



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

National Prescribing Indicators 2016–2017

Analysis of Prescribing Data to September 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 second quarter of 2016–2017.

Background information supporting the choice of NPIs is detailed in the documents [National Prescribing Indicators 2016–2017](#) and [Secondary Care National Prescribing Indicators 2016–2017](#) available from the AWMSG website.

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 September 2015). The two indicators which did not show an improvement were PPIs (0.51% increase) and gabapentin and pregabalin (13.8% increase).
- At a national level, the NPIs associated with the largest improvements in prescribing compared to the equivalent quarter of the previous year were co-amoxiclav (12.7% reduction), cephalosporins (10.9% reduction) and hypnotics and anxiolytics (7.21% reduction). In addition, Yellow Card reporting by GPs increased 44% compared to the equivalent quarter of the previous year.
- 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 8.31% 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 21.2% was seen in Abertawe Bro Morgannwg 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 decrease of 20.7% was seen in Powys Teaching HB.
- Prescribing of fluoroquinolones decreased in five out of the seven health boards compared to the equivalent quarter of the previous year (in line with the aim of the NPI). The largest decrease of 9.61% was seen in Abertawe Bro Morgannwg UHB.

* 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 quarter ending September 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 no change in the average percentage of patients receiving prophylaxis for > 24 hours between quarter ending September 2016 and the previous quarter ending June 2016.

The 2016–2017 NPI report for quarter ending December 2016 will be available on 21 April 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

Purpose: To encourage appropriate use of PPIs.

Unit of measure: PPI DDDs per 1,000 PUs.

Aim: To reduce prescribing

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, and hypomagnesaemia. Prescribers are therefore encouraged to review and reduce where possible.

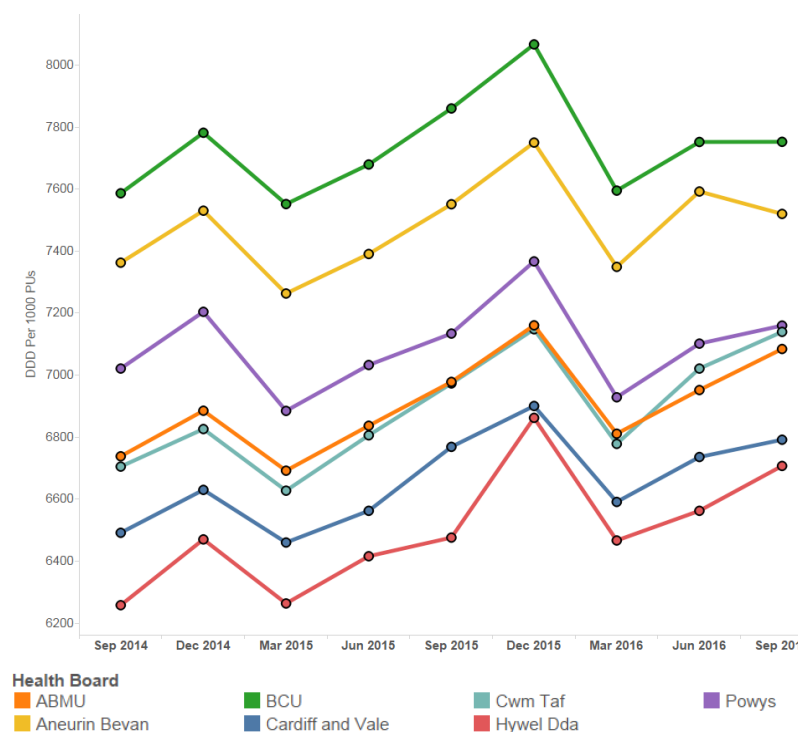
However, PPI use is continuing to increase across Wales with over 4 million prescriptions for PPIs dispensed in Wales in 2015–2016. In the quarter to September 2016, prescribing in Wales was 16% higher than that seen in England.

- For the quarter ending September 2016, PPI usage ranged from 6,707 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.
- Betsi Cadwaladr UHB and Aneurin Bevan UHB demonstrated reductions in prescribing, compared to the equivalent quarter of the previous year.
- Hywel Dda UHB experienced the largest increase compared to the equivalent quarter of the previous year.

Table 1. PPI DDDs per 1,000 PUs

	2015–2016 Qtr 2	2016–2017 Qtr 2	% Change
BCU	7,860	7,752	-1.37%
Aneurin Bevan	7,551	7,520	-0.41%
Cardiff and Vale	6,769	6,792	0.34%
Powys	7,134	7,160	0.36%
ABMU	6,978	7,084	1.52%
Cwm Taf	6,973	7,139	2.39%
Hywel Dda	6,476	6,707	3.57%
Wales	7,197	7,234	0.51%

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



2.0 LIPID-REGULATING DRUGS

Purpose: 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.

Unit of measure: Number of prescription items of bile acid sequestrants, fibrates, nicotinic acid and omega-3 fatty acid compounds as a percentage of the total number of lipid-regulating items.

Aim: To reduce prescribing

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

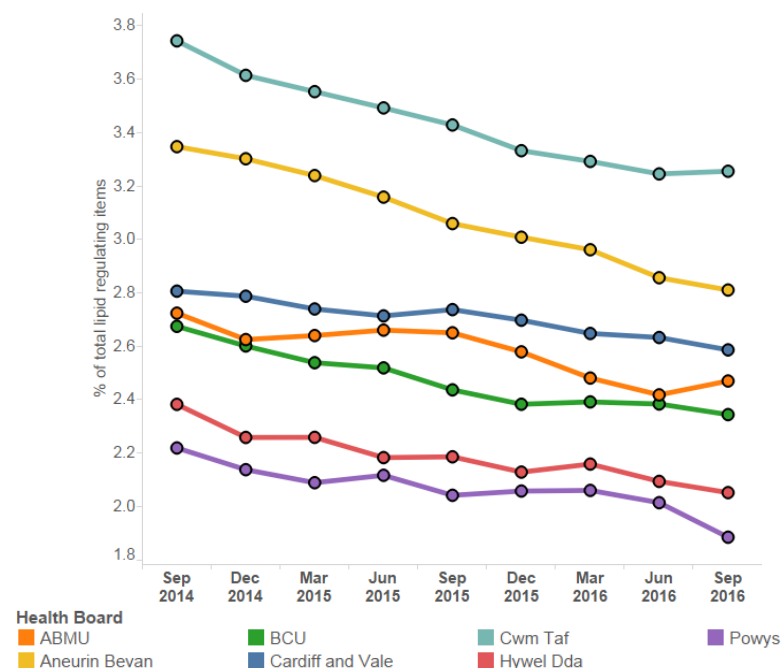
Prescribers are encouraged to follow NICE guidance which states that bile acid sequestrants, fibrates, nicotinic acid and omega-3 fatty acid compounds should not be routinely prescribed.

- For the quarter ending September 2016, the percentage of bile acid sequestrants, fibrates, nicotinic acid and omega-3 fatty acid compounds prescribed ranged from 1.88 to 3.26 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 Betsi Cadwaladr 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 2	2016–2017 Qtr 2	% Change
Aneurin Bevan	3.06	2.81	-8.14%
Powys	2.04	1.88	-7.69%
ABMU	2.65	2.47	-6.81%
Hywel Dda	2.19	2.05	-6.14%
Cardiff and Vale	2.74	2.59	-5.51%
Cwm Taf	3.43	3.26	-5.06%
BCU	2.44	2.34	-3.80%
Wales	2.71	2.54	-6.09%

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

Purpose: 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.

Unit of measure: Low strength ICS items as a percentage of all ICS prescribing.

Aim: To increase prescribing

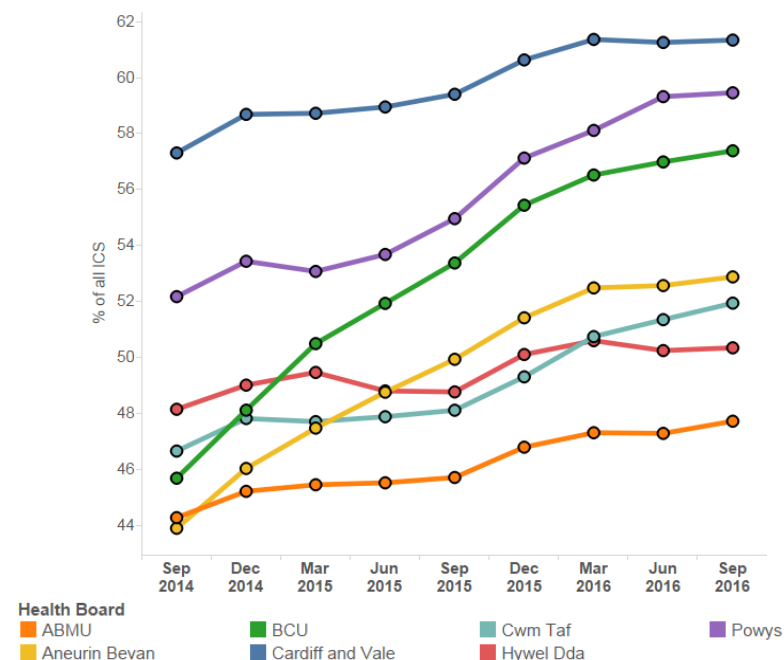
Potentially serious systemic side effects, such as adrenal suppression, growth failure, decrease in bone mineral density, cataracts and glaucoma, may be associated with ICS, particularly at high doses.

- For the quarter ending September 2016, the proportion of low-strength ICS prescribing ranged from 47.7% 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 2	2016–2017 Qtr 2	% Change
Powys	55.0	59.5	8.19%
Cwm Taf	48.1	51.9	7.96%
BCU	53.4	57.4	7.52%
Aneurin Bevan	49.9	52.9	5.90%
ABMU	45.7	47.7	4.40%
Cardiff and Vale	59.4	61.3	3.26%
Hywel Dda	48.8	50.3	3.23%
Wales	51.0	53.9	5.75%

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



4.0 HYPNOTICS AND ANXIOLYTICS

Purpose: To encourage a reduction in the inappropriate prescribing of hypnotics and anxiolytics.

Unit of measure: Hypnotic and anxiolytic ADQs per 1,000 STAR-PUs

Aim: To reduce prescribing

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.

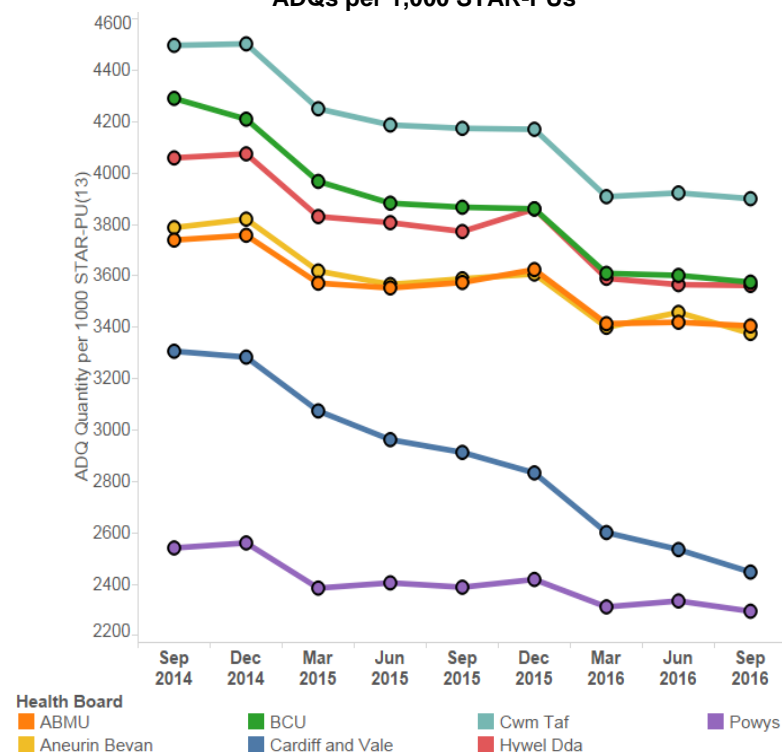
The prescribing of hypnotics and anxiolytics continues to decrease across Wales, in line with the aim of this indicator. However, for the quarter ending September 2016, prescribing in Wales remains 50% higher than that seen in England.

- For the quarter ending September 2016, hypnotic and anxiolytic prescribing ranged from 2,295 to 3,901 ADQs per 1,000 STAR-PUs 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 Vale UHB, and the smallest decrease was seen in Powys Teaching HB.

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

	2015–2016 Qtr 2	2016–2017 Qtr 2	% Change
Cardiff and Vale	2,913	2,447	-16.0%
BCU	3,868	3,576	-7.54%
Cwm Taf	4,175	3,901	-6.56%
Aneurin Bevan	3,589	3,376	-5.93%
Hywel Dda	3,773	3,563	-5.56%
ABMU	3,575	3,405	-4.73%
Powys	2,388	2,295	-3.92%
Wales	3,577	3,319	-7.21%

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



5.0 ANALGESICS

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

1. Tramadol
2. Gabapentin and pregabalin

5.1 Tramadol

Purpose: To encourage the appropriate use and review of tramadol, minimising the potential for diversion and misuse.

Unit of measure: Tramadol DDDs per 1,000 patients.

Aim: To reduce prescribing

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 patient safety concerns with regard to drug interactions.

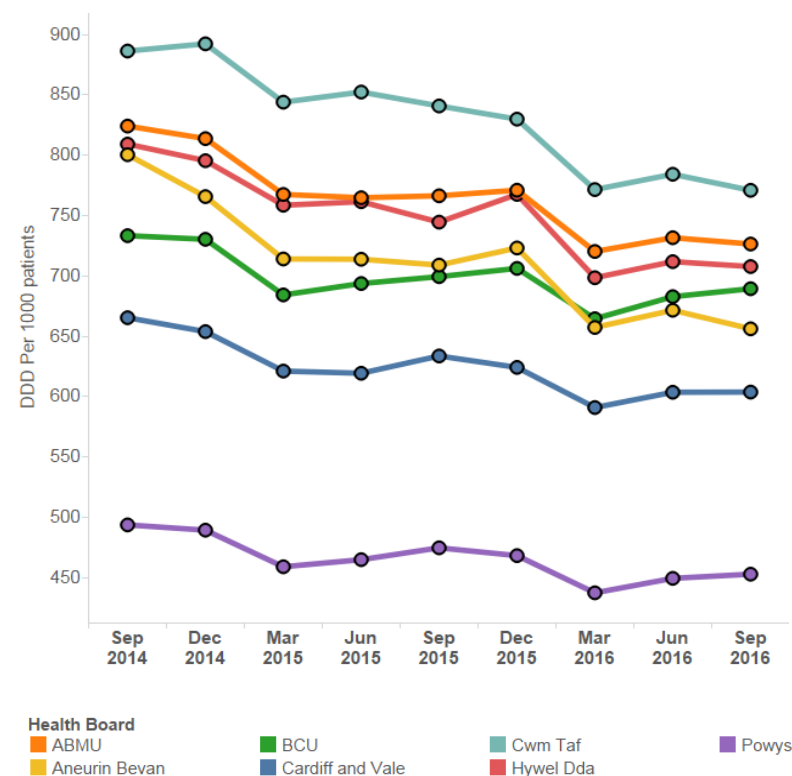
From September 2015 to September 2016, prescribing of tramadol decreased across Wales, in line with the aim of this indicator.

- For the quarter ending September 2016, tramadol prescribing ranged from 453 to 771 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 2	2016–2017 Qtr 2	% Change
Cwm Taf	841	771	-8.31%
Aneurin Bevan	709	656	-7.45%
ABMU	766	726	-5.22%
Hywel Dda	744	708	-4.95%
Cardiff and Vale	634	604	-4.72%
Powys	475	453	-4.60%
BCU	699	689	-1.43%
Wales	711	675	-5.05%

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



5.2 Gabapentin and pregabalin

Purpose: To encourage the appropriate use and review of gabapentin and pregabalin, minimising the potential for diversion and misuse.

Unit of measure: Gabapentin and pregabalin DDDs per 1,000 patients.

Aim: To reduce prescribing

Gabapentin and pregabalin have a well defined role in the management of a number of conditions including epilepsy and neuropathic pain, and pregabalin also has a role in treatment of 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 on whether to prescribe, taking into account the risks and benefits of these medicines.

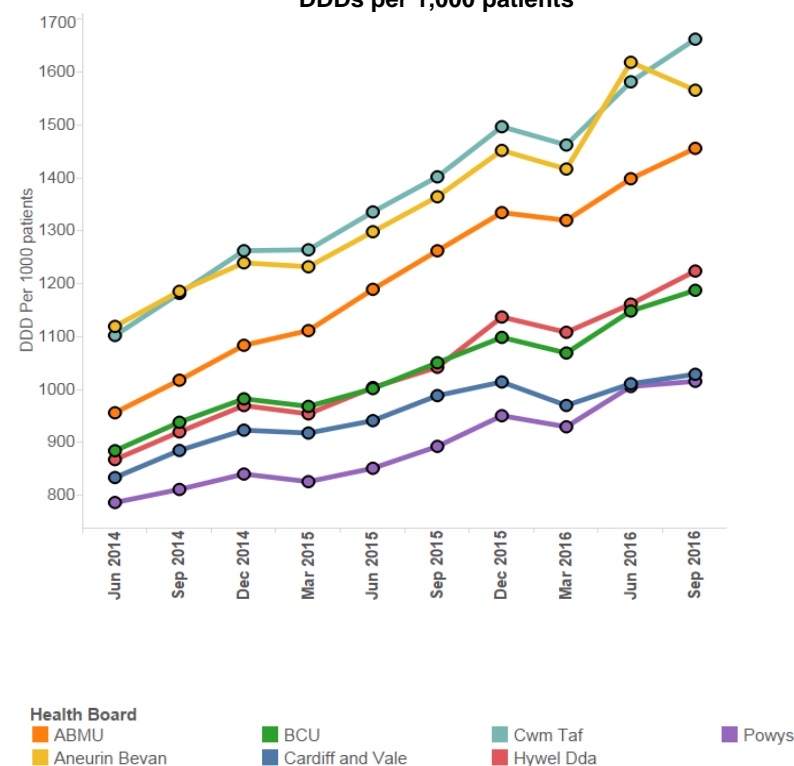
From September 2015 to September 2016, prescribing of gabapentin and pregabalin increased across Wales.

- For the quarter ending September 2016, gabapentin and pregabalin prescribing ranged from 1,015 to 1,662 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.
- 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 Cwm Taf 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 2	2016–2017 Qtr 2	% Change
Cardiff and Vale	988	1,029	4.08%
BCU	1,051	1,187	13.0%
Powys	892	1,015	13.8%
Aneurin Bevan	1,364	1,566	14.8%
ABMU	1,262	1,456	15.3%
Hywel Dda	1,042	1,224	17.5%
Cwm Taf	1,402	1,662	18.6%
Wales	1,161	1,321	13.8%

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



6.0 ANTIBIOTICS

Purpose: To encourage the appropriate prescribing of 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 primary care antibiotic NPIs for 2016–2017:

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

6.1 Total antibacterial items

Unit of measure: Total antibacterial items per 1,000 STAR-PUs.

Aim: To reduce prescribing

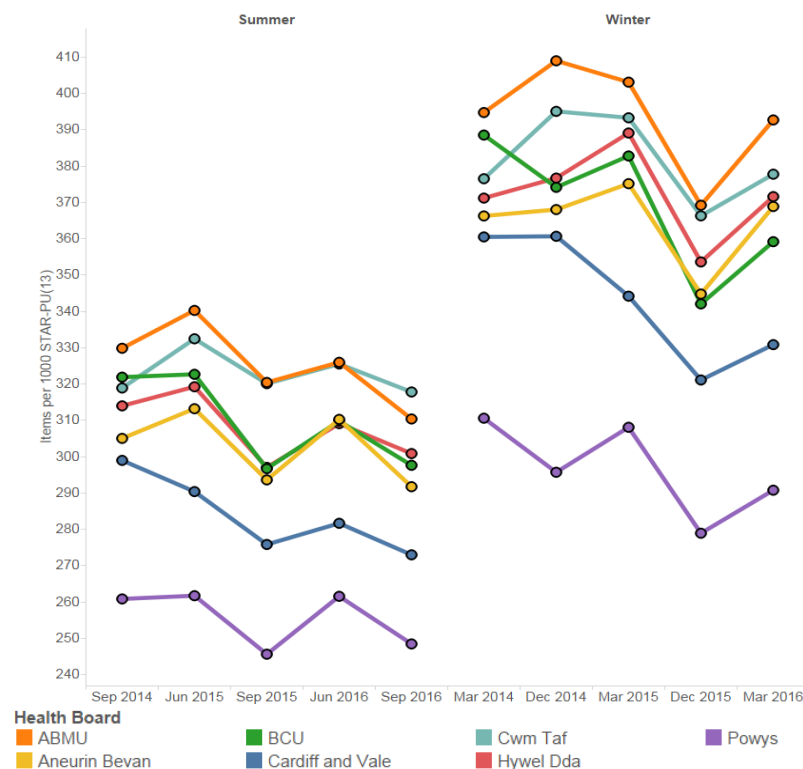
No target is set for this indicator due to seasonal variations in prescribing, although a reduction in prescribing year on year is encouraged, with measurement based on data for quarter ending December.

- For the quarter ending September 2016, the total number of antibacterial items per 1,000 STAR-PUs ranged from 248 to 318 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.
- Abertawe Bro Morgannwg UHB demonstrated the greatest reduction in prescribing compared to the equivalent quarter of the previous year.
- Hywel Dda UHB demonstrated the largest increase in prescribing, compared to the equivalent quarter of the previous year.

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

	2015–2016 Qtr 2	2016–2017 Qtr 2	% Change
ABMU	320	310	-3.14%
Cardiff and Vale	276	273	-1.03%
Cwm Taf	320	318	-0.71%
Aneurin Bevan	294	292	-0.64%
BCU	297	298	0.31%
Powys	246	248	1.15%
Hywel Dda	297	301	1.28%
Wales	297	295	-0.65%

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



6.2 Co-amoxiclav, cephalosporins and fluoroquinolones

Unit of measure: 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

Aim: To reduce prescribing

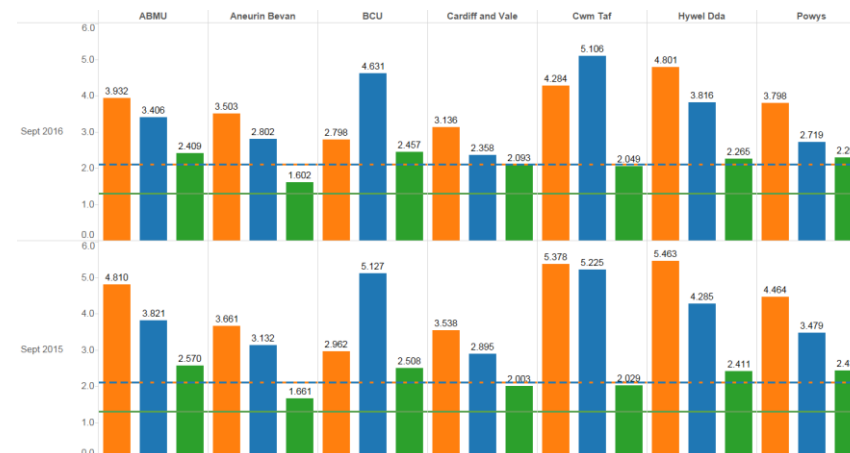
Prescribing of co-amoxiclav, cephalosporins and fluoroquinolones are monitored, as these antibacterials are associated with an increased risk of *Clostridium difficile* infection.

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

From September 2015 to September 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 (20.3%), and the smallest decrease was seen in Aneurin Bevan UHB (4.31%).
- The proportion of cephalosporin prescribing decreased, compared to the equivalent quarter of the previous year, in all seven health boards. The largest decrease was seen in Powys Teaching HB (21.9%), and the smallest decrease was seen in Cwm Taf UHB (2.27%).
- The proportion of fluoroquinolone prescribing decreased, compared to the equivalent quarter of the previous year, in five out of the seven health boards. The largest decrease was seen in Abertawe Bro Morgannwg UHB (6.28%). There was an increase in Cardiff and Vale (4.51%) and Cwm Taf (1.00%).

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



Indicator

- Co-amoxiclav items % of antibacterial items
- Cephalosporin items % of antibacterial items
- Fluoroquinolone items % of antibacterial items

6.2.2 Co-amoxiclav items per 1,000 patients

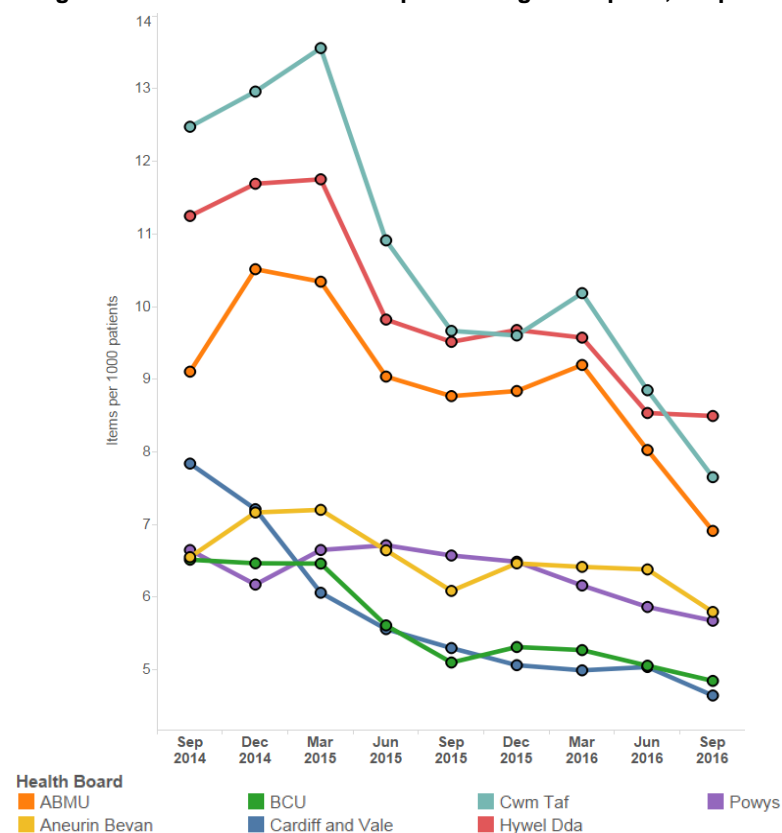
From September 2015 to September 2016 prescribing of co-amoxiclav items per 1,000 patients decreased across Wales by approximately 13%, in line with the aim of this indicator.

- For the quarter ending September 2016, co-amoxiclav prescribing ranged from 4.65 to 8.49 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 Hywel Dda 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 Abertawe Bro Morgannwg UHB, and the smallest decrease was seen in Aneurin Bevan UHB.

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

	2015–2016 Qtr 2	2016–2017 Qtr 2	% Change
ABMU	8.77	6.91	-21.2%
Cwm Taf	9.67	7.65	-20.8%
Powys	6.57	5.68	-13.7%
Cardiff and Vale	5.30	4.65	-12.3%
Hywel Dda	9.52	8.49	-10.7%
BCU	5.10	4.85	-4.96%
Aneurin Bevan	6.09	5.80	-4.76%
Wales	6.98	6.10	-12.7%

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



6.2.3 Cephalosporin items per 1,000 patients

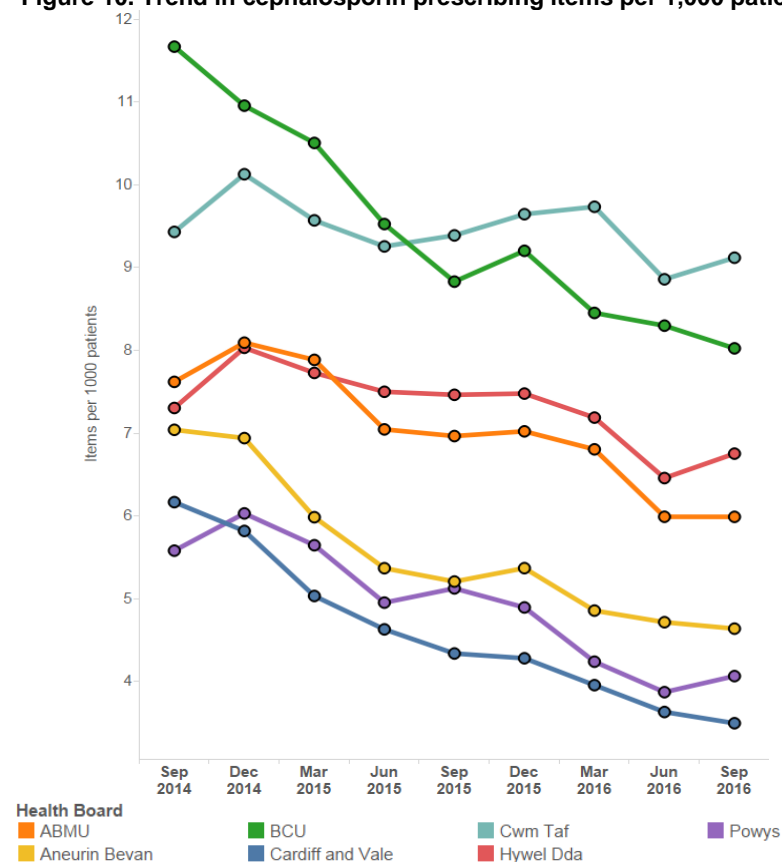
From September 2015 to September 2016 prescribing of cephalosporin items per 1,000 patients decreased across Wales by approximately 11%, in line with the aim of this indicator.

- For the quarter ending September 2016, cephalosporin prescribing ranged from 3.49 to 9.12 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 decrease was seen in Powys Teaching HB, and the smallest decrease was seen in Cwm Taf UHB.

Table 9. Cephalosporins items per 1,000 patients

	2015–2016 Qtr 2	2016–2017 Qtr 2	% Change
Powys	5.12	4.06	-20.7%
Cardiff and Vale	4.34	3.49	-19.4%
ABMU	6.96	5.99	-14.0%
Aneurin Bevan	5.21	4.64	-10.9%
Hywel Dda	7.46	6.75	-9.53%
BCU	8.83	8.02	-9.13%
Cwm Taf	9.39	9.12	-2.87%
Wales	6.84	6.09	-10.9%

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



6.2.4 Fluoroquinolone items per 1,000 patients

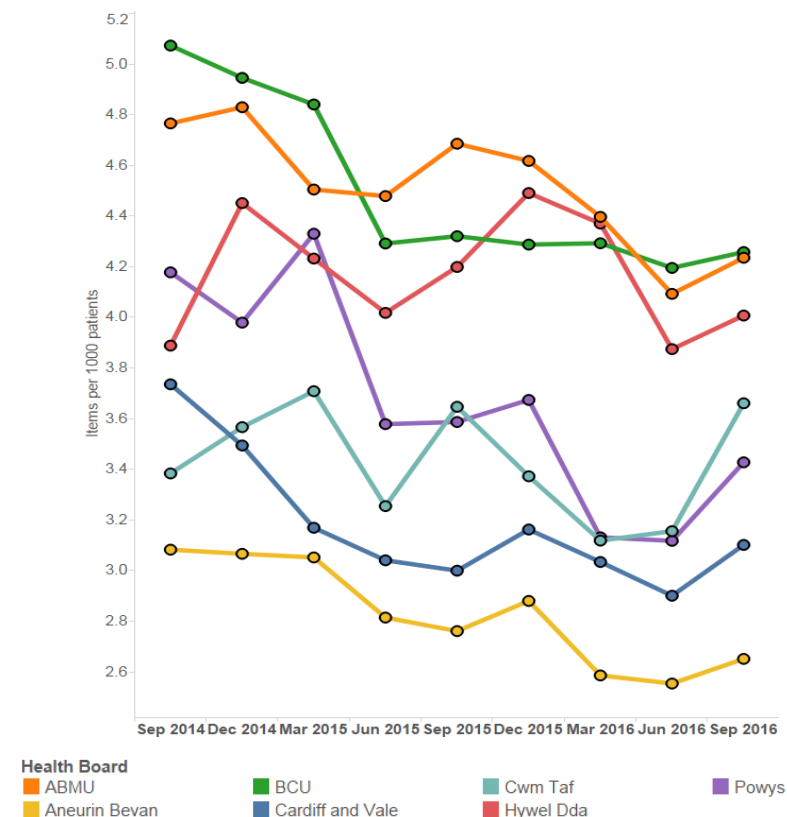
From September 2015 to September 2016, the prescribing of fluoroquinolone items decreased across Wales by approximately 3%, in line with the aim of this indicator.

- For the quarter ending September 2016, fluoroquinolone prescribing ranged from 2.65 to 4.26 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.
- Abertawe Bro Morgannwg UHB demonstrated the greatest reduction in prescribing compared to the equivalent quarter of the previous year.
- Cardiff and Vale UHB demonstrated the largest increase in prescribing compared to the equivalent quarter of the previous year.

Table 10. Fluoroquinolone items per 1,000 patients

	2015–2016 Qtr 2	2016–2017 Qtr 2	% Change
ABMU	4.69	4.23	-9.61%
Hywel Dda	4.20	4.01	-4.57%
Powys	3.59	3.43	-4.44%
Aneurin Bevan	2.76	2.65	-3.97%
BCU	4.32	4.26	-1.45%
Cwm Taf	3.65	3.66	0.38%
Cardiff and Vale	3.00	3.10	3.39%
Wales	3.77	3.64	-3.31%

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



7.0 NON-STEROIDAL ANTI-INFLAMMATORY DRUGS

Purpose: Ensure that the risks associated with non-steroidal anti-inflammatory drug (NSAIDs) are minimised by appropriate choice and use.

There are two NSAID NPIs for 2016–2017.

1. All NSAIDs
2. Ibuprofen and naproxen

7.1 All NSAIDs

Unit of measure: NSAID ADQs per 1,000 STAR-PU.

Aim: To reduce prescribing

This indicator aims to encourage a reduction in total NSAID prescribing, which has been consistently higher than that seen in England. NSAIDs are associated with increased risk of serious gastro-intestinal toxicity, cardiovascular adverse events and renal failure and are contraindicated in many other disease areas.

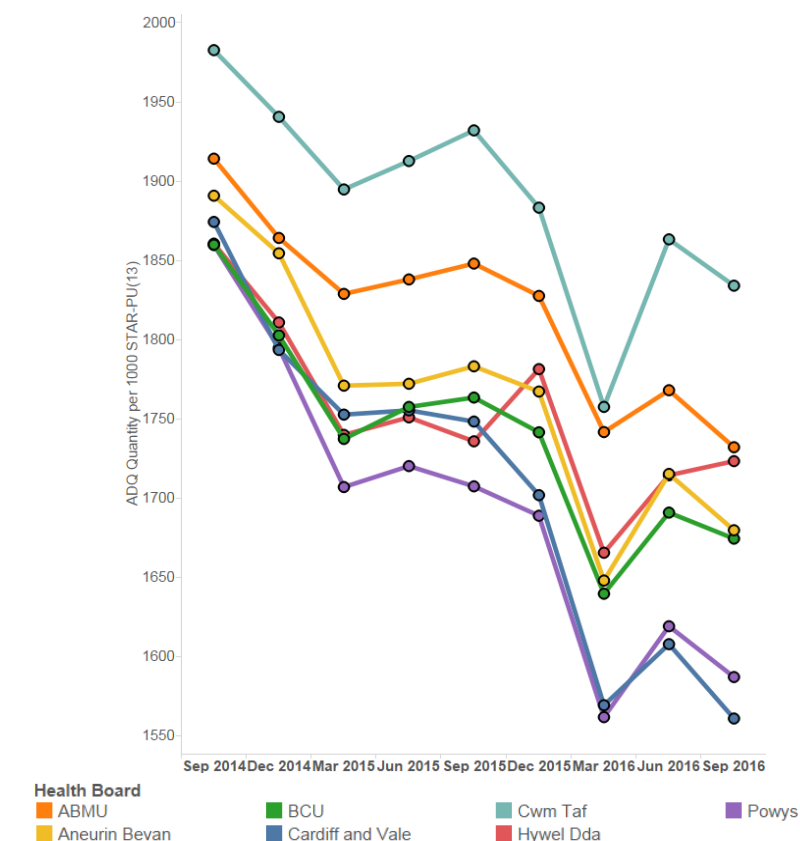
Since the introduction of this indicator, total NSAID prescribing has fallen across Wales, in line with the aim of the indicator.

- For the quarter ending September 2016, total NSAID prescribing ranged from 1,561 to 1,834 ADQs per 1,000 STAR-PU 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.
- 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 Vale UHB, and the smallest decrease was seen in Hywel Dda UHB.

Table 11. NSAID ADQs per 1,000 STAR-PU

	2015–2016 Qtr 2	2016–2017 Qtr 2	% Change
Cardiff and Vale	1,748	1,561	-10.7%
Powys	1,707	1,587	-7.05%
ABMU	1,848	1,732	-6.27%
Aneurin Bevan	1,783	1,680	-5.80%
Cwm Taf	1,932	1,834	-5.07%
BCU	1,763	1,674	-5.05%
Hywel Dda	1,736	1,723	-0.72%
Wales	1,789	1,686	-5.75%

Figure 12. Trend in NSAID prescribing ADQs per 1,000 STAR-PU



7.2 Ibuprofen and naproxen

Unit of measure: Ibuprofen and naproxen items as a percentage of NSAID prescribing.

Aim: To increase 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.

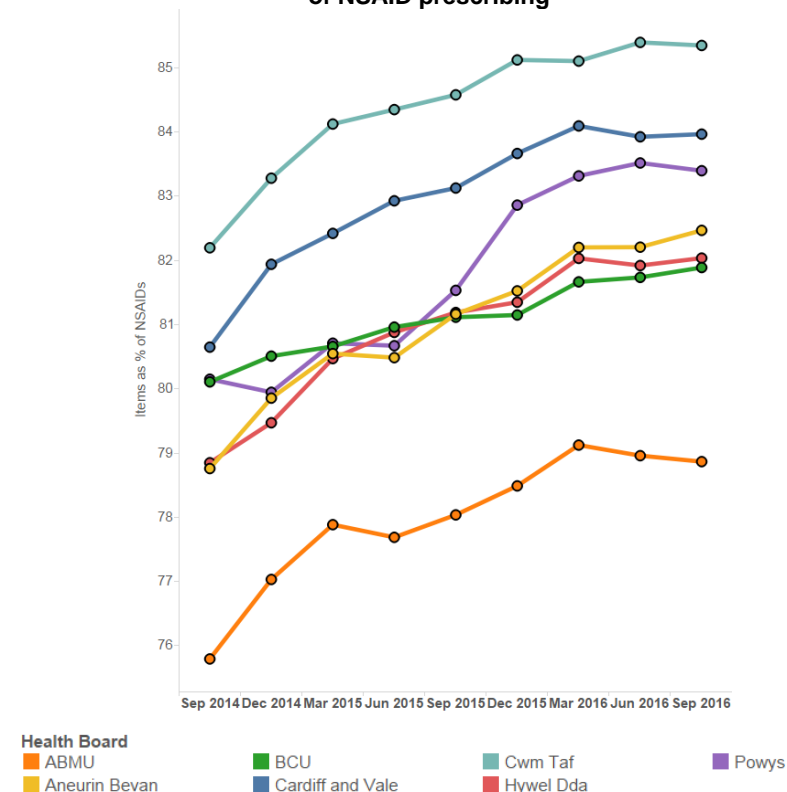
Since the introduction of this indicator, the proportion of ibuprofen and naproxen prescribing as a percentage of total NSAID usage has increased in line with the aim of this indicator.

- For the quarter ending September 2016, the proportion of ibuprofen and naproxen prescribing ranged from 78.9% to 85.3% 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 Cwm Taf UHB.

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

	2015–2016 Qtr 2	2016–2017 Qtr 2	% Change
Powys	81.5	83.4	2.29%
Aneurin Bevan	81.2	82.5	1.61%
ABMU	78.0	78.9	1.06%
Hywel Dda	81.2	82.0	1.04%
Cardiff and Vale	83.1	84.0	1.01%
BCU	81.1	81.9	0.95%
Cwm Taf	84.6	85.3	0.91%
Wales	81.2	82.2	1.18%

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



8.0 YELLOW CARDS

Purpose: To encourage an increase in the number of Yellow Cards submitted by GP practices in Wales.

Unit of measure: Number of Yellow Cards submitted, per practice and per health board.

Aim: To increase reporting

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.

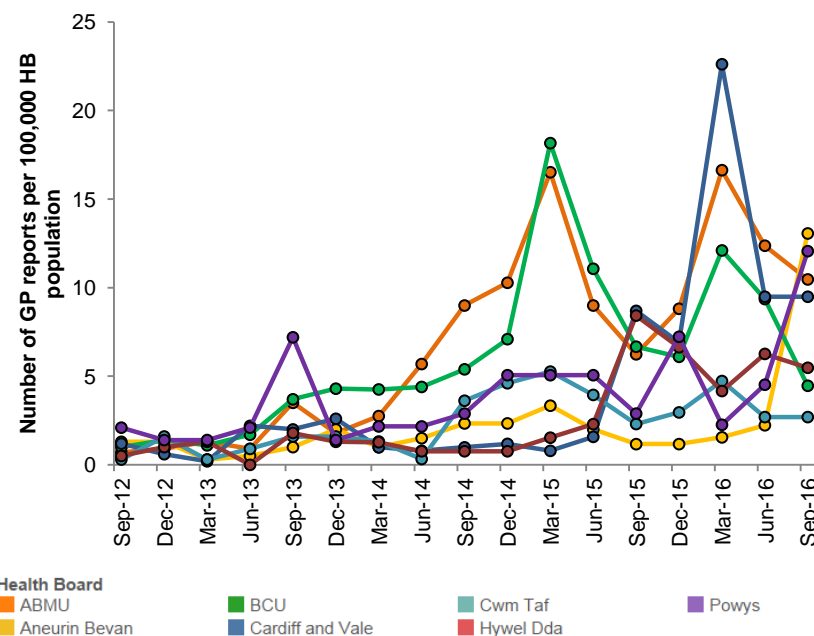
The Yellow Card Scheme is vital in helping the Medicines and Healthcare products Regulatory Agency (MHRA) monitor the safety of medicines and vaccines that are on the market.

The number of Yellow Cards submitted by GPs in Wales increased by 44% compared to the equivalent quarter of the previous year.

Table 13. Number of Yellow Cards submitted by GPs

	2015–2016 Qtr 2	2016–2017 Qtr 2	% Change
Aneurin Bevan	7	76	986%
Powys	4	16	300%
ABMU	34	55	62%
Cwm Taf	7	8	14%
Cardiff and Vale	44	46	5%
BCU	47	31	-34%
Hywel Dda	33	21	-36%
Wales	176	253	44%

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 18% compared to the equivalent quarter of the previous year.

Table 14. Number of Yellow Cards submitted by health boards

	2015–2016 Qtr 2	2016–2017 Qtr 2	% Change
Aneurin Bevan	29	115	297%
Powys	10	19	90%
ABMU	59	96	63%
Cardiff and Vale	83	84	1%
Hywel Dda	66	55	-17%
Cwm Taf	22	15	-32%
BCU	121	75	-38%
Wales	390	459	18%

SECONDARY CARE

1.0 INSULIN

Purpose: Ensure long-acting analogue insulin prescribing in type 2 diabetes mellitus is in line with NICE guidance to maximise cost-effective prescribing within Wales.

Unit of measure: Items/number of long-acting insulin analogues expressed as a percentage of total insulin prescribed within primary and secondary care

Aim: To reduce prescribing.

NICE guidance recommends human isophane (neutral protamine Hagedorn [NPH]) insulin as the first choice insulin-based treatment when prescribing insulin in type 2 diabetes mellitus. For most people with type 2 diabetes, long-acting insulin analogues offer no significant benefit over human isophane insulin and are more expensive.

This report considers data sets from both secondary and primary care, as prescribing will usually be continued in the primary care setting following secondary care initiation.

Secondary care prescribing

- For the quarter ending September 2016, long-acting insulin analogues as a percentage of total long- and intermediate-acting insulin ranged from 56.2% 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 was very small (five pre-filled pens); therefore, this is not the main responsible factor for the nearly 2% increase in secondary care usage across Wales.

- The proportion of long-acting insulin analogue prescribing increased in four out of the seven health boards/trusts, compared to the equivalent quarter of the previous year. Abertawe Bro Morgannwg, Betsi Cadwaladr, Hywel Dda and Aneurin Bevan UHBs all had increased usage of long-acting insulin analogues.
- The lowest prescribing was seen in Cwm Taf UHB, which had a 10.5% decrease compared to the equivalent quarter of the previous year.
- Cardiff and Vale UHB demonstrated a slight decrease of 0.36% in long-acting insulin analogues usage, and Velindre had no change.

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

	2015–2016 Qtr 2 (%)	2016–2017 Qtr 2 (%)	% Change
Cwm Taf	62.8	56.2	-10.5
Cardiff and Vale	83.3	83.0	-0.36
Velindre	100	100	0.00
Aneurin Bevan	71.9	73.0	1.53
Hywel Dda	79.6	81.2	2.01
BCU	77.5	79.7	2.84
ABMU	78.6	85.8	9.16
Wales	76.2	77.7	1.96

Primary care prescribing

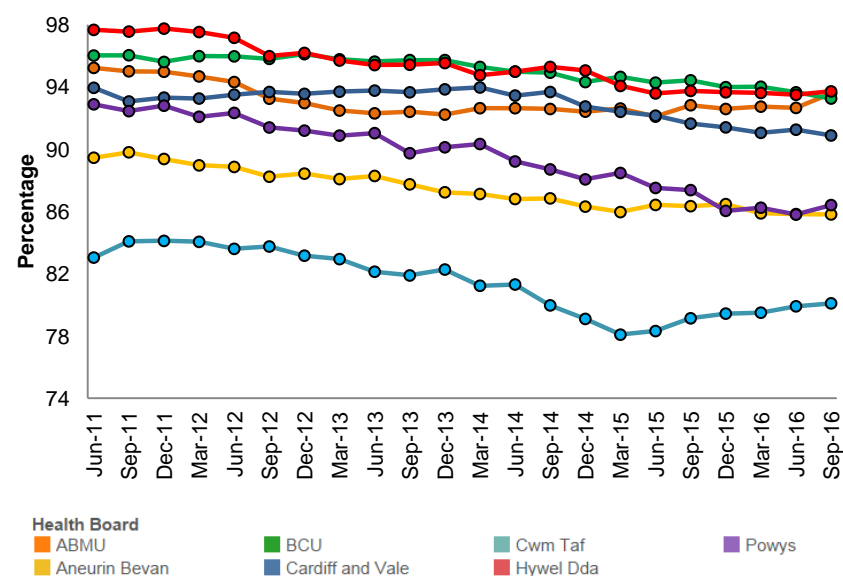
From September 2015 to September 2016, the prescribing of long-acting insulin analogues in primary care as a proportion of total long- and intermediate-acting insulin prescribing decreased across Wales by approximately 0.33%, in line with the aim of the secondary care indicator.

- For the quarter ending September 2016, long-acting insulin analogue prescribing ranged from 80.1% to 93.7% across the health boards.
- The health board with the lowest prescribing was Cwm Taf UHB, whilst the highest prescribing was seen in Hywel Dda 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 Betsi Cadwaladr UHB and the largest increase was seen in Cwm Taf UHB.

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

	2015–2016 Qtr 2 (%)	2016–2017 Qtr 2 (%)	% Change
BCU	94.4	93.3	-1.24
Powys	87.4	86.4	-1.10
Cardiff and Vale	91.6	90.9	-0.83
Aneurin Bevan	86.3	85.8	-0.61
Hywel Dda	93.7	93.7	-0.03
ABMU	92.8	93.6	0.82
Cwm Taf	79.1	80.1	1.21
Wales	90.1	89.8	-0.33

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



2.0 BIOSIMILARS

Purpose: Ensure prescribing of biosimilar medicines is in line with AWMSG guidance to support cost-effective prescribing within Wales.

Unit of measure: Quantity of biosimilar medicines prescribed as a percentage of total 'reference' product plus biosimilar.

Aim: To increase appropriate prescribing in line with guidance and increase commercial competition.

Biological medicines are those that are made or derived from a biological source and, as such, are complex, with inherent variability in their structure. A biosimilar medicine is a biological medicine that is developed to be highly similar and clinically equivalent to an existing biological medicine (i.e. 'reference' medicine or 'originator' medicine). Continuing development of biosimilar medicines offers an increased choice for patients and clinicians.

There is an increasing range of biosimilar products becoming available and therefore new products will be monitored and reported on in this section of the NPI report as they begin to be used within NHS Wales.

Data reporting

MHRA guidelines state that biological medicines, including biosimilar medicines, must be prescribed by brand name to prevent automatic substitution taking place without clinician and patient involvement, and to support ongoing pharmacovigilance of the individual products. However, filgrastim, infliximab and insulin glargine all show some generic prescribing. For infliximab the cost per item for these generic items is identical to that of the reference product; these generic items have therefore been included in figures for total quantity of the reference product. For filgrastim the cost per item falls between reference and biosimilar, so these generic items have been presented separately.

2.1 Filgrastim

There was an increase in the use of filgrastim biosimilars (Nivestim® and Zarzio®) as a percentage of all filgrastim from 98.4% to 98.8% within NHS Wales from quarter ending September 2015 to quarter ending September 2016.

The use of the filgrastim biosimilars (Nivestim® and Zarzio®) in place of the reference product (Neupogen®) has saved an estimated £507,627 for NHS Wales in the quarter ending September 2016.

Table 17. Quantity of filgrastim generic, reference (Neupogen®) and biosimilar (Nivestim® and Zarzio®) prescribed in NHS Wales

Medicine	Biosimilar	Quarter	Total quantity
Filgrastim (generic)		2015–2016 Q2	65
		2016–2017 Q2	43
Filgrastim reference (Neupogen®)		2015–2016 Q2	42
		2016–2017 Q2	32
	Nivestim®	2015–2016 Q2	1,373
		2016–2017 Q2	920
	Zarzio®	2015–2016 Q2	5,269
		2016–2017 Q2	5,109

2.1.1 Secondary care

Prescribing of filgrastim biosimilars decreased slightly as a percentage of all filgrastim from 98.98% to 98.92% in secondary care from quarter ending September 2015 to quarter ending September 2016.

Table 18. Quantity of filgrastim generic, reference (Neupogen®) and biosimilar (Nivestim® and Zarzio®) prescribed in secondary care

Medicine	Biosimilar^	Quarter	Total quantity
Filgrastim (generic)		2015–2016 Qtr 2	31
		2016–2017 Qtr 2	33
Filgrastim reference (Neupogen®)		2015–2016 Qtr 2	37
		2016–2017 Qtr 2	32
	Nivestim®	2015–2016 Qtr 2	1,373
		2016–2017 Qtr 2	920
	Zarzio®	2015–2016 Qtr 2	5,233
		2016–2017 Qtr 2	5,010

^Filgrastim biosimilars TevaGrastim® and Ratiograstim®, as within the baseline report, have not been used during the quarter ending September 2016.

Figure 16. Proportion of filgrastim prescribing as generic, reference (Neupogen®) and biosimilar (Nivestim® and Zarzio®) in secondary care – Quarter ending September 2016

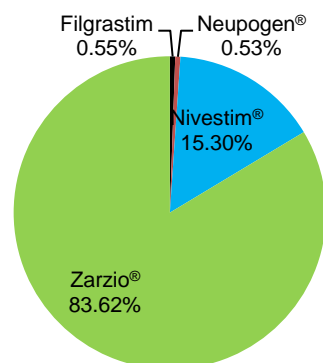
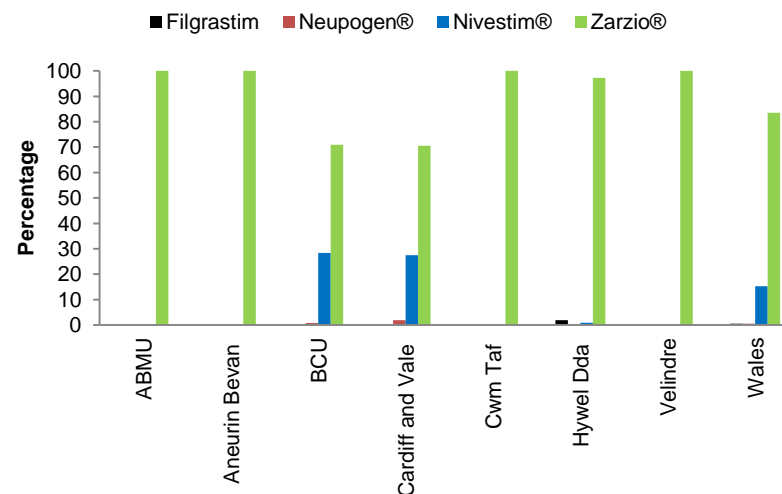


Figure 17. Health board filgrastim generic, reference (Neupogen®) and biosimilar (Nivestim® and Zarzio®) as a percentage of total filgrastim prescribed in secondary care – Quarter ending September 2016



2.1.2 Primary care

Prescribing of filgrastim biosimilar Zarzio® increased as a percentage of all filgrastim from 48.00% to 90.83% in primary care from quarter ending September 2015 to quarter ending September 2016.

Table 19. Quantity of filgrastim generic, reference (Neupogen®) and biosimilar (Nivestim® and Zarzio®) prescribed in primary care

Medicine	Biosimilar	Quarter	Total quantity
Filgrastim (generic)		2015–2016 Q2	34
		2016–2017 Q2	10
Filgrastim reference (Neupogen®)		2015–2016 Q2	5
		2016–2017 Q2	0
	Nivestim®	2015–2016 Q2	0
		2016–2017 Q2	0
	Zarzio®	2015–2016 Q2	36
		2016–2017 Q2	99

2.2 Infliximab

There was an increase in the use of the infliximab biosimilar (Inflectra®) as a percentage of all infliximab from 12.8% to 46.1% within NHS Wales from quarter ending September 2015 to quarter ending September 2016.

The use of biosimilar infliximab (Inflectra®) in place of the reference product (Remicade®) has saved an estimated £241,110 for NHS Wales in the quarter ending September 2016.

Table 20. Quantity of infliximab reference (Remicade®) and biosimilar (Inflectra®) prescribed in NHS Wales

Medicine	Biosimilar	Quarter	Total quantity
Infliximab reference (Remicade®) [†]		2015–2016 Q2	4,103
		2016–2017 Q2	2,994
	Inflectra®	2015–2016 Q2	600
		2016–2017 Q2	2,565*

[†]These data include supplies recorded through homecare

*Due to quantity discrepancy within data set this number has been estimated.

Figure 18. Infliximab reference (Remicade®) and biosimilar (Inflectra®) percentage change

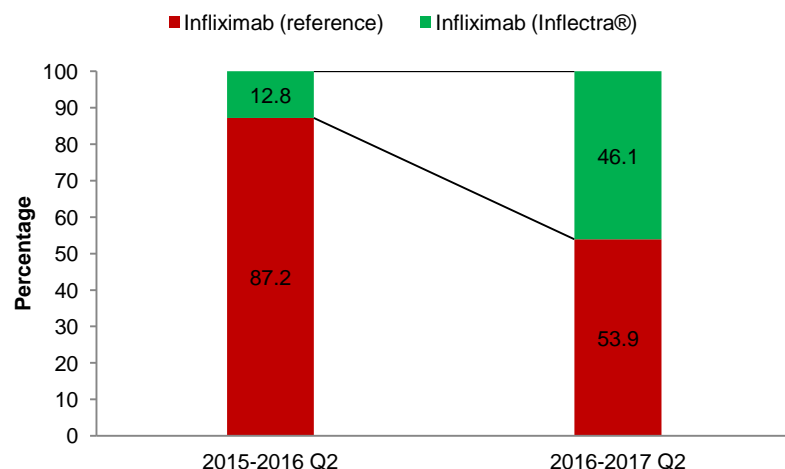
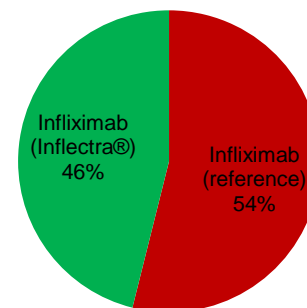


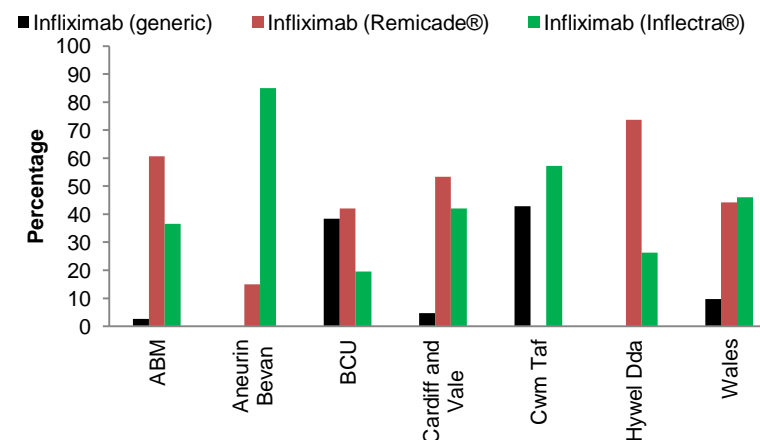
Figure 19. Proportion of infliximab prescribing as reference (Remicade®) and biosimilar (Inflectra®) – Quarter ending September 2016



2.2.1 Secondary care

Four health boards show generic infliximab prescribing in secondary care. As previously mentioned, in order to adhere to MHRA guidelines infliximab supplies should be recorded as the brand name supplied: Remicade® or Inflectra®.

Figure 20. Infliximab generic, reference (Remicade®) and biosimilar (Inflectra®) as a proportion of total infliximab prescribed in secondary care – Quarter ending September 2016



2.3 Insulin glargine

The insulin glargine biosimilar (Abasaglar®) was appraised by AWMSG in December 2015. There are no baseline data available; however, prescribing is being monitored and reported on, as part of the increasing range of biosimilar products available.

Table 21. Quantity of insulin glargine reference (Lantus® and Toujeo®) and biosimilar (Abasaglar®) prescribed within secondary care – Quarter ending September 2016

Medicine	Biosimilar	AWMSG advice	Total quantity
Insulin glargine reference (Lantus® and Toujeo®)			1,977
	Abasaglar®	Recommended (December 2015)*	14

*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 reference (Lantus® and Toujeo®) and biosimilar (Abasaglar®) prescribed within primary care – Quarter ending September 2016

Medicine	Biosimilar	AWMSG advice	Total quantity
Insulin glargine reference (Lantus® and Toujeo®)			32,002
	Abasaglar®	Recommended (December 2015)*	371

3.0 ANTIBIOTICS

Purpose: To encourage the appropriate prescribing of 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

Unit of measure: Proportion of elective colorectal patients receiving surgical prophylaxis for more than 24 hours.

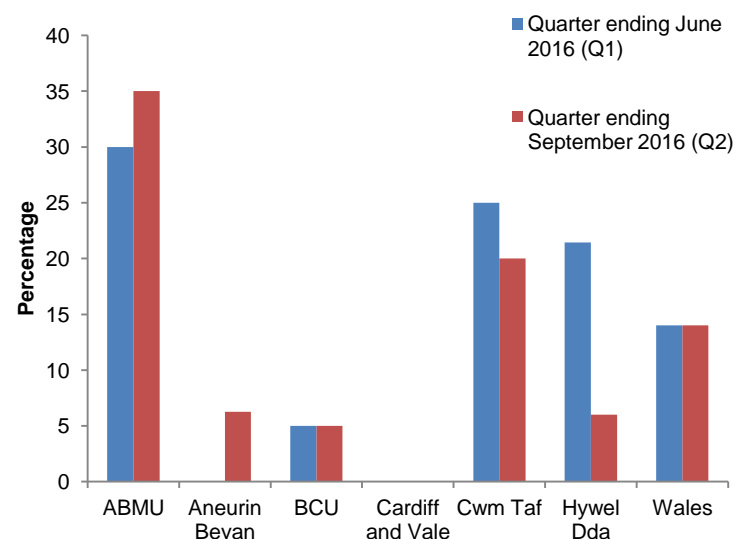
Aim: To reduce prescribing.

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.

- There is no change in the Welsh average when comparing data for quarter ending September 2016 with the previous quarter. However, during this period, two health boards (Cwm Taf and Hywel Dda) have shown a reduction in the percentage of patients receiving prophylaxis for > 24 hours, and two health boards (ABMU and Aneurin Bevan) have shown an increase.
- There was no change in the percentage of patients receiving prophylaxis for > 24 hours in BCU. In Cardiff and Vale all patients were receiving prophylaxis for < 24 hours in quarter ending June 2016 and the quarter ending September 2016.
- Four of the six health boards are below the Welsh average for the percentage of patients receiving prophylaxis > 24 hours for the quarter ending September 2016, an increase from three of six in the previous quarter.

In summary, although there are some differences between data from quarter ending September 2016 and the previous quarter for individual health boards, overall the data for the average percentage of patients receiving prophylaxis for > 24 hours are consistent between the two quarters.

Figure 21. Percentage of patients whose duration of colorectal surgical prophylaxis is > 24 hours



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.

Medusa records the issue of medicines within the secondary care setting in Wales. Where supplies are issued to named patients, it can be assumed that the difference between number of medicines issued and number administered to patients is not significant. However, when the supplies are issued to wards or clinics, these items are often held as stock and therefore may be administered to patients at a considerably later point in time. However, within this report they are only considered for analysis within the time period they were issued.

The report includes medicines supplied by homecare and recorded through the hospital system; medicines supplied through other homecare providers are not included in this report. Therefore some medicines use data may currently be incomplete. This issue is being worked on within NHS Wales as a priority.

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 Organization, 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 DDIs 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 within the primary care section of the report 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. AWMMSG 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 September 2015 versus quarter ending September 2016

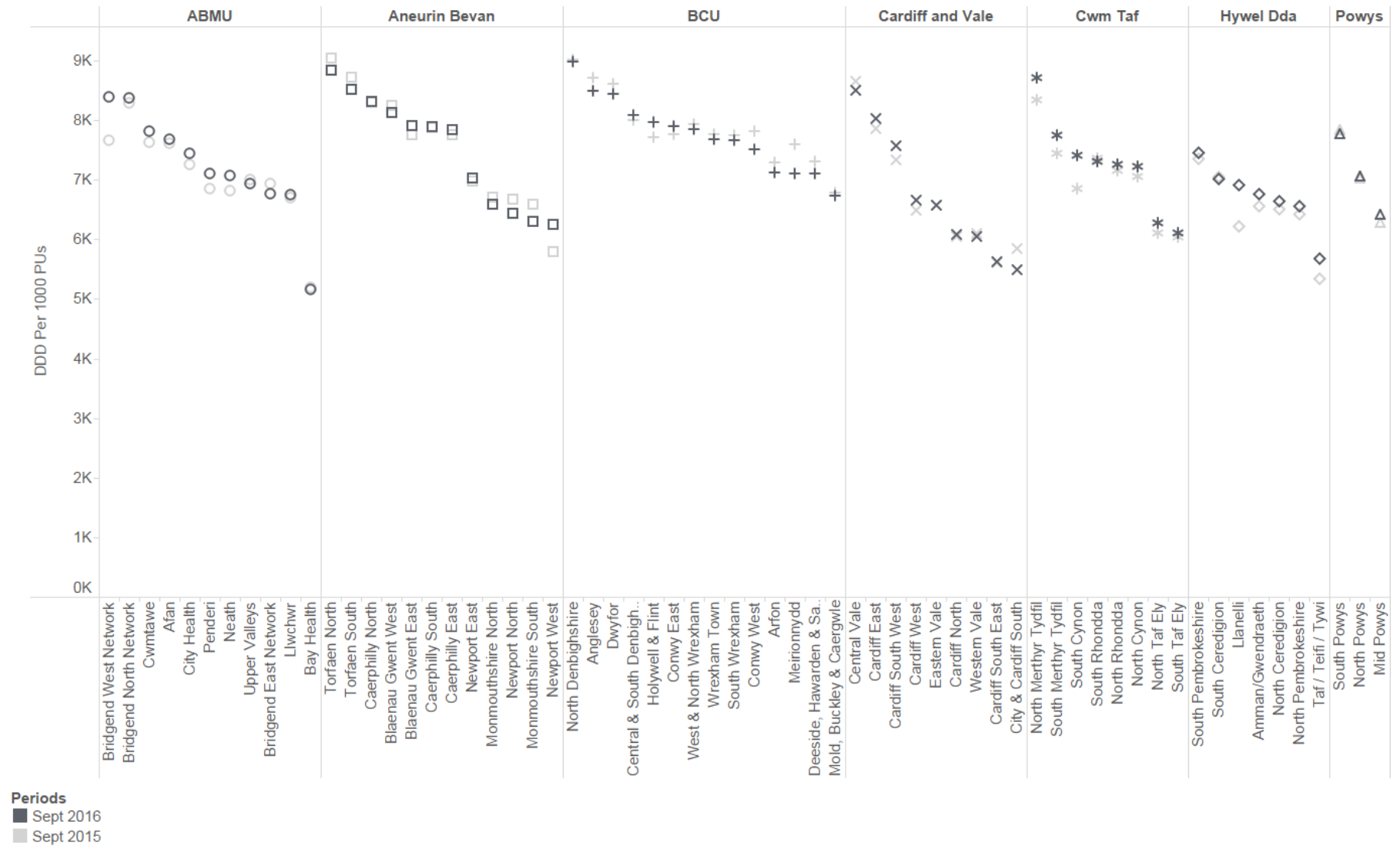


Figure 2. Bile acid sequestrants, fibrates, nicotinic acid and omega-3 fatty acid compounds as a percentage of the total number of lipid-regulating items – Quarter ending September 2015 versus quarter ending September 2016

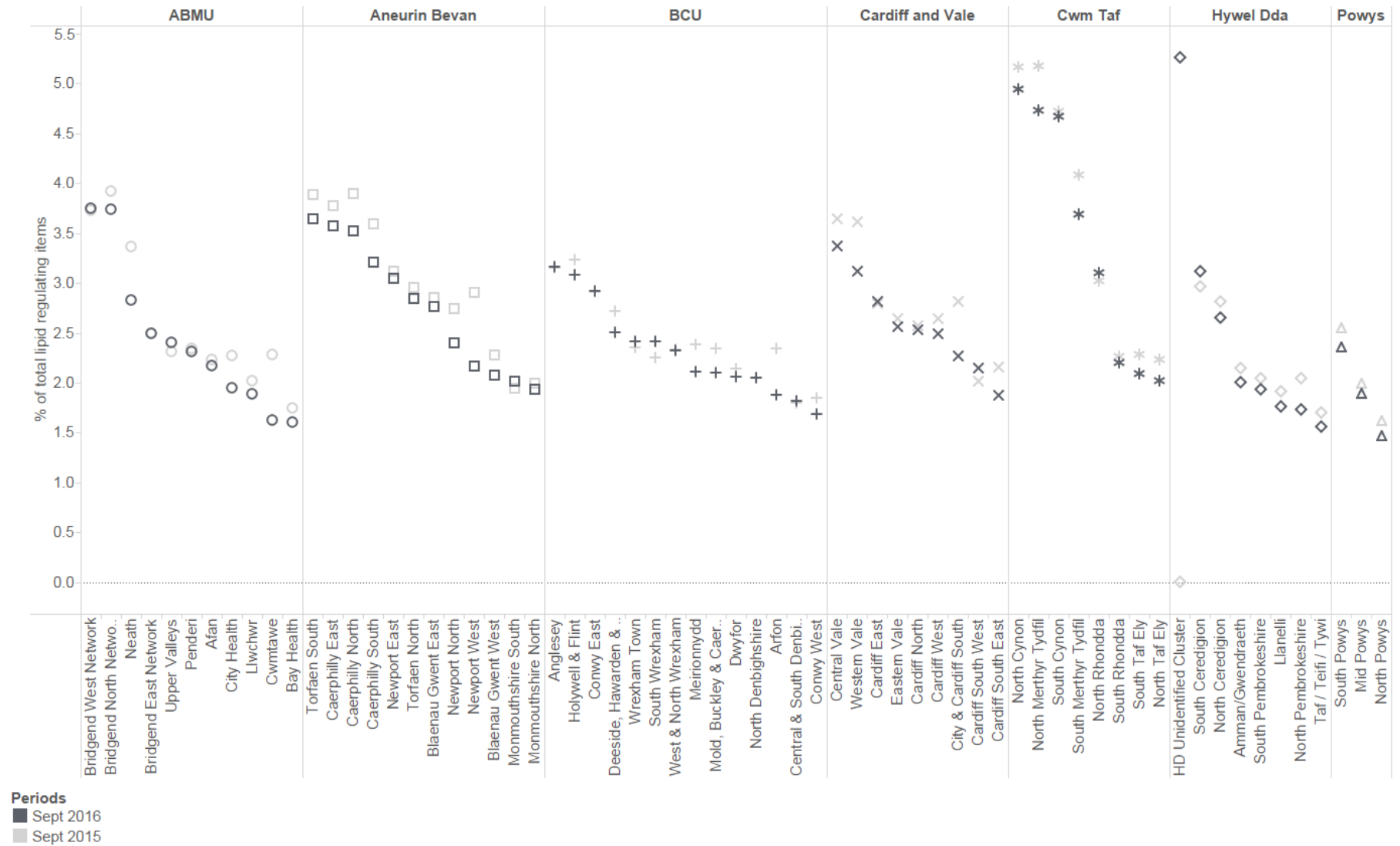


Figure 3. Low dose ICS prescribing as a percentage of all ICS prescribing – Quarter ending September 2015 versus quarter ending September 2016

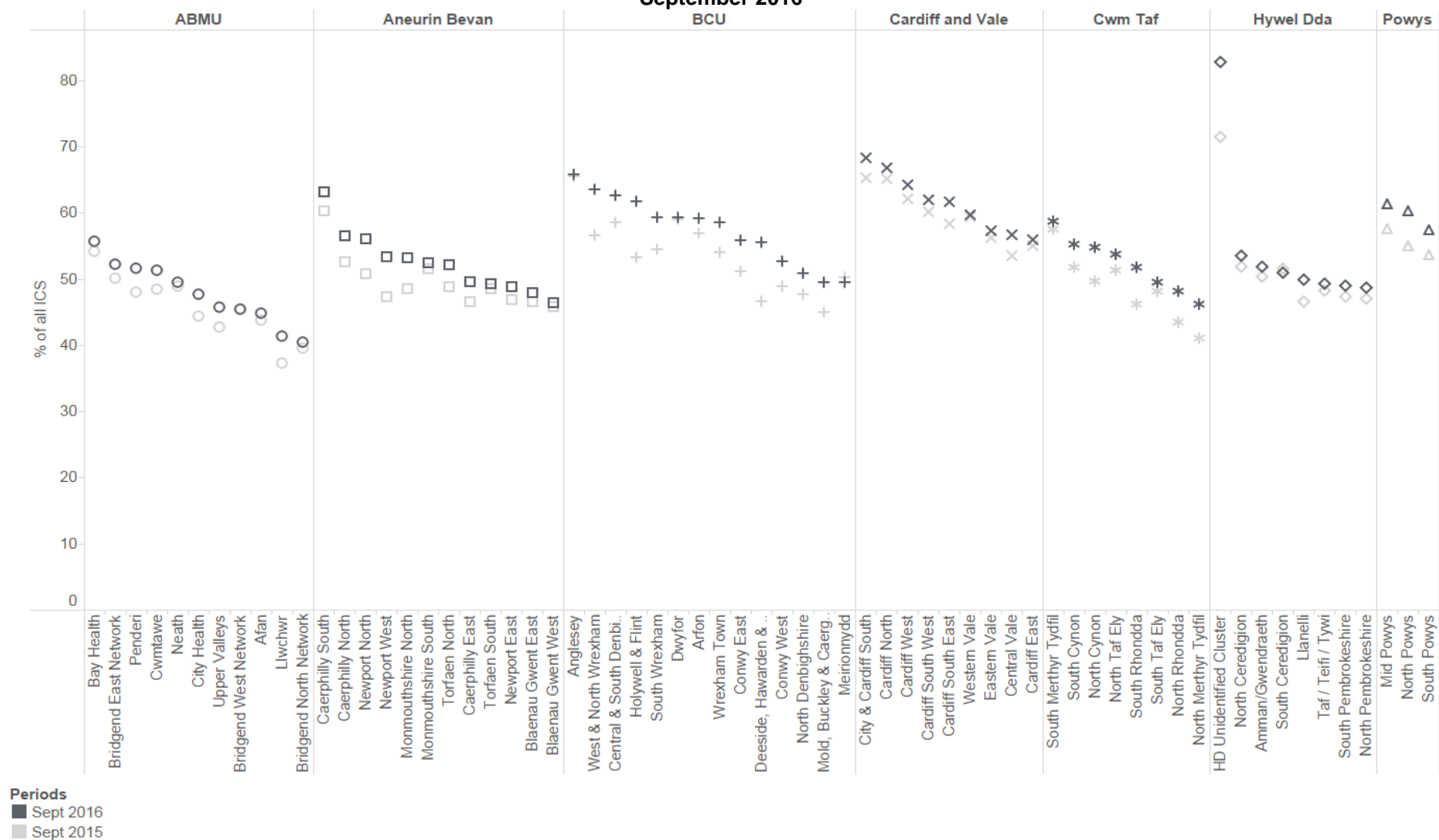


Figure 4. Hypnotic and anxiolytic prescribing – Quarter ending September 2015 versus quarter ending September 2016

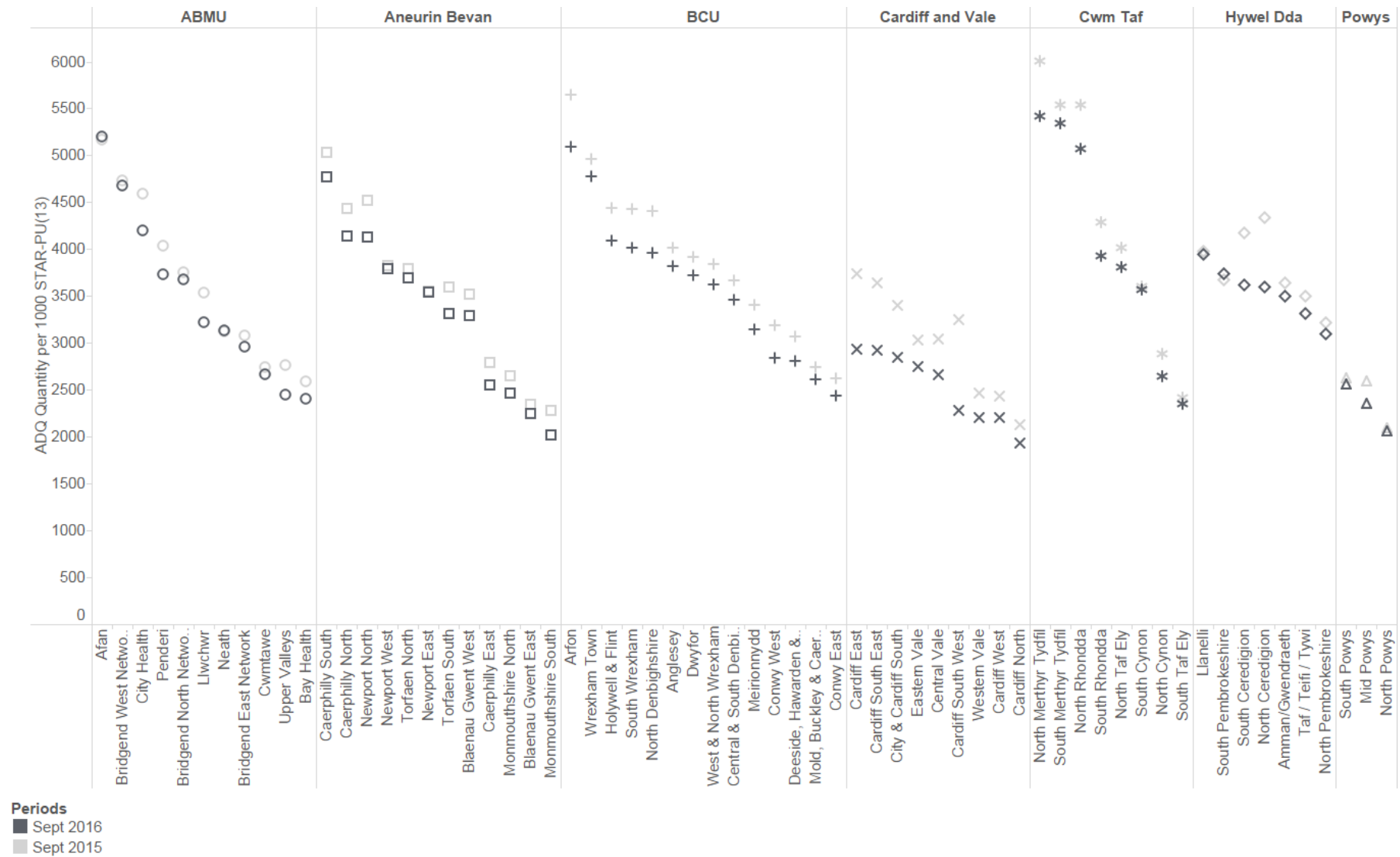


Figure 5. Tramadol prescribing – Quarter ending September 2015 versus quarter ending September 2016

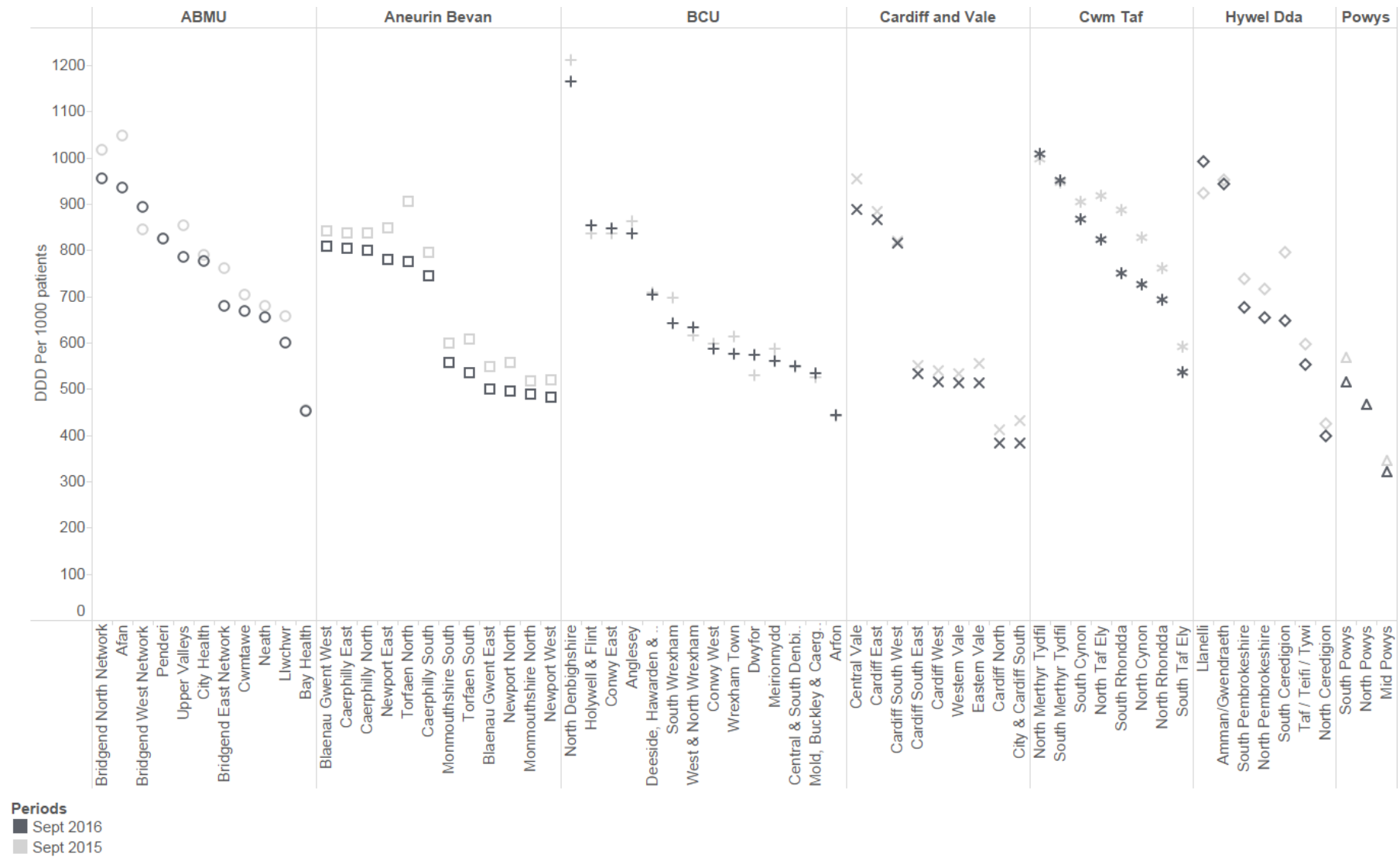


Figure 6. Gabapentin and pregabalin prescribing – Quarter ending September 2015 versus quarter ending September 2016

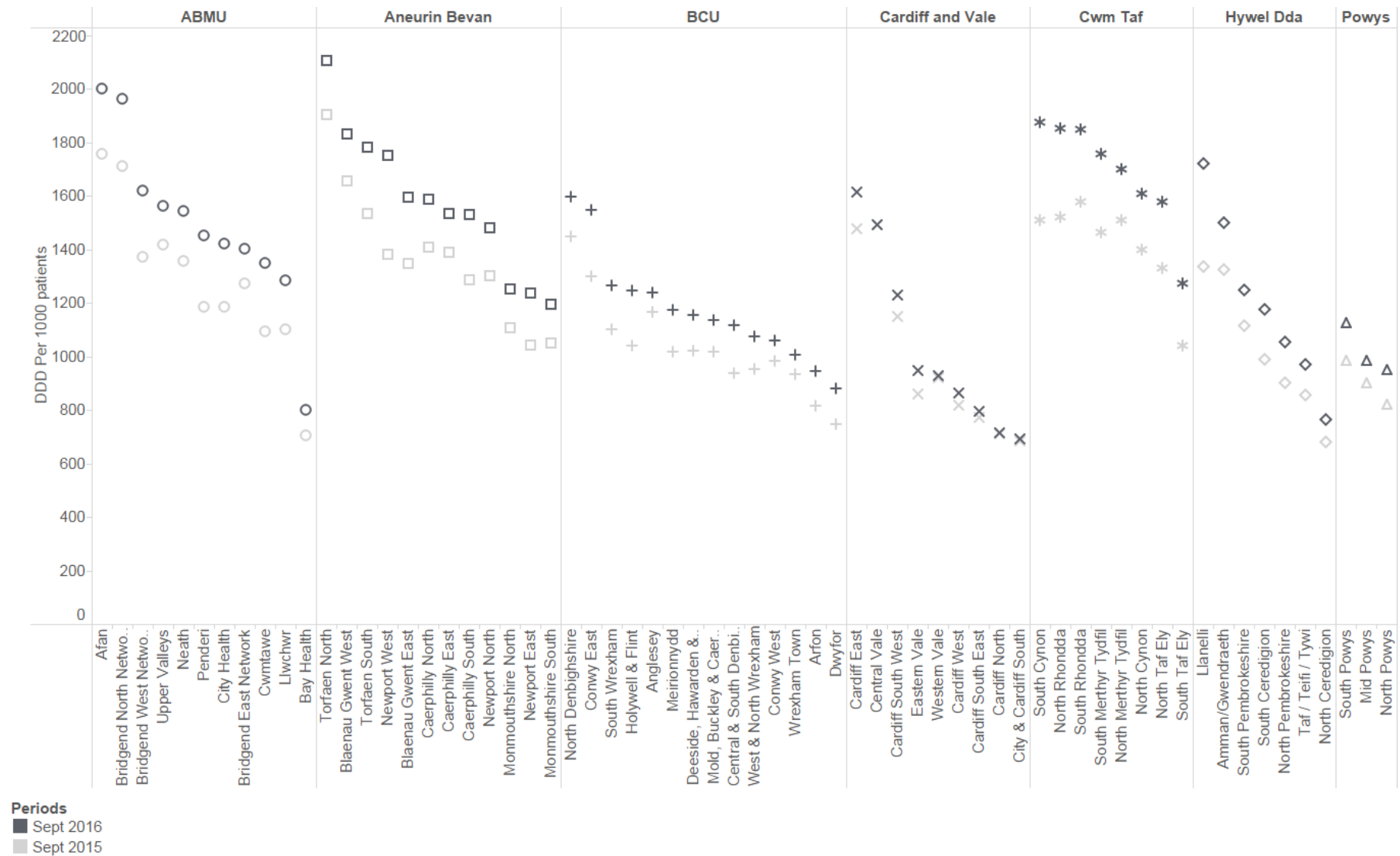


Figure 7. Antibiotic prescribing – Quarter ending September 2015 versus quarter ending September 2016

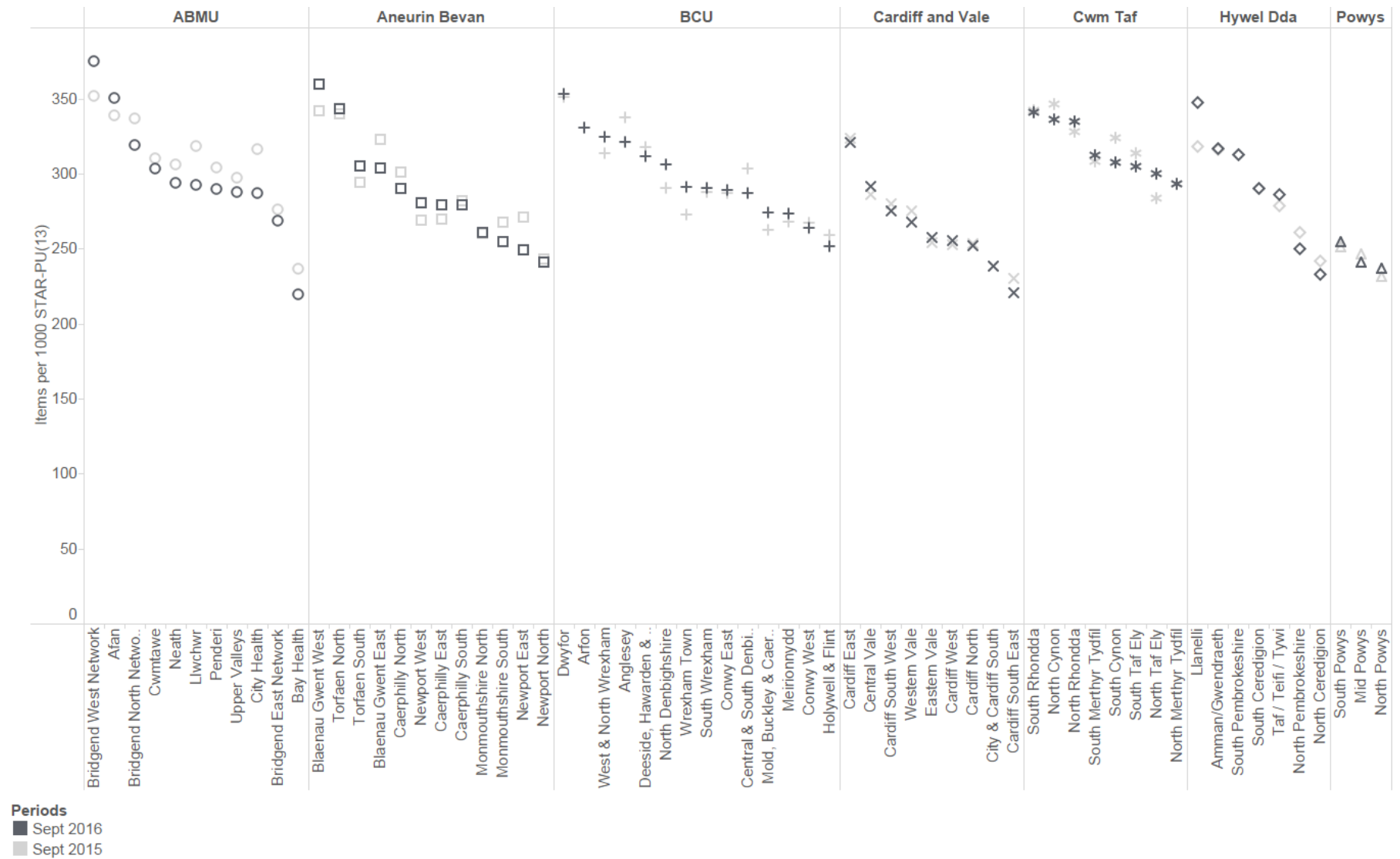


Figure 8. Co-amoxiclav prescribing – Quarter ending September 2015 versus quarter ending September 2016

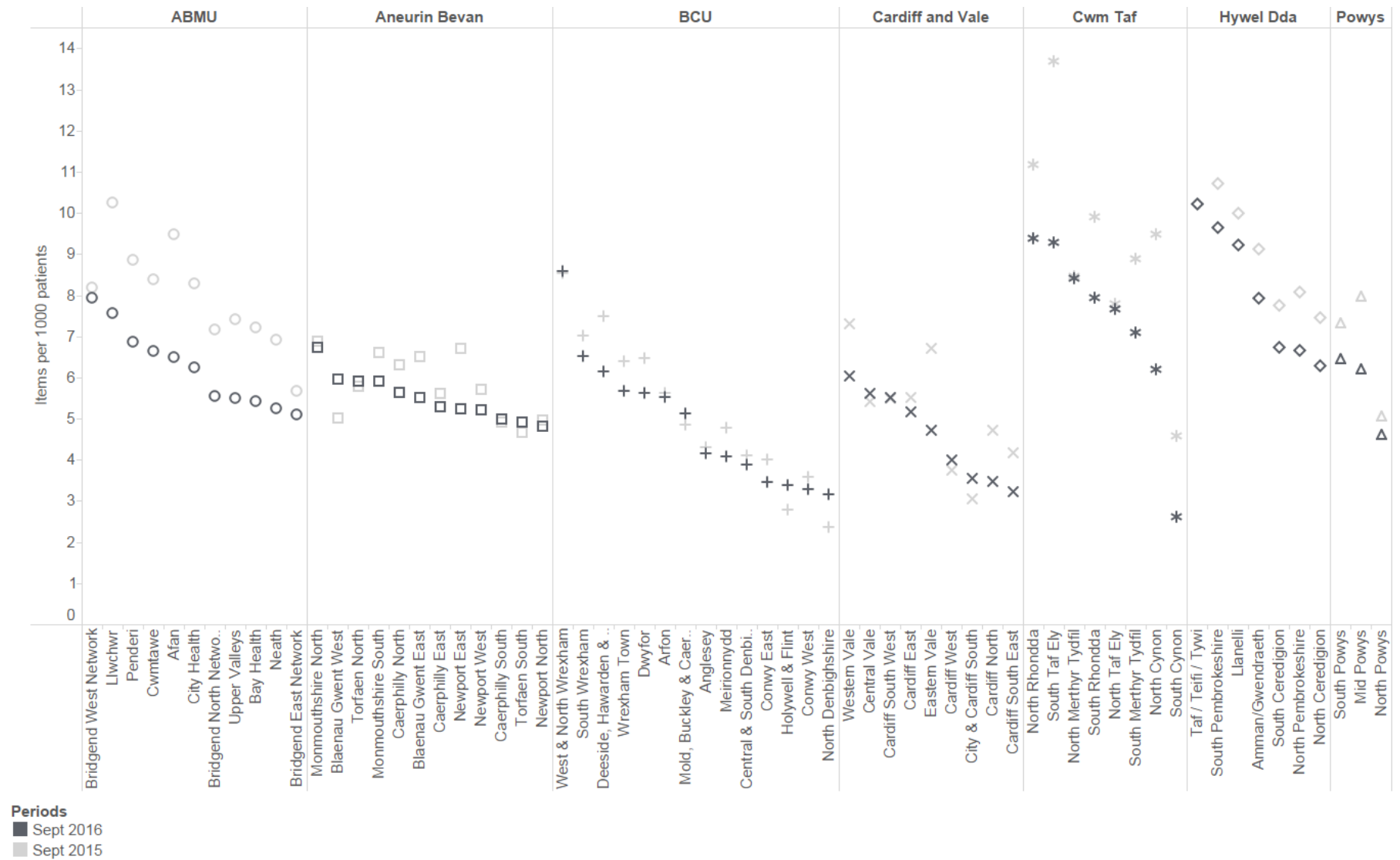


Figure 9. Co-amoxiclav as a percentage of total antibacterial items – Quarter ending September 2015 versus quarter ending September 2016

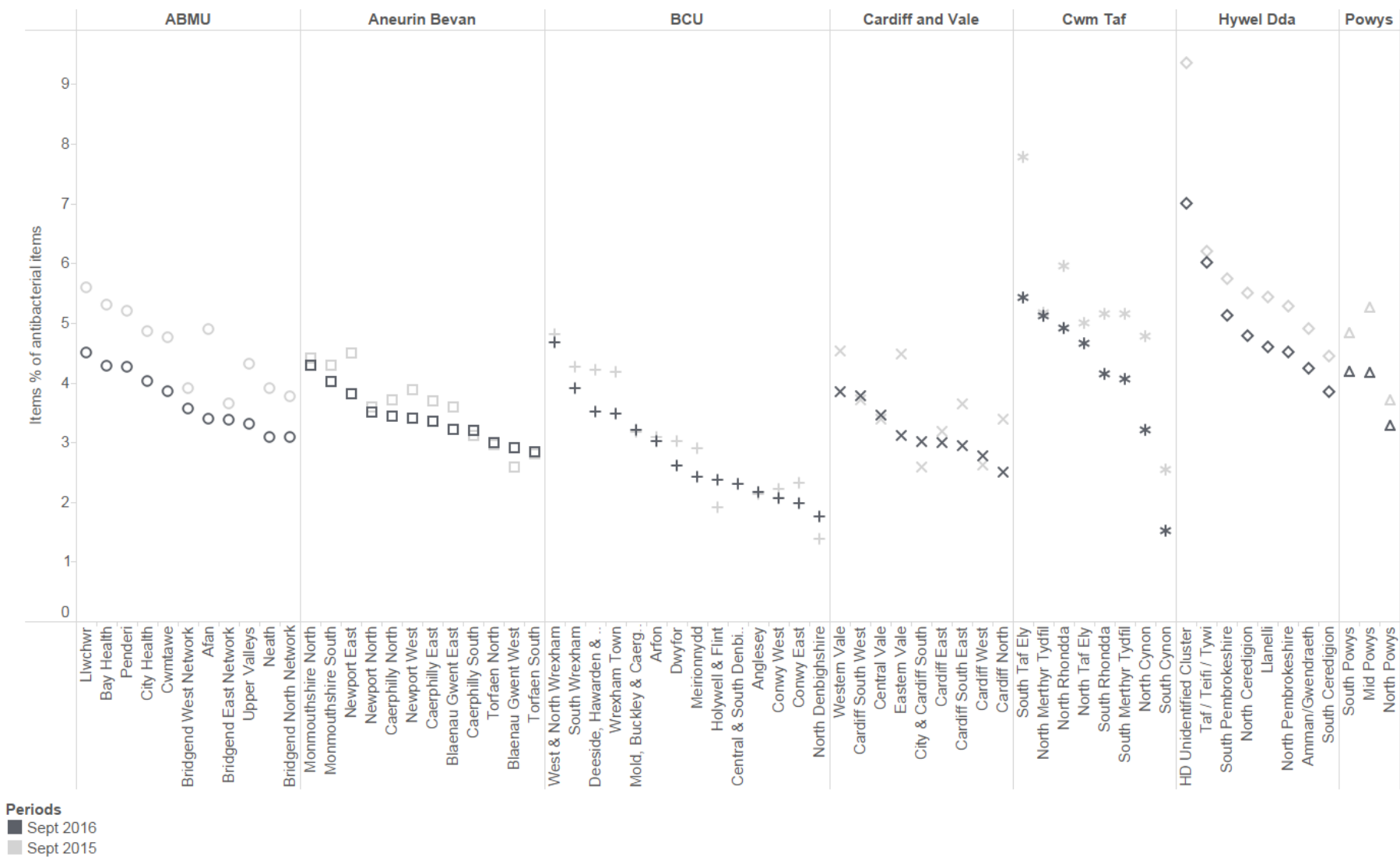


Figure 10. Cephalosporin prescribing – Quarter ending September 2015 versus quarter ending September 2016

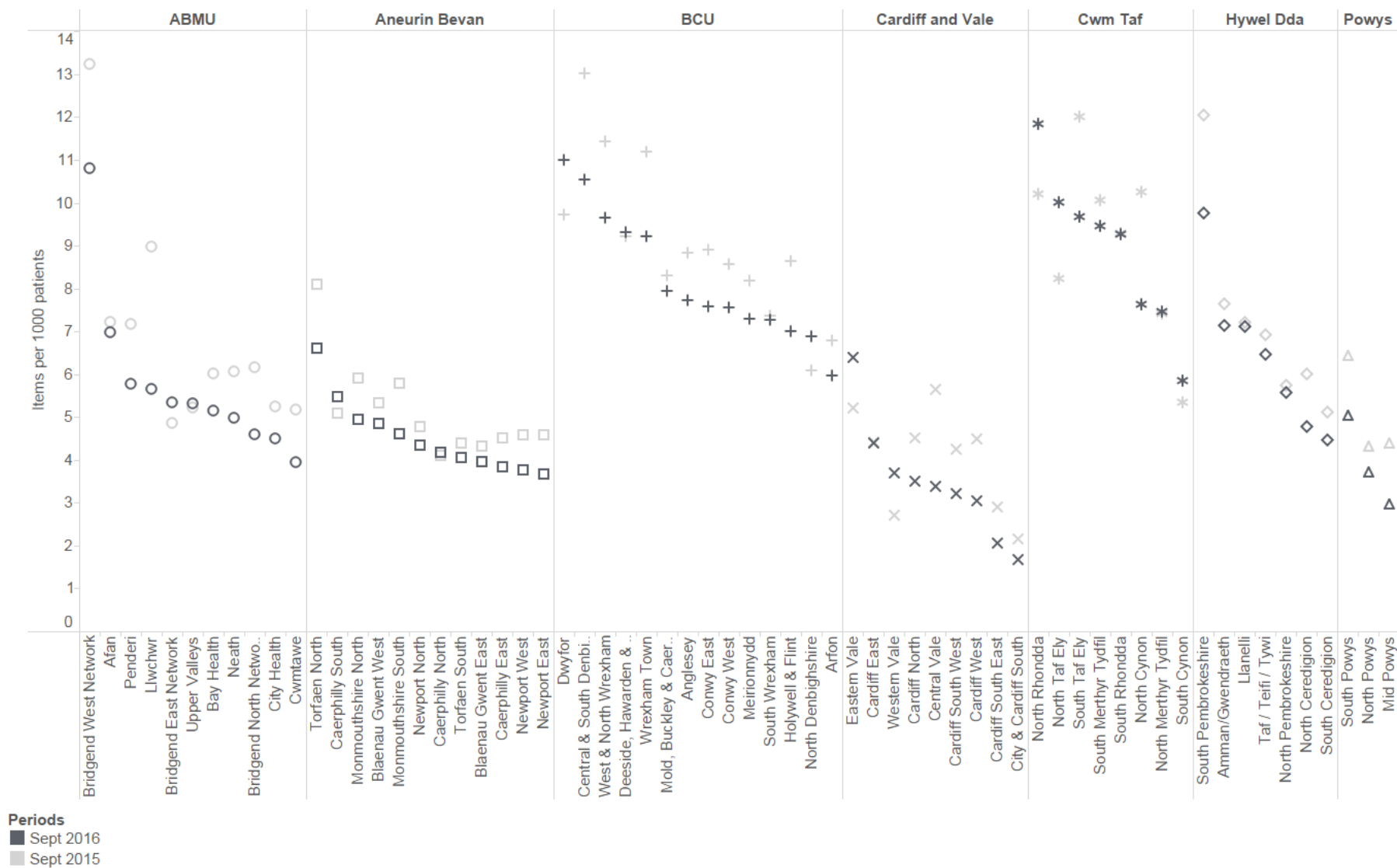


Figure 11. Cephalosporins as a percentage of total antibacterial items – Quarter ending September 2015 versus quarter ending September 2016

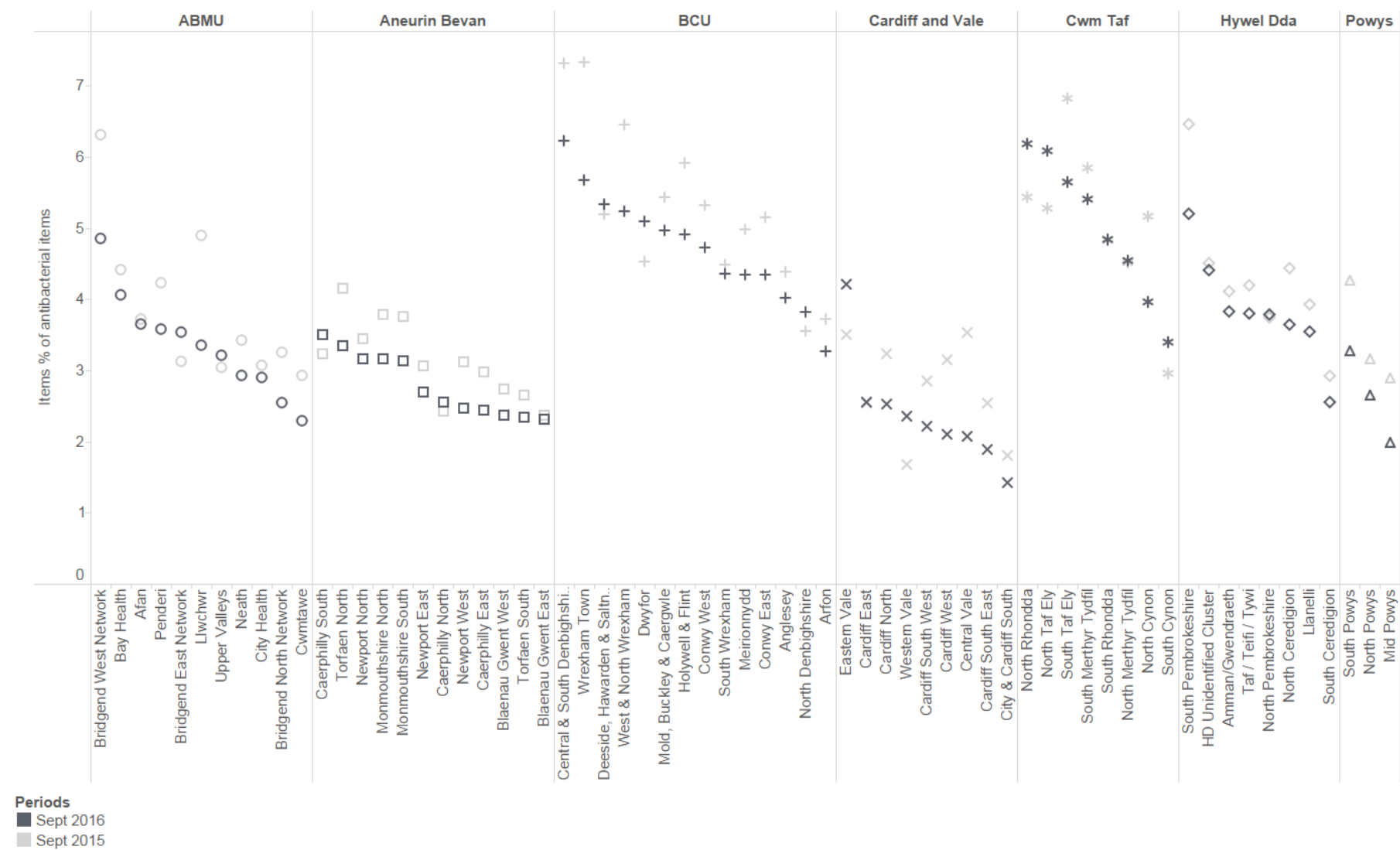


Figure 12. Fluoroquinolone prescribing – Quarter ending September 2015 versus quarter ending September 2016

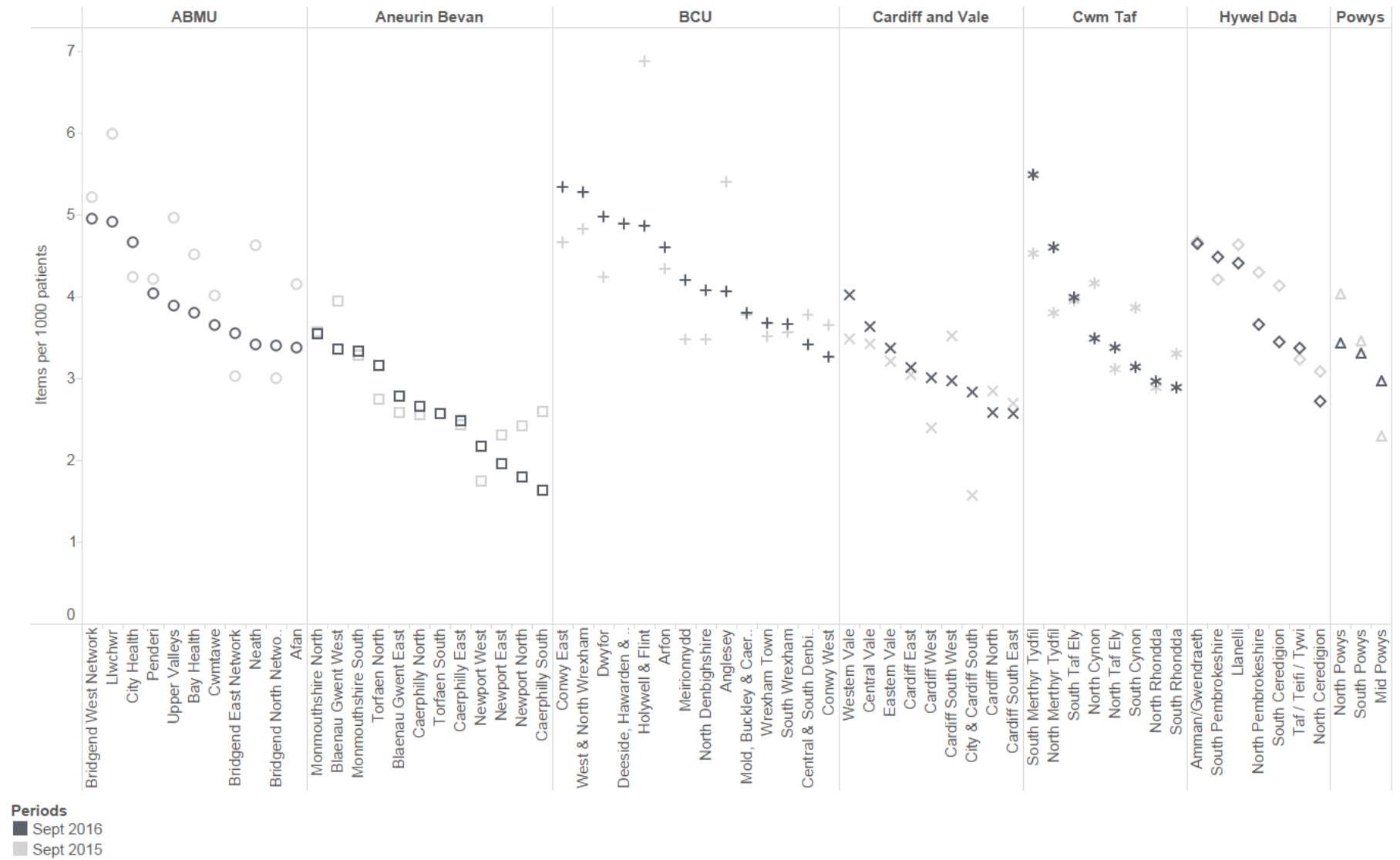


Figure 13. Fluoroquinolones as a percentage of total antibacterial items – Quarter ending September 2015 versus quarter ending September 2016

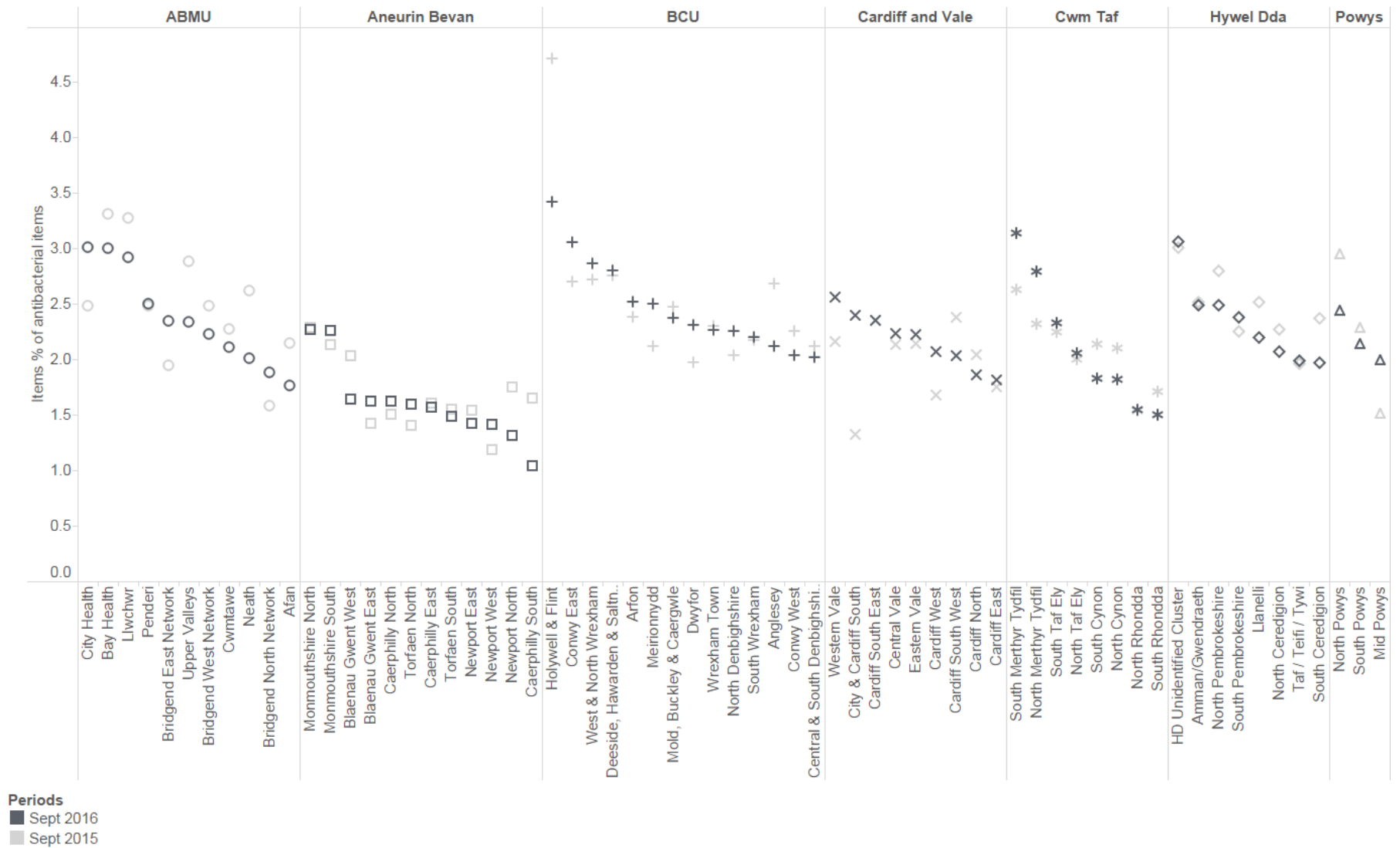


Figure 14. NSAID prescribing – Quarter ending September 2015 versus quarter ending September 2016

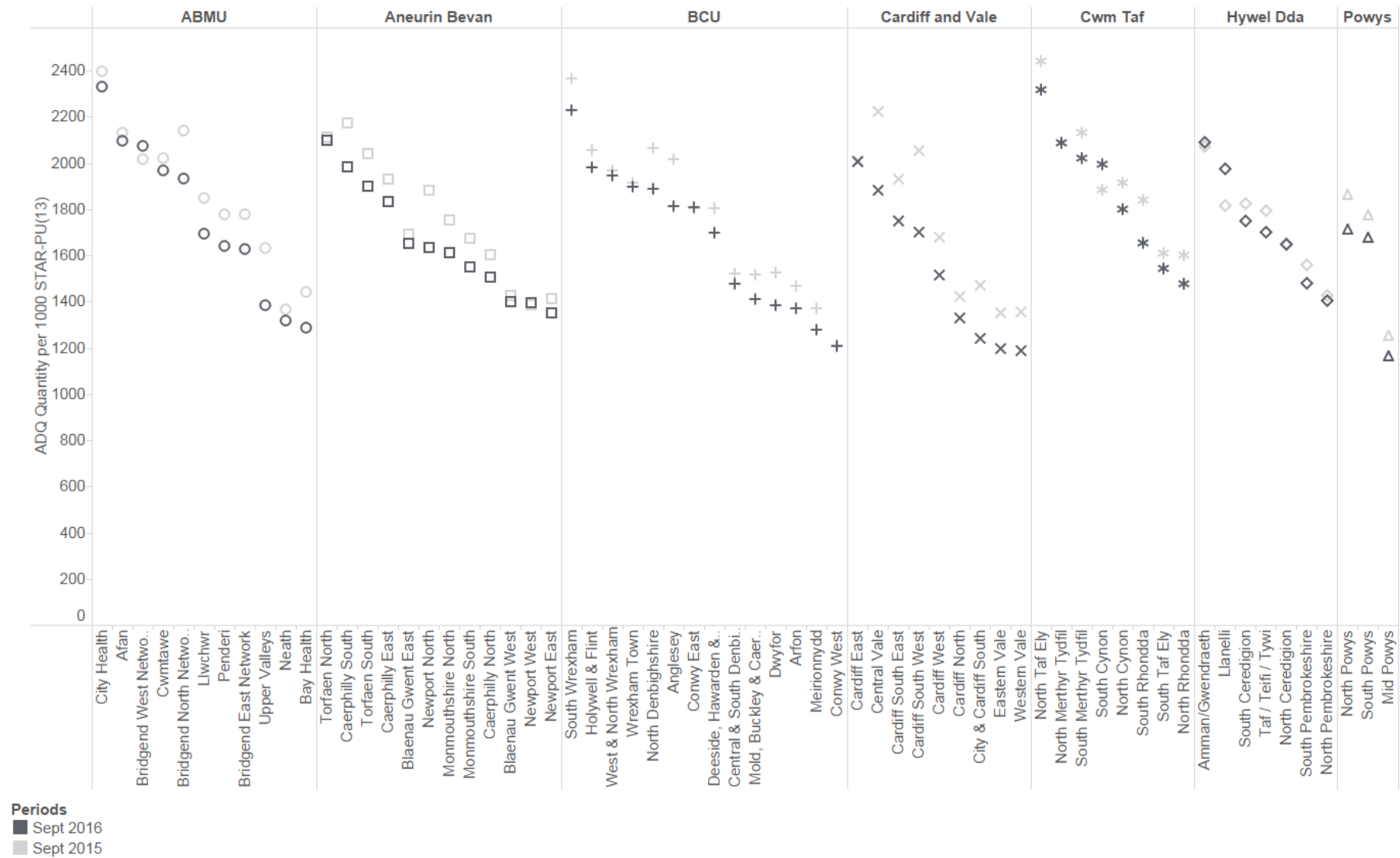


Figure 15. Ibuprofen and naproxen as a percentage of NSAID items – Quarter ending September 2015 versus quarter ending September 2016

