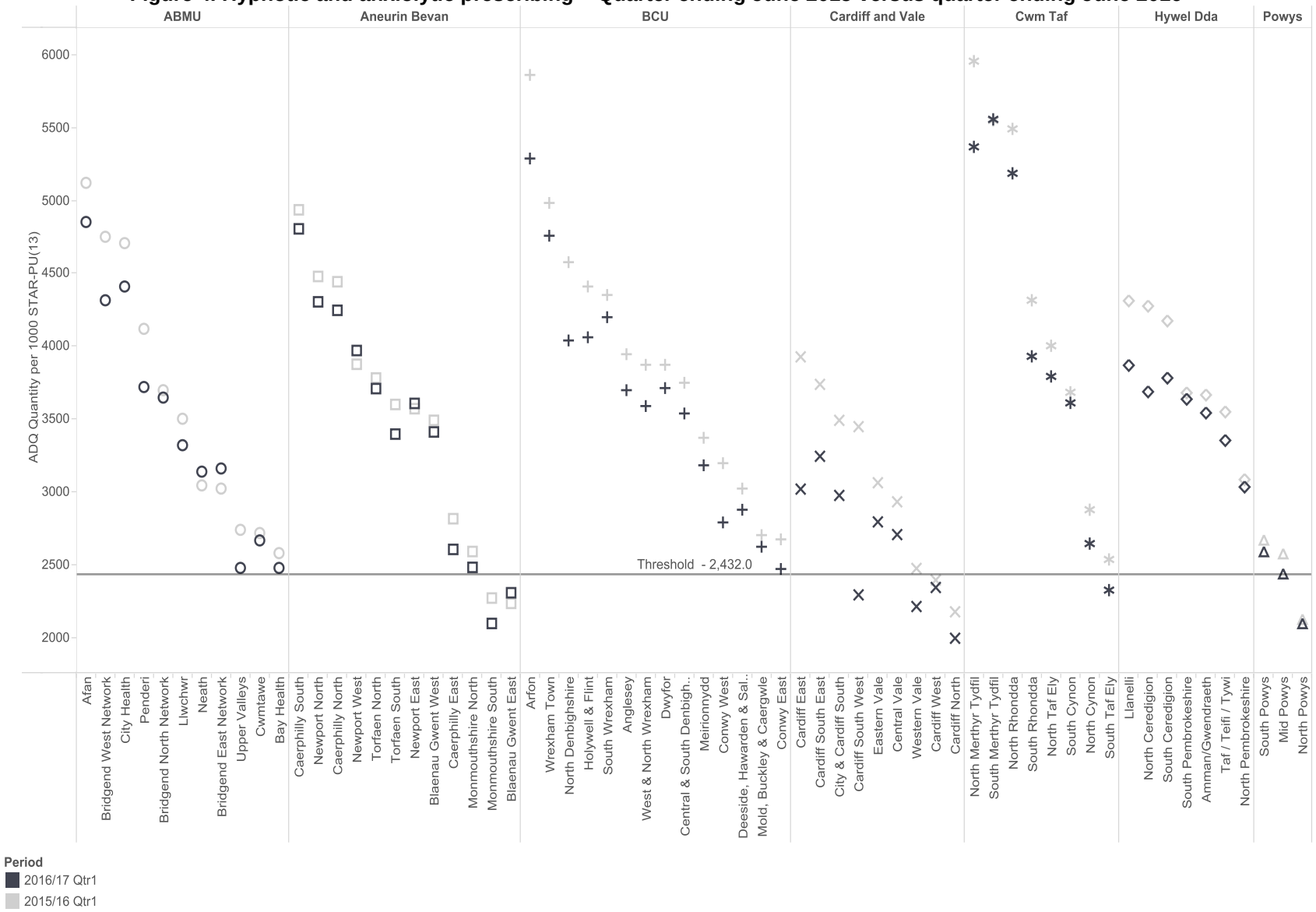


Figure 5. Tramadol prescribing – Quarter ending June 2015 versus quarter ending June 2016

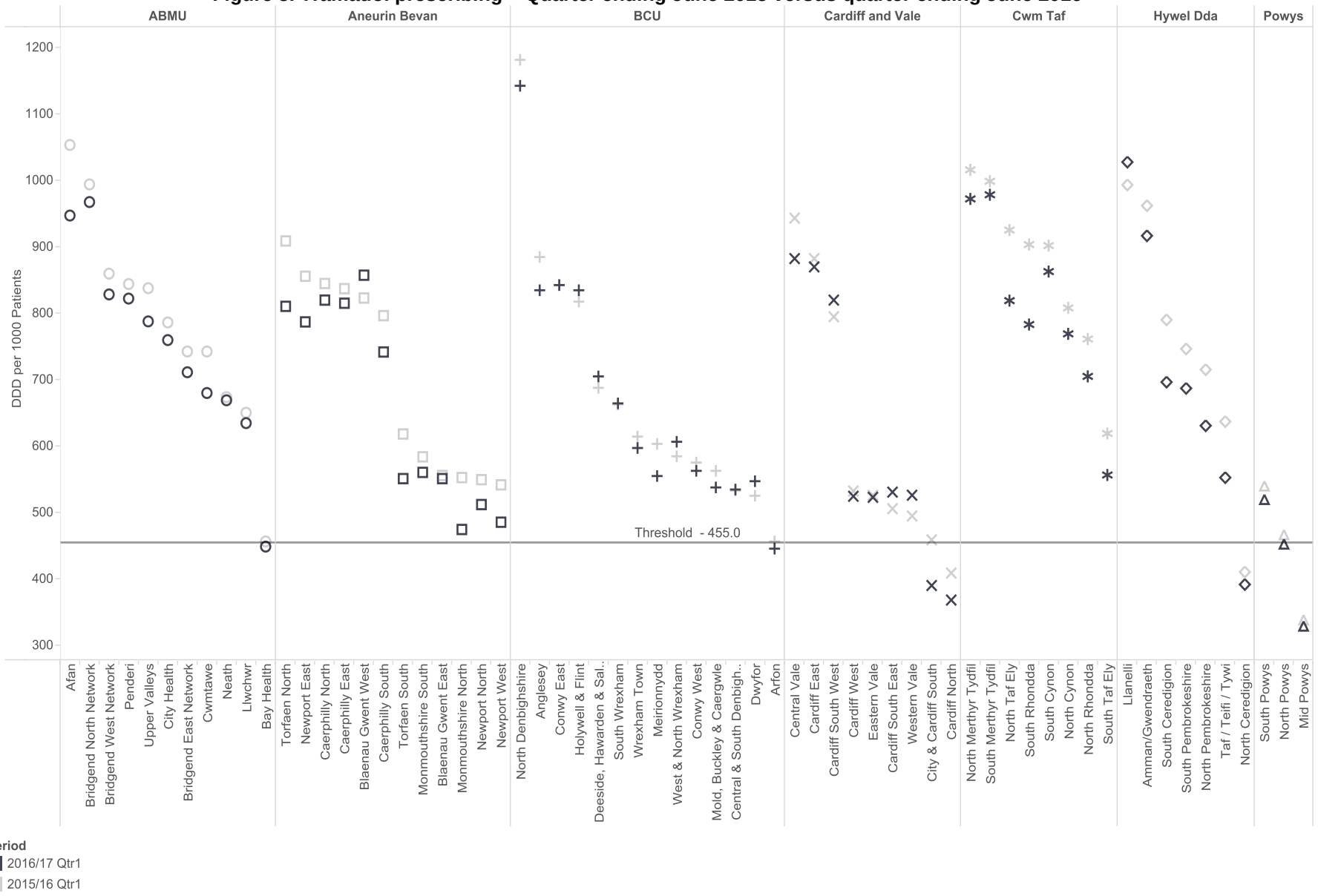


Figure 6. Gabapentin and pregabalin prescribing – Quarter ending June 2015 versus quarter ending June 2016

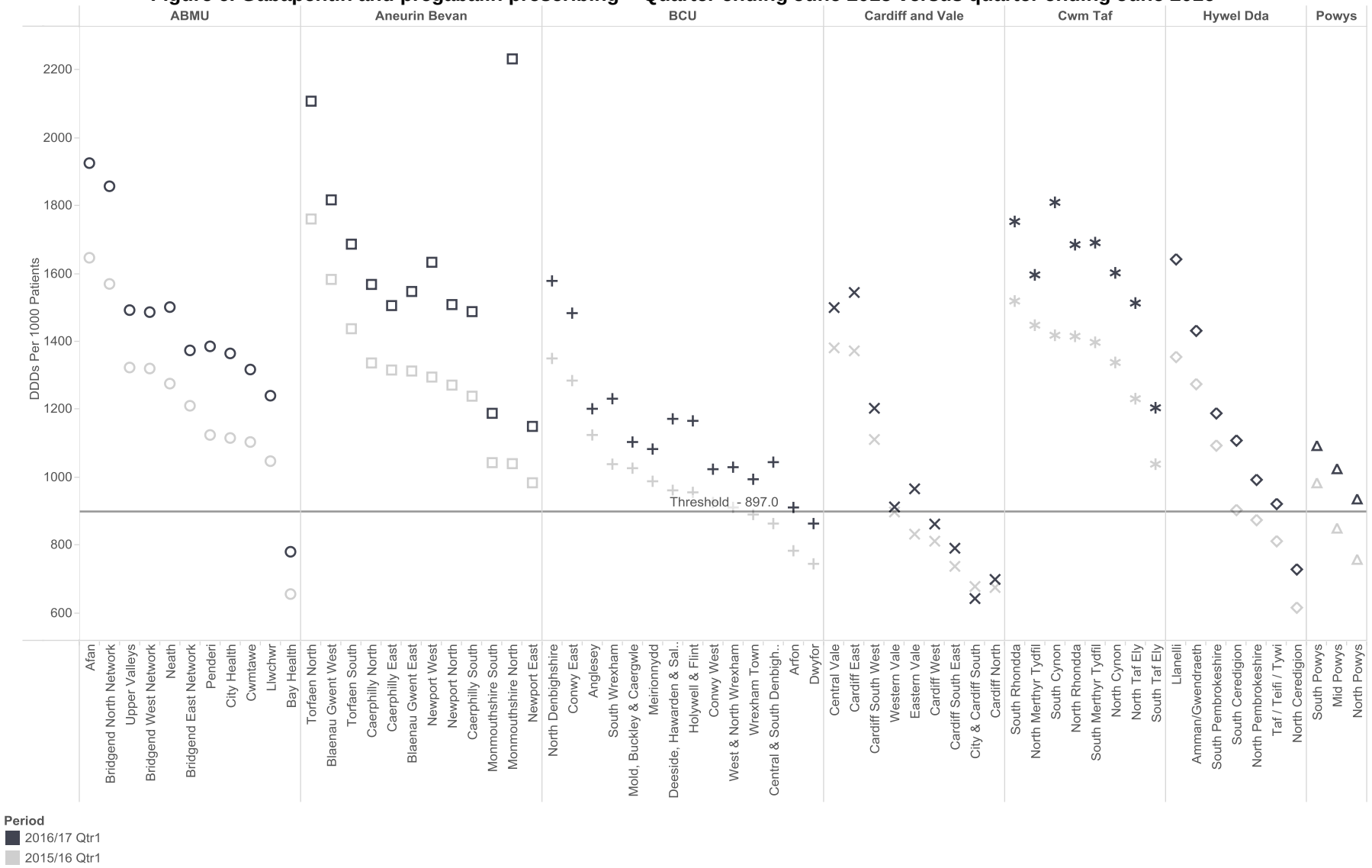


Figure 7. Antibiotic prescribing – Quarter ending June 2015 versus quarter ending June 2016

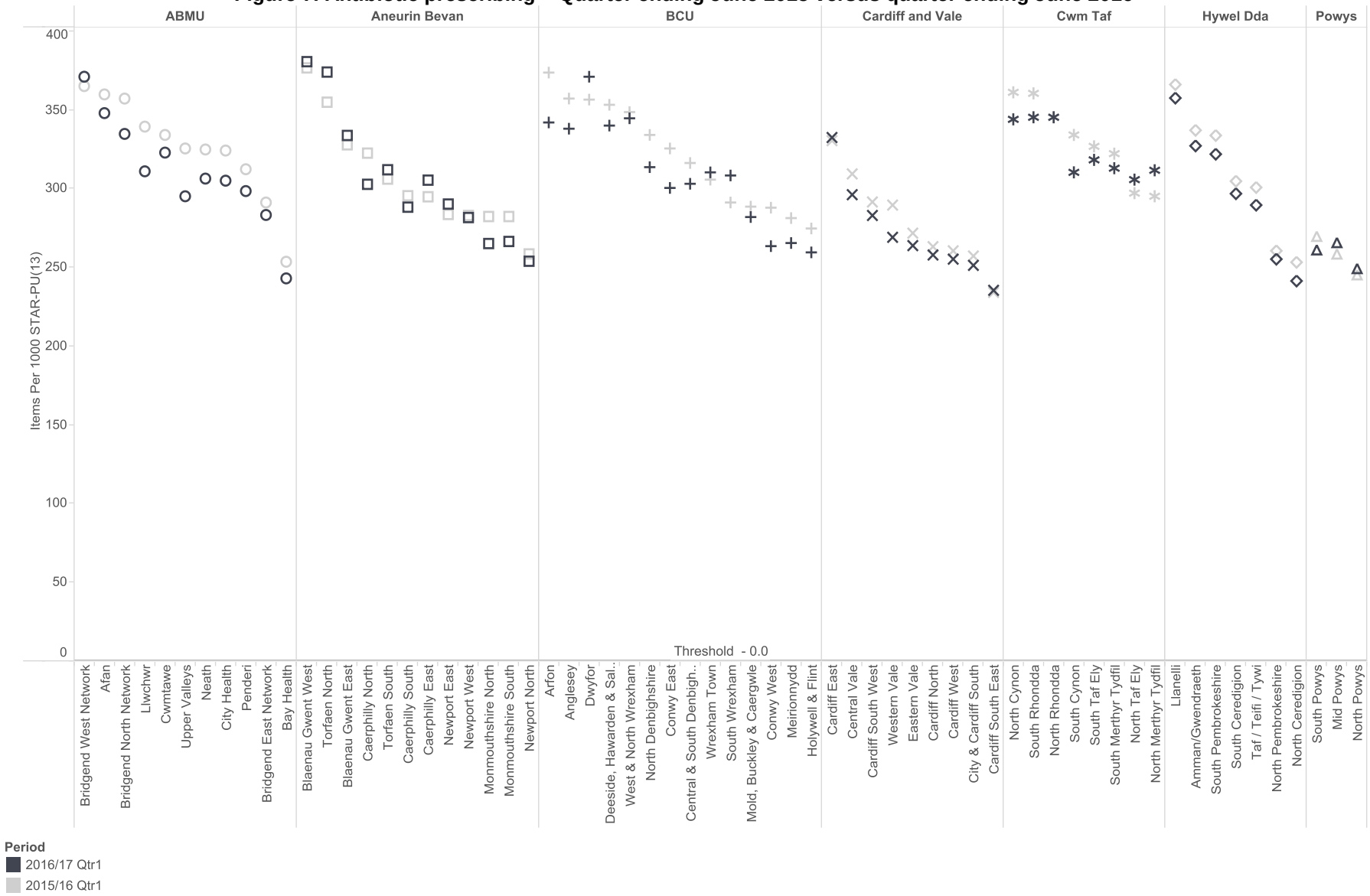


Figure 8. Co-amoxiclav prescribing – Quarter ending June 2015 versus quarter ending June 2016

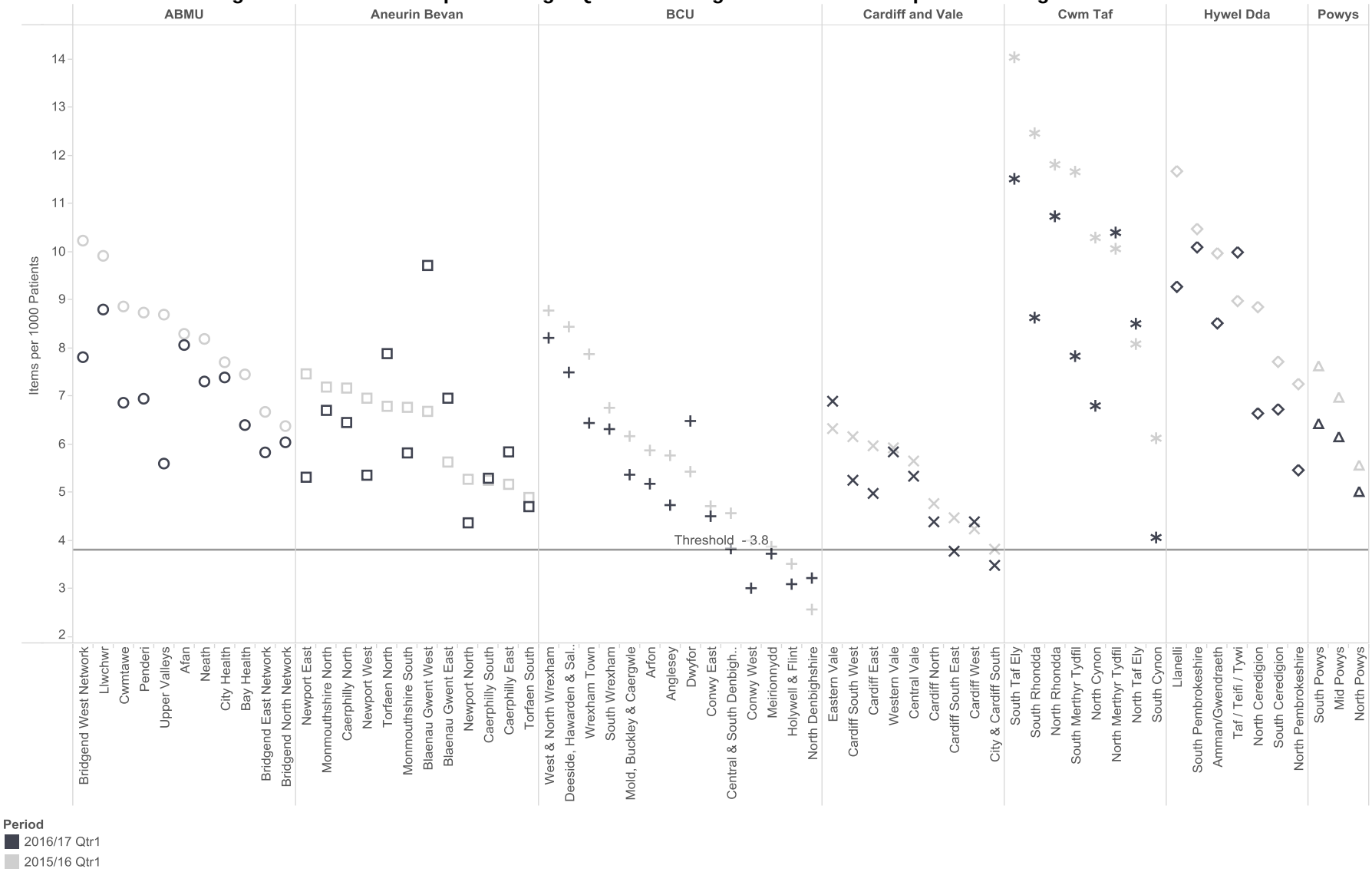


Figure 9. Co-amoxiclav as a percentage of total antibacterial items – Quarter ending June 2015 versus quarter ending June 2016

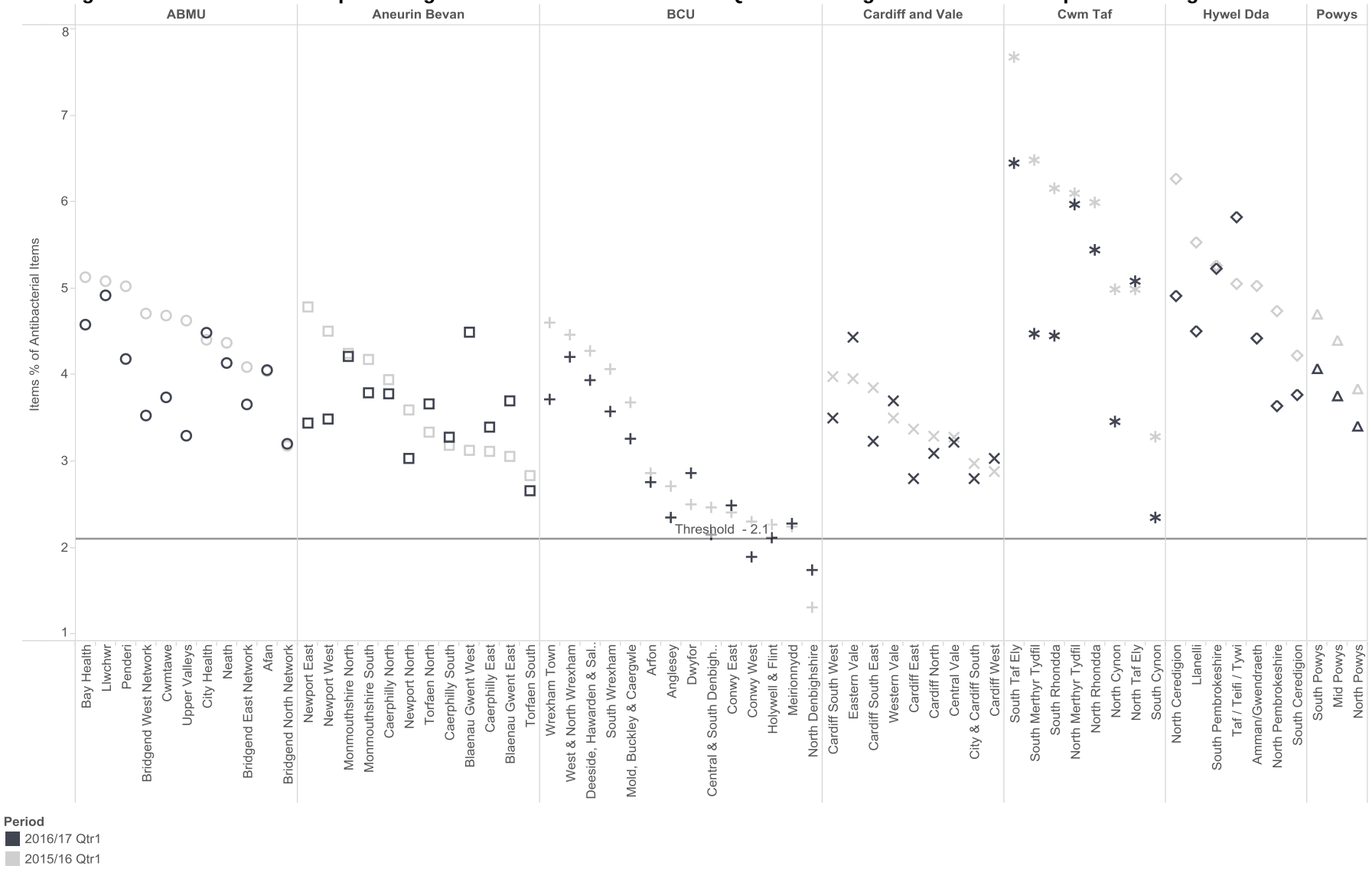


Figure 10. Cephalosporin prescribing – Quarter ending June 2015 versus quarter ending June 2016

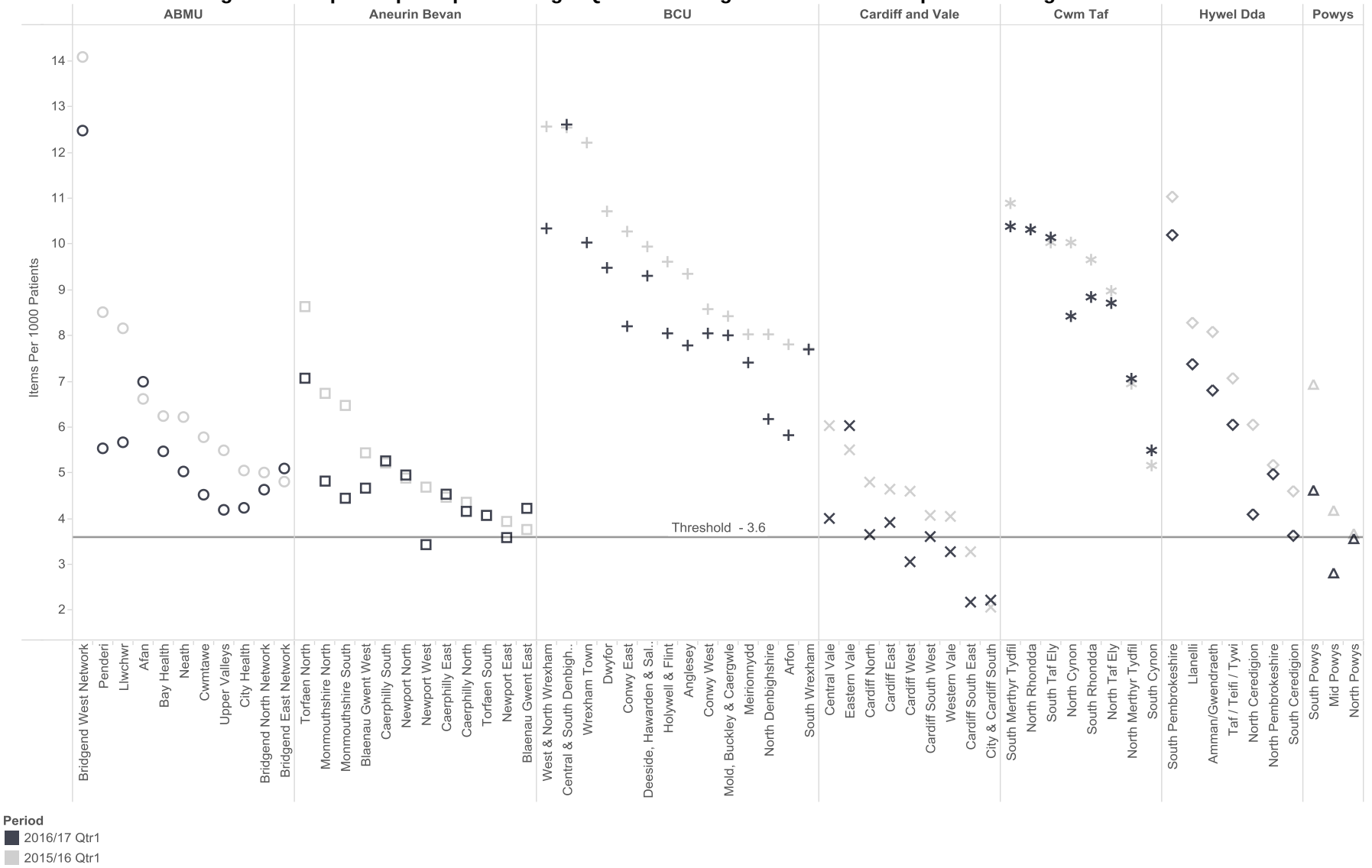


Figure 11. Cephalosporins as a percentage of total antibacterial items – Quarter ending June 2015 versus quarter ending June 2016

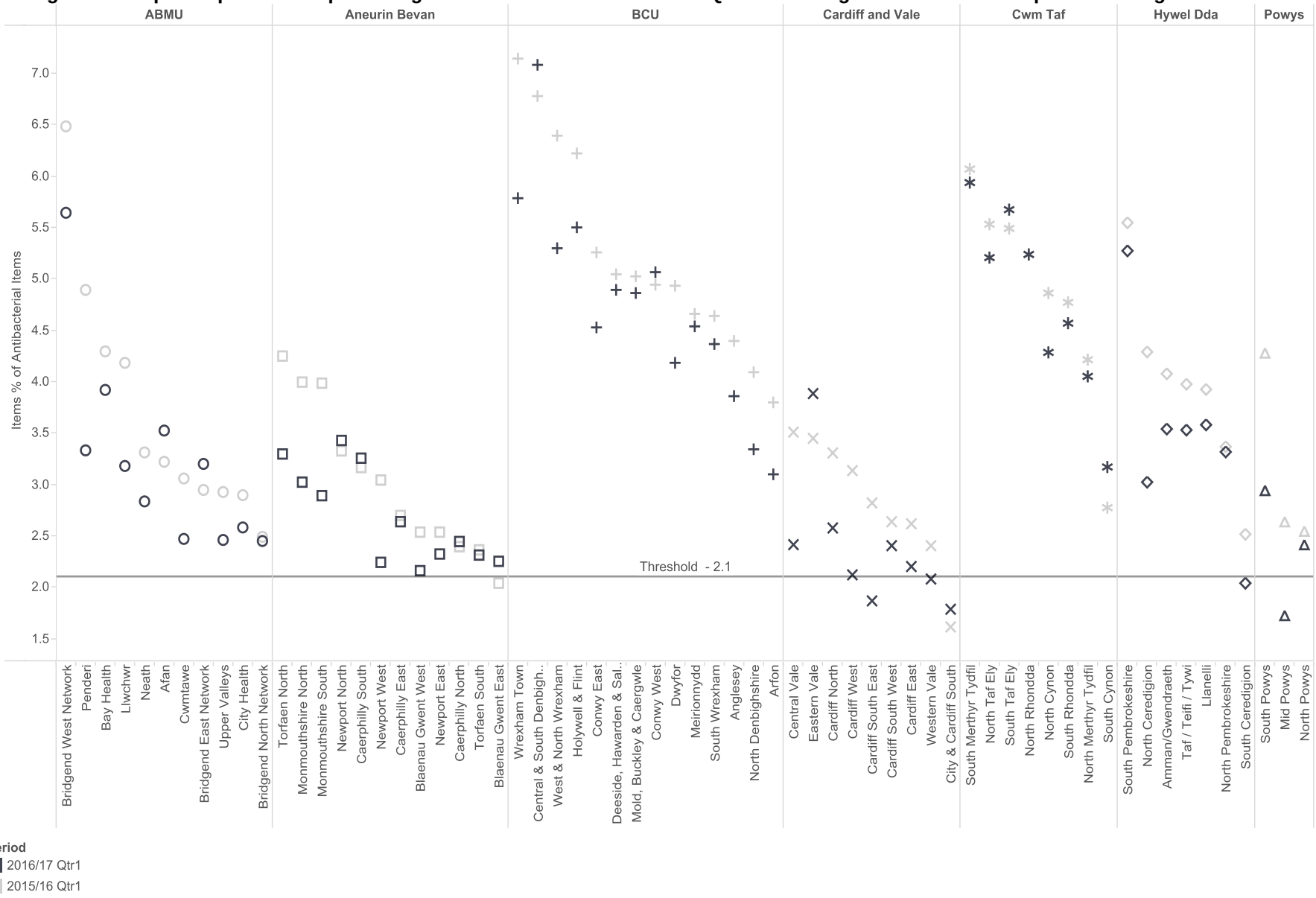


Figure 12. Fluoroquinolone prescribing – Quarter ending June 2015 versus quarter ending June 2016

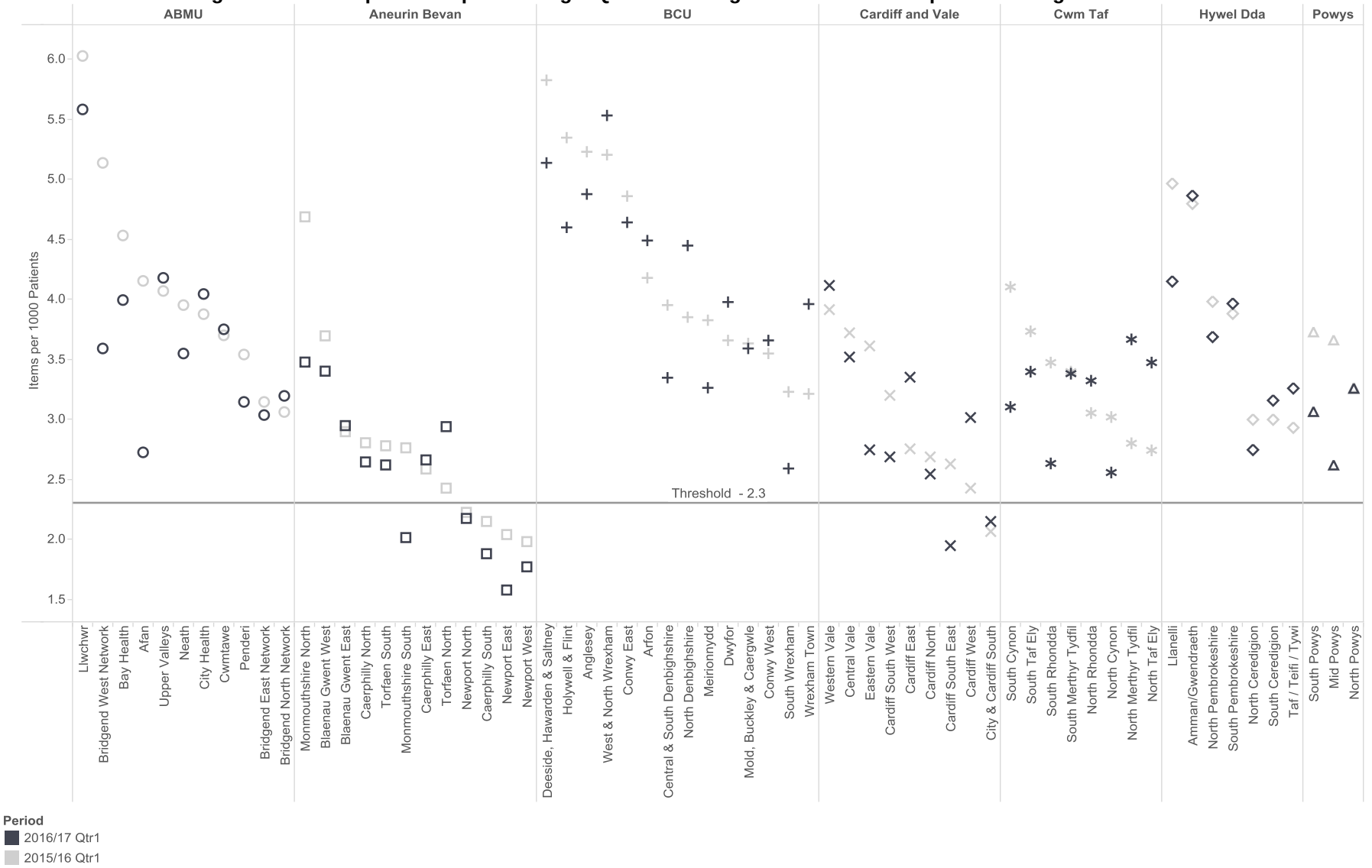


Figure 13. Fluoroquinolones as a percentage of total antibacterial items – Quarter ending June 2015 versus quarter ending June 2016

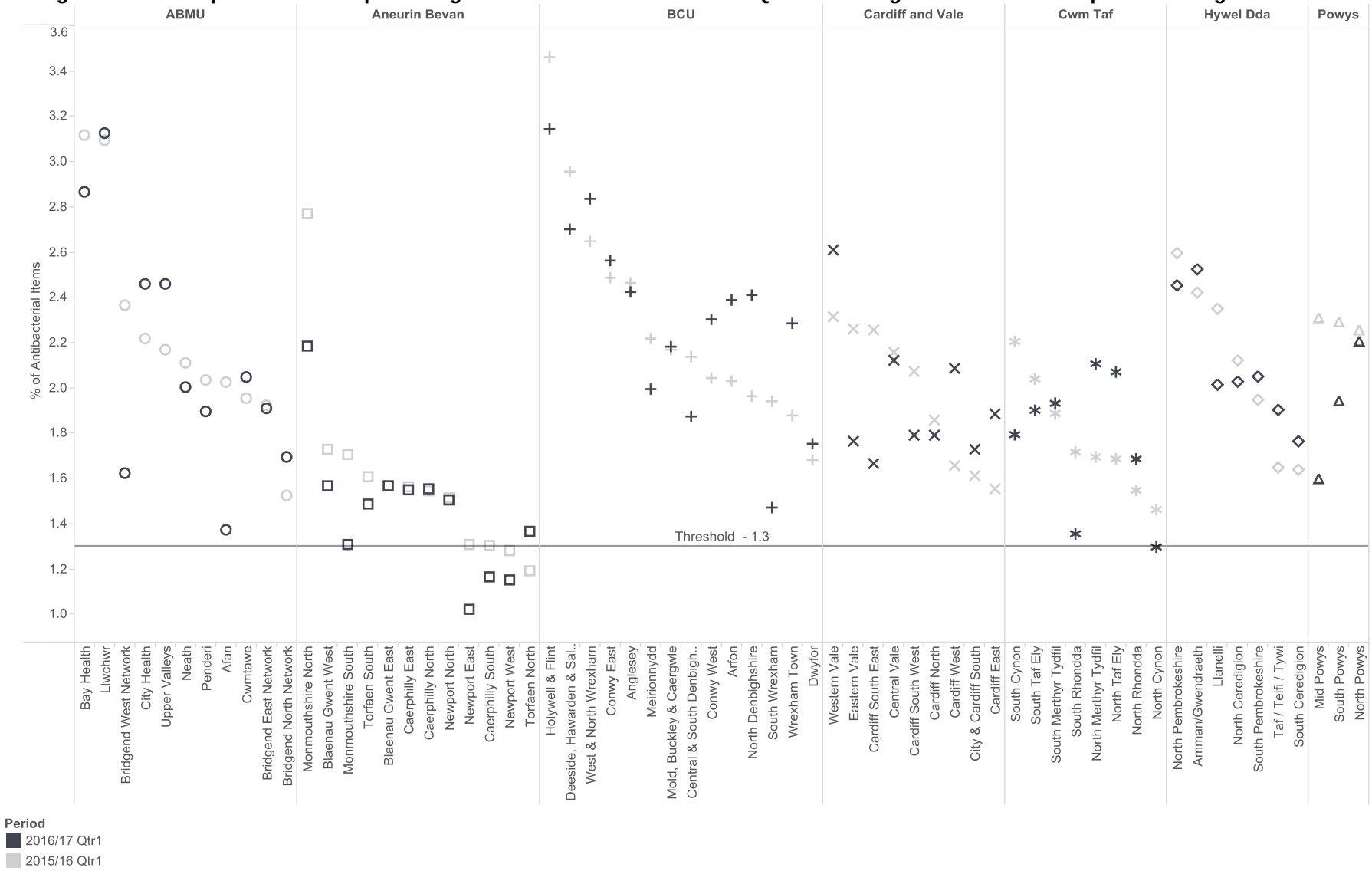


Figure 14. NSAID prescribing – Quarter ending June 2015 versus quarter ending June 2016

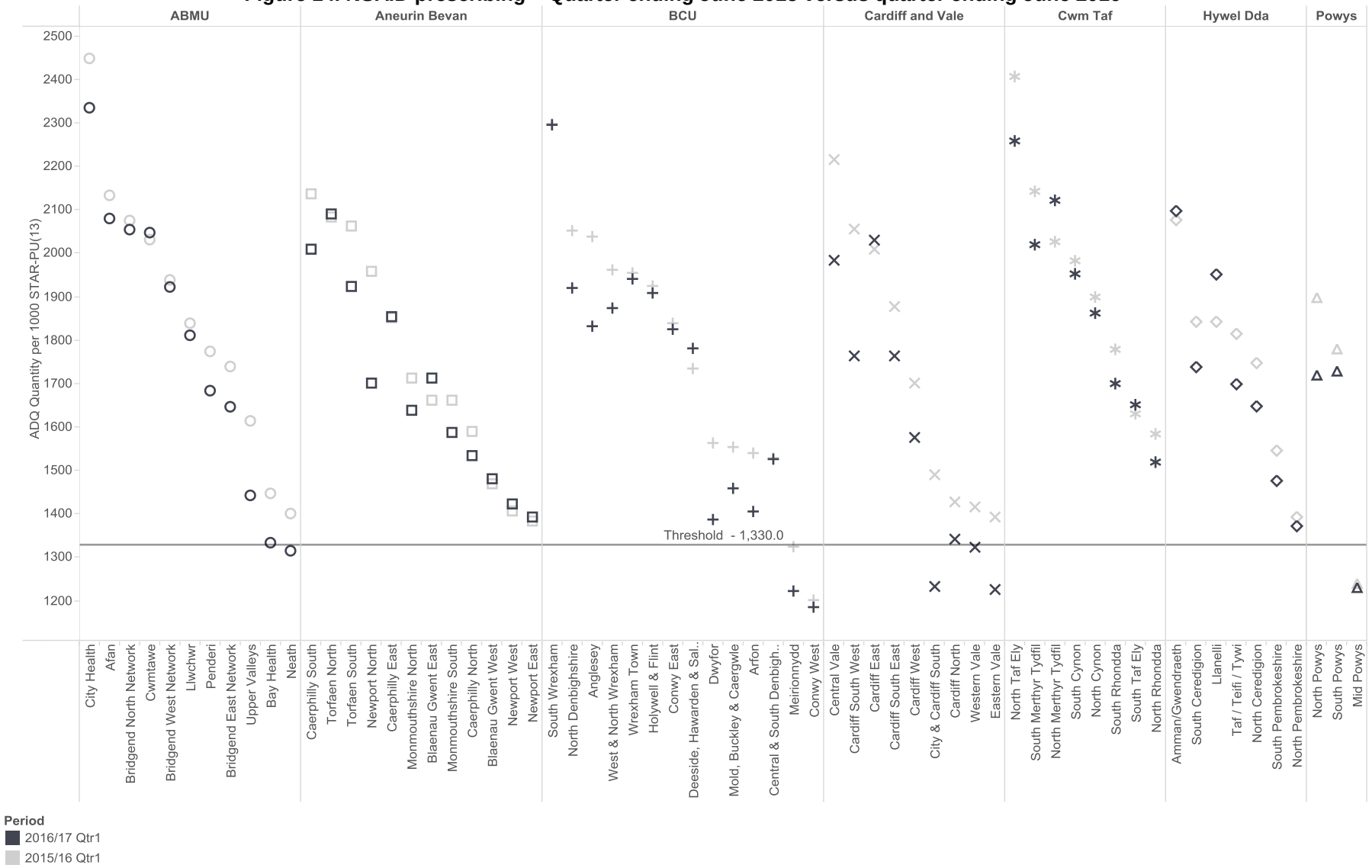


Figure 15. Ibuprofen and naproxen as a percentage of NSAID items – Quarter ending June 2015 versus quarter ending June 2016