



AWTTC

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

National Prescribing Indicators 2017–2018

Analysis of Prescribing Data to December 2017





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.

Background information supporting the choice of NPIs is detailed in the document National Prescribing Indicators 2017–2018.

This report contains data relating to the primary and secondary care NPIs for the third quarter of 2017–2018. Unit of measure and threshold for each NPI is also included in Appendix 1 and primary care NPI prescribing data for GP clusters is presented in Appendix 2.

PRIMARY CARE

For 2017–2018, there are 14 primary care NPIs focusing on seven areas of prescribing and the reporting of adverse events (Yellow Cards). Four of the indicators – high strength inhaled corticosteroids (ICS), opioid patches, anticholinergic burden, and non-steroidal anti-inflammatory drugs (NSAIDs) and chronic kidney disease (CKD) – are new for 2017–2018. A threshold level of prescribing/reporting is set for 11 of the 14 NPIs based upon quarter three data for 2016–2017.

- Of the 11 NPIs with a threshold, there was an overall improvement (in line with the aim of each indicator) across Wales in 10 NPIs, compared with the equivalent quarter of the previous year (quarter ending December 2016). The NPI that did not show an improvement was gabapentin and pregabalin, where prescribing increased in all health boards (8.51% national increase).
- Of the two NPIs monitored via Audit+, there was an overall improvement (in line with the aim of the indicator) across Wales, compared with the previous quarter (quarter ending September 2017), for NSAIDs and CKD. The NPI that did not show an improvement, compared with the previous quarter (quarter ending September 2017) was anticholinergic burden, where there was a national increase of 2.07%.
- At a national level, the NPIs associated with the largest improvements were:
 - Yellow Card reporting by GPs increased by 92% compared with the equivalent quarter of the previous year, and Yellow Card reporting for all health board reporters increased by 41%.
 - Cephalosporin items per 1,000 patients (10.8% reduction compared with the equivalent quarter of the previous year).
 - NSAIDs ADQs per 1,000 STAR-PUUs (7.87% reduction compared with the equivalent quarter of the previous year).
 - Co-amoxiclav items per 1,000 patients (7.68% reduction compared with the equivalent quarter of the previous year).
 - Hypnotics and anxiolytics ADQs per 1,000 STAR-PUUs (7.65% reduction compared with the equivalent quarter of the previous year).
 - Tramadol DDDs per 1,000 patients (7.49% reduction compared with the equivalent quarter of the previous year).
 - High strength ICS items as a percentage of all ICS prescribing (7.00% reduction compared with the equivalent quarter of the previous year).

SECONDARY CARE

For 2017–2018, there are three secondary care NPIs focusing on three areas of prescribing:

- Insulin prescribing
- Prescribing of biosimilars
- Antibiotic surgical prophylaxis

For insulin prescribing, primary care data are also provided to facilitate a more comprehensive analysis.

- Prescribing of long-acting insulin analogues increased in secondary care compared with the equivalent quarter of the previous year; however, there was a decrease in primary care usage, in line with the aim of the NPI.
- Of the five biosimilar medicines being monitored there was an increase in the overall use of four (infliximab, etanercept, rituximab and insulin glargine) compared with the equivalent quarter of the previous year, in line with the aim of the NPI.
- Data for duration of colorectal surgical antibiotic prophylaxis indicate that there has been a decrease in the percentage of patients in Wales receiving prophylaxis for greater than 24 hours compared with the equivalent quarter of the previous year, in line with the aim of the NPI.

The 2017–2018 NPI report for quarter ending March 2018 will be available on 16 July 2018.



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PRACTICES ACHIEVING INDICATOR THRESHOLDS FOR PRIMARY CARE NPIS

The table below shows the extent to which practices in each health board met the indicator thresholds:

- The figure in the cell is the number of practices in each health board meeting the indicator threshold.
- The percentage figure and cell colour represent the proportion of practices in each health board meeting the indicator threshold.

Practices achieving the indicator threshold – Quarter ending December 2017

Indicator Description	Abertawe Bro Morgannwg	Aneurin Bevan	Betsi Cadwaladr	Cardiff and Vale	Cwm Taf	Hywel Dda	Powys
Proton pump inhibitor DDDs per 1,000 PUs	20 27%	19 24%	31 28%	40 61%	12 28%	21 40%	4 24%
High-strength ICS items as % of all ICS	8 11%	32 40%	44 40%	44 67%	5 12%	19 36%	7 41%
Hypnotic and anxiolytic ADQs per 1,000 STAR-PUs	20 27%	27 34%	30 28%	36 55%	11 26%	9 17%	9 53%
Tramadol DDDs per 1,000 patients	18 25%	25 31%	30 28%	30 45%	6 14%	17 32%	9 53%
Opioid patch items as % of all opioid prescribing	52 71%	14 18%	26 24%	25 38%	4 9%	5 9%	2 12%
Gabapentin and pregabalin DDDs per 1,000 patients	12 16%	5 6%	21 19%	33 50%	3 7%	13 25%	5 29%
Co-amoxiclav items per 1,000 patients	17 23%	25 31%	56 51%	30 45%	7 16%	5 9%	4 24%
Co-amoxiclav items as % of antibacterial items	15 21%	18 23%	55 50%	25 38%	9 21%	4 8%	2 12%
Cephalosporin items per 1,000 patients	19 26%	36 45%	14 13%	42 64%	4 9%	7 13%	9 53%
Cephalosporin items as % of antibacterial items	19 26%	45 56%	12 11%	41 62%	4 9%	9 17%	7 41%
Fluoroquinolone items per 1,000 patients	10 14%	38 48%	25 23%	26 39%	17 40%	10 19%	4 24%
Fluoroquinolone items as % of antibacterial items	9 12%	40 50%	21 19%	20 30%	20 47%	10 19%	3 18%
NSAID ADQs per 1,000 STAR-PUs	25 34%	26 33%	38 35%	37 56%	12 28%	15 28%	7 41%

Percentage of practices meeting threshold



PRIMARY CARE

1.0 PROTON PUMP INHIBITORS

Purpose: To encourage appropriate use of proton pump inhibitors (PPIs).

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

Aim: To reduce prescribing

Although 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.

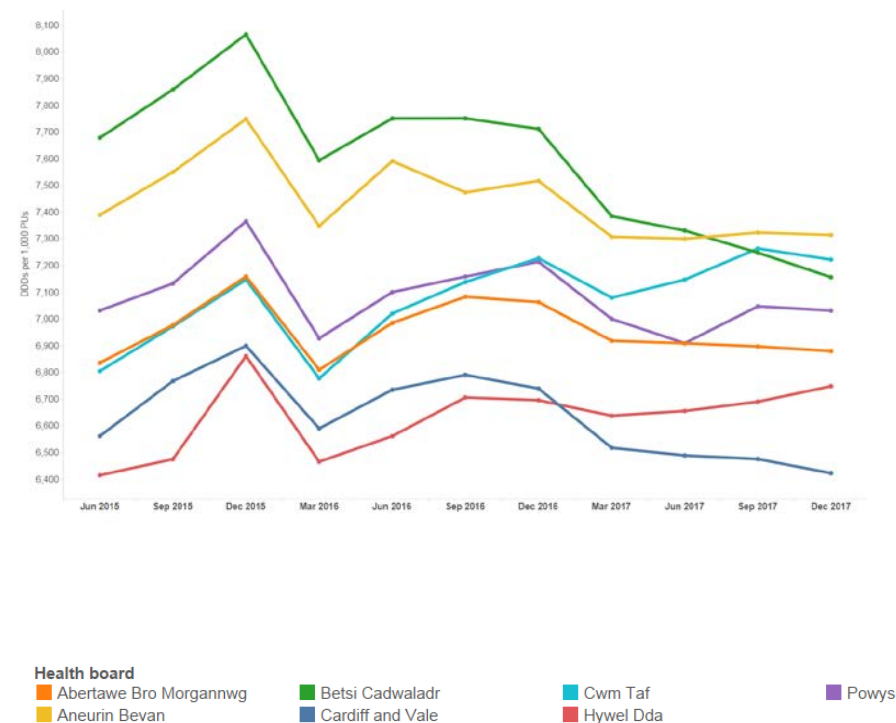
In the quarter to December 2017, PPI prescribing (DDDs per 1,000 PUs) in Wales was 10.9% higher than that seen in England.

- Across Wales, for the quarter ending December 2017, prescribing decreased by 3.37% compared with the equivalent quarter of the previous year, in line with the aim of the NPI.
- For the quarter ending December 2017, PPI usage ranged from 6,424 to 7,315 DDDs per 1,000 PUs across the health boards.
- The health board with the lowest prescribing was Cardiff and Vale whilst the highest prescribing was seen in Aneurin Bevan UHB.
- Six out of the seven health boards demonstrated a reduction in DDDs per 1,000 PUs, compared with the equivalent quarter of the previous year.
- Betsi Cadwaladr UHB demonstrated the largest percentage decrease.
- Hywel Dda UHB demonstrated an increase in prescribing.

Table 1. PPI DDDs per 1,000 PUs

	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Betsi Cadwaladr	7,713	7,157	-7.20%
Cardiff and Vale	6,740	6,424	-4.70%
Aneurin Bevan	7,518	7,315	-2.70%
Abertawe Bro Morgannwg	7,064	6,881	-2.60%
Powys	7,215	7,032	-2.54%
Cwm Taf	7,228	7,223	-0.07%
Hywel Dda	6,697	6,749	0.78%
Wales	7,223	6,979	-3.37%

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



2.0 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: High-strength ICS items as a percentage of all ICS prescribing.

Aim: To reduce prescribing

This indicator is new for 2017–2018 and replaces the low-strength ICS indicator.

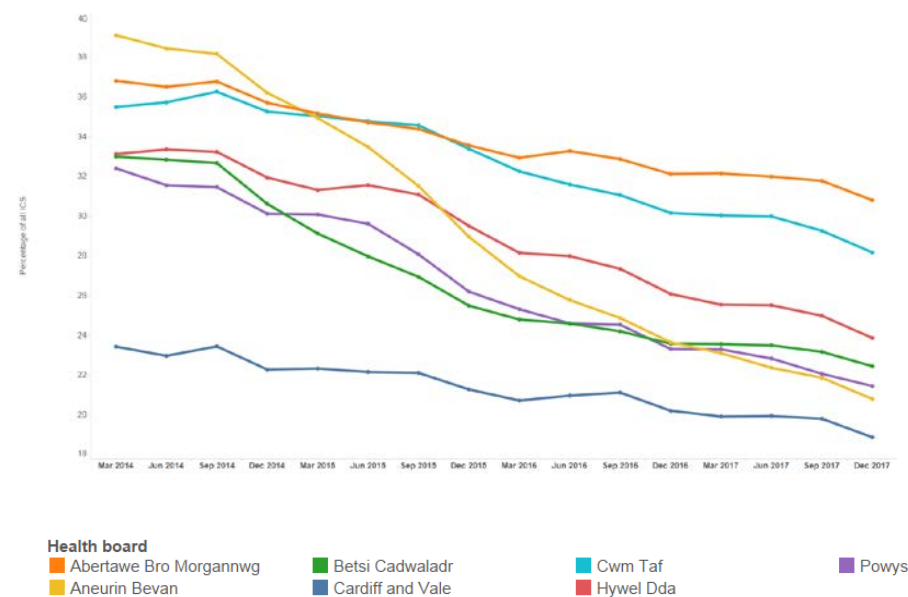
Potentially serious systemic side effects, such as adrenal suppression, growth failure, decrease in bone mineral density, cataracts and glaucoma, may be associated with ICS, particularly at high doses.

- Across Wales, for the quarter ending December 2017, prescribing decreased by 7.00% compared with the equivalent quarter of the previous year, in line with the aim of the NPI.
- For the quarter ending December 2017, the proportion of high-strength ICS prescribing ranged from 18.9% to 30.8% across the health boards.
- The health board with the lowest percentage was Cardiff and Vale UHB, whilst the highest percentage was seen in Abertawe Bro Morgannwg UHB.
- The proportion of high-strength ICS prescribing decreased across all health boards compared with the equivalent quarter of the previous year.
- The greatest percentage decrease was seen in Aneurin Bevan UHB, and the smallest percentage decrease was seen in Abertawe Bro Morgannwg UHB.

Table 2. High-strength ICS prescribing as a percentage of all ICS prescribing

	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Aneurin Bevan	23.6	20.8	-12.1%
Hywel Dda	26.1	23.9	-8.50%
Powys	23.3	21.5	-7.98%
Cardiff and Vale	20.2	18.9	-6.61%
Cwm Taf	30.2	28.2	-6.59%
Betsi Cadwaladr	23.6	22.4	-4.82%
Abertawe Bro Morgannwg	32.1	30.8	-4.11%
Wales	25.8	24.0	-7.00%

Figure 2. Trend in high-strength ICS prescribing as a percentage of all ICS prescribing



3.0 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 hypnotic and anxiolytic 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.

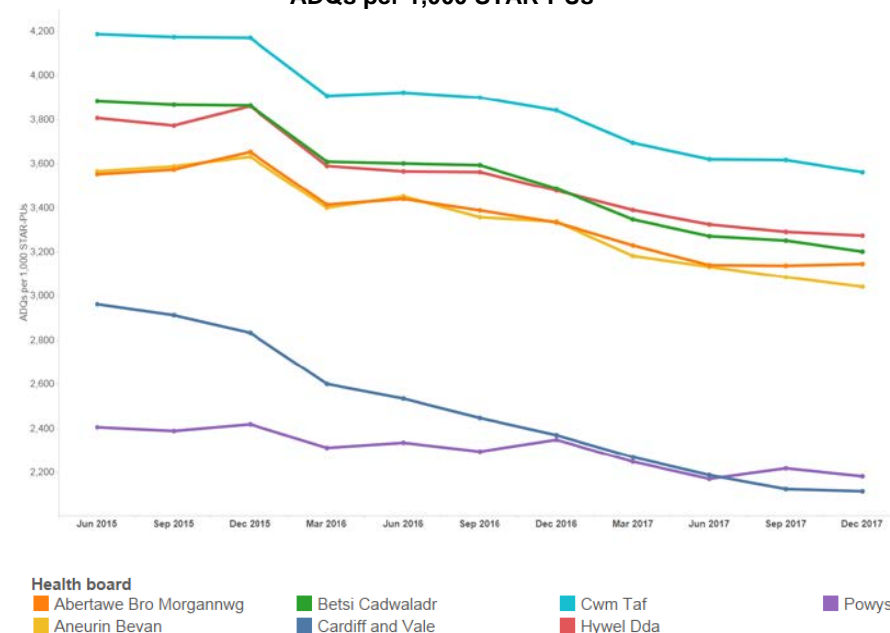
For the quarter ending December 2017, prescribing in Wales (ADQs per 1,000 STAR-PUs) was 47.9% higher than that seen in England.

- Across Wales, the prescribing of hypnotics and anxiolytics decreased by 7.65% for the quarter ending December 2017, in line with the aim of this indicator.
- For the quarter ending December 2017, hypnotic and anxiolytic prescribing ranged from 2,114 to 3,563 ADQs per 1,000 STAR-PUs 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.
- Hypnotic and anxiolytic prescribing decreased compared with the equivalent quarter of the previous year in all of the health boards.
- The largest percentage decrease was seen in Cardiff and Vale UHB, and the smallest percentage decrease was seen in Abertawe Bro Morgannwg UHB.

Table 3. Hypnotic and anxiolytic ADQs per 1,000 STAR-PUs

	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Cardiff and Vale	2,369	2,114	-10.7%
Aneurin Bevan	3,338	3,042	-8.86%
Betsi Cadwaladr	3,488	3,202	-8.21%
Cwm Taf	3,842	3,563	-7.26%
Powys	2,348	2,182	-7.10%
Hywel Dda	3,479	3,274	-5.87%
Abertawe Bro Morgannwg	3,334	3,146	-5.63%
Wales	3,255	3,006	-7.65%

Figure 3. Trend in hypnotic and anxiolytic prescribing ADQs per 1,000 STAR-PUs



4.0 ANALGESICS

There are three NPIs monitoring the usage of medicines used for the treatment of pain for 2017–2018:

1. Tramadol
2. Opioid patches
3. Gabapentin and pregabalin

4.1 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

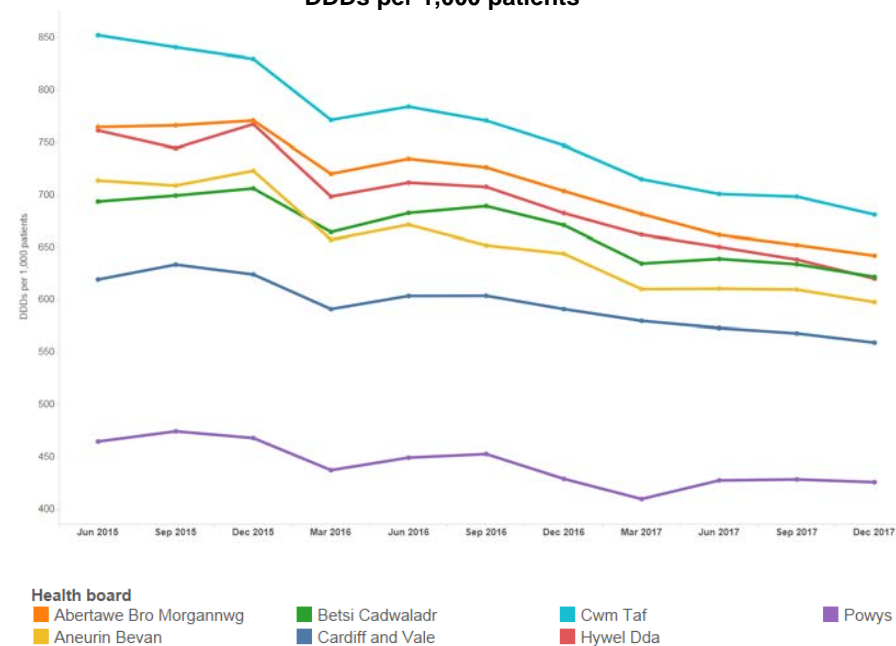
Whilst there is a recognised place in pain management for tramadol, there are concerns regarding the risks associated with misuse and diversion. This NPI promotes a prudent approach to prescribing tramadol, taking into account the risks and benefits, and encouraging timely review.

- Across Wales, prescribing of tramadol was 7.49% lower in the quarter ending December 2017, than in the equivalent quarter of the previous year. This is in line with the aim of the indicator.
- For the quarter ending December 2017, tramadol prescribing ranged from 426 to 681 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 with the equivalent quarter of the previous year in all of the health boards.
- The largest percentage decrease was seen in Hywel Dda UHB and the smallest percentage decrease was seen in Powys Teaching HB.

Table 4. Tramadol DDDs per 1,000 patients

	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Hywel Dda	682	620	-9.14%
Cwm Taf	747	681	-8.82%
Abertawe Bro Morgannwg	704	642	-8.76%
Betsi Cadwaladr	671	622	-7.35%
Aneurin Bevan	644	598	-7.21%
Cardiff and Vale	591	559	-5.36%
Powys	429	426	-0.75%
Wales	657	608	-7.49%

Figure 4. Trend in tramadol prescribing DDDs per 1,000 patients



4.2 Opioid patches

Purpose: To encourage the appropriate use and review of opioid patches.

Unit of measure: Opioid patch items as a percentage of all opioid prescribing.

Aim: To reduce prescribing

Opioid patches are recommended as a treatment option only where analgesic requirements are stable and where oral opioids are unsuitable. A number of safety concerns around the use of opioid patches have been highlighted, with anecdotal evidence suggesting that patches are not always prescribed appropriately.

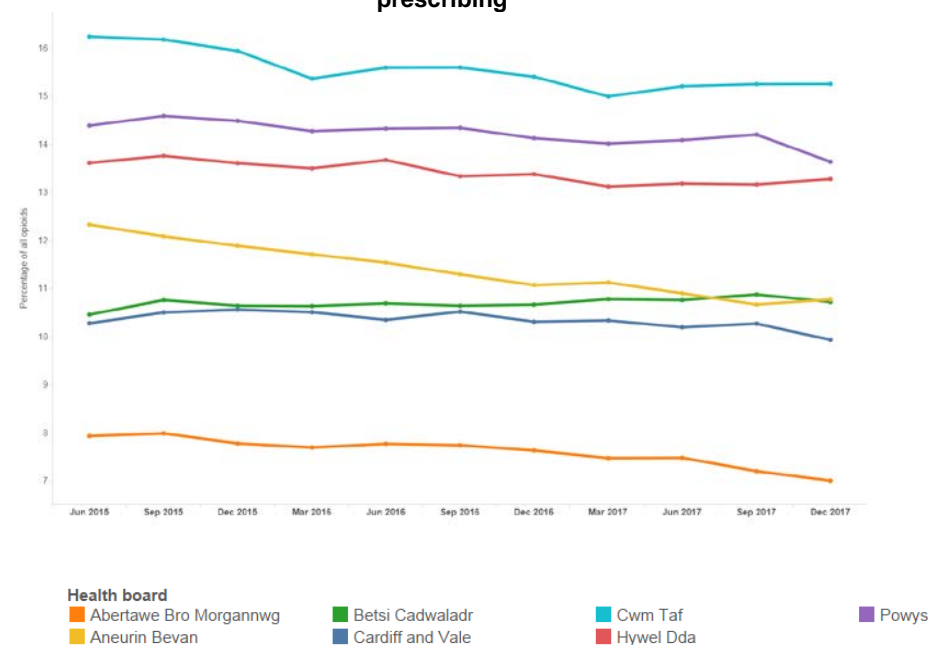
This is a new indicator for 2017–2018, the aim of which is to highlight that prescribers should make evidence-based, informed decisions based on the individual needs of the patient. Prescribers should ensure that when an opioid patch is indicated, the patch with the lowest acquisition cost is initiated.

- Across Wales, use of opioid patches as a percentage of all opioid prescribing was 2.05% lower in the quarter ending December 2017 than in the equivalent quarter of the previous year. This is in line with the aim of the indicator.
- For the quarter ending December 2017, the proportion of opioid patch prescribing ranged from 7.01% to 15.3%.
- The health board with the lowest proportion was Abertawe Bro Morgannwg UHB, whilst the highest proportion was seen in Cwm Taf UHB.
- The proportion of opioid patches prescribed decreased compared with the equivalent quarter of the previous year in six out of the seven health boards. The largest percentage decrease was seen in Abertawe Bro Morgannwg UHB.
- Betsi Cadwaladr UHB demonstrated an increase in prescribing.

Table 5. Opioid patch items as a percentage of all opioid prescribing

	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Abertawe Bro Morgannwg	7.64	7.01	-8.24%
Cardiff and Vale	10.3	9.94	-3.66%
Powys	14.1	13.6	-3.46%
Aneurin Bevan	11.1	10.8	-2.70%
Cwm Taf	15.4	15.3	-0.99%
Hywel Dda	13.4	13.3	-0.76%
Betsi Cadwaladr	10.7	10.7	0.52%
Wales	11.2	11.0	-2.05%

Figure 5. Trend in opioid patch items as a percentage of all opioid prescribing



4.3 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

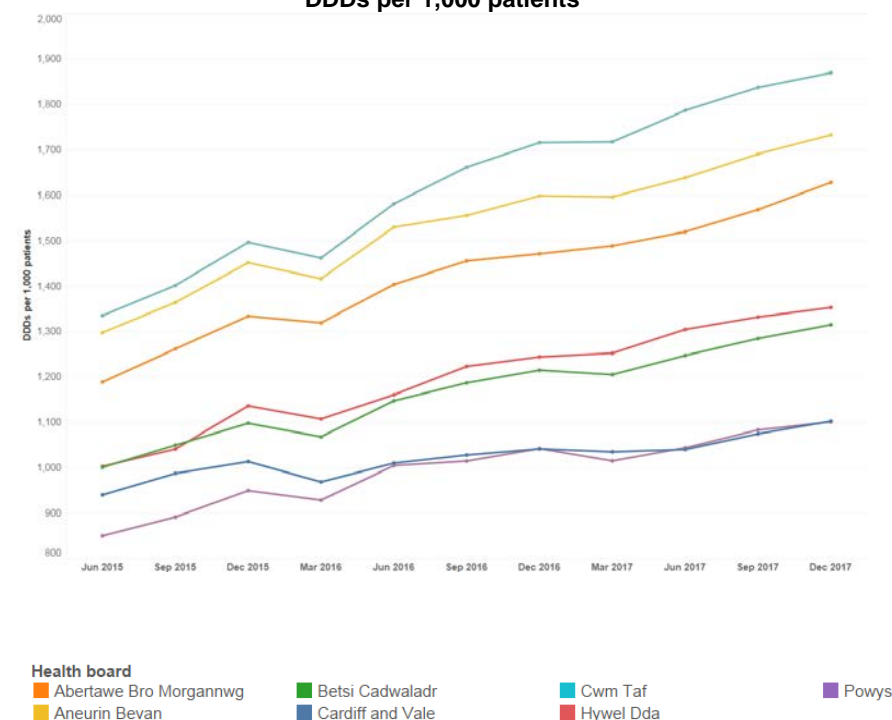
Gabapentin and pregabalin have a well-defined role in the management of a number of conditions including epilepsy and neuropathic pain, and pregabalin also has a role in treatment of generalised anxiety disorder. Both gabapentin and pregabalin have known psychiatric side effects and there is a potential 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.

- Across Wales, for the quarter ending December 2017, prescribing of gabapentin and pregabalin increased by 8.51% compared with the same quarter of the previous year.
- For the quarter ending December 2017, gabapentin and pregabalin prescribing ranged from 1,102 to 1,870 DDDs per 1,000 patients across the health boards.
- The health board with the lowest prescribing was Powys Teaching UHB, whilst the highest prescribing was seen in Cwm Taf UHB.
- Gabapentin and pregabalin prescribing increased compared with the equivalent quarter of the previous year in all of the health boards.
- The smallest percentage increase was seen in Powys Teaching HB and the largest percentage increase was seen in Abertawe Bro Morgannwg UHB.

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

	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Powys	1,043	1,102	5.63%
Cardiff and Vale	1,042	1,103	5.84%
Betsi Cadwaladr	1,215	1,315	8.22%
Aneurin Bevan	1,599	1,733	8.37%
Hywel Dda	1,245	1,353	8.72%
Cwm Taf	1,716	1,870	8.96%
Abertawe Bro Morgannwg	1,471	1,628	10.7%
Wales	1,347	1,462	8.51%

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



5.0 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 2017–2018:

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

5.1 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.

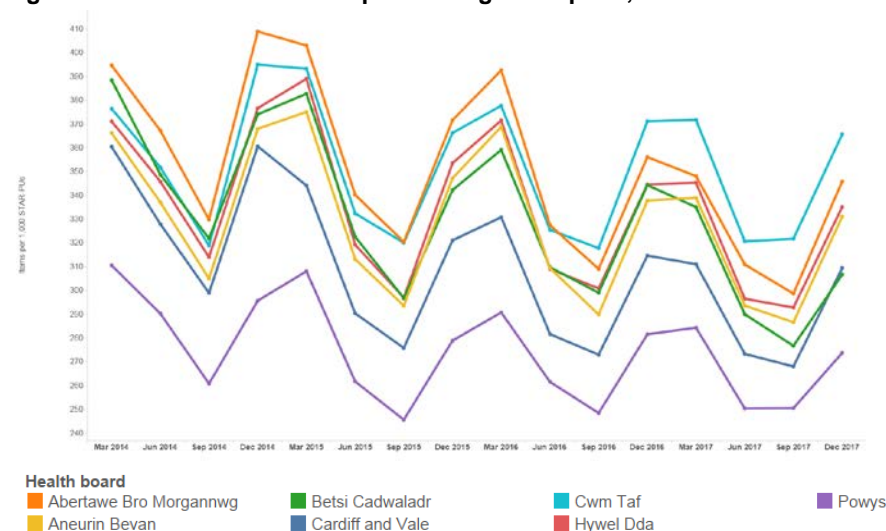
- Across Wales, for the quarter ending December 2017, antibacterial prescribing decreased by 4.20%, compared with the equivalent quarter of the previous year.
- For the quarter ending December 2017, the total number of antibacterial items per 1,000 STAR-PUs ranged from 274 to 366 across the health boards.
- The health board with the lowest prescribing was Powys Teaching HB, whilst the highest prescribing was seen in Cwm Taf UHB.
- For the quarter ending December 2017, antibacterial prescribing decreased in all seven health boards compared with the equivalent quarter of the previous year.

- Betsi Cadwaladr UHB demonstrated the greatest percentage reduction in prescribing compared with the equivalent quarter of the previous year.
- Cwm Taf UHB demonstrated the smallest percentage reduction in prescribing, compared with the equivalent quarter of the previous year.

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

	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Betsi Cadwaladr	344	307	-10.9%
Abertawe Bro Morgannwg	356	346	-2.87%
Powys	282	274	-2.79%
Hywel Dda	345	335	-2.75%
Aneurin Bevan	338	331	-2.00%
Cardiff and Vale	315	309	-1.65%
Cwm Taf	371	366	-1.47%
Wales	340	326	-4.20%

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



5.2 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

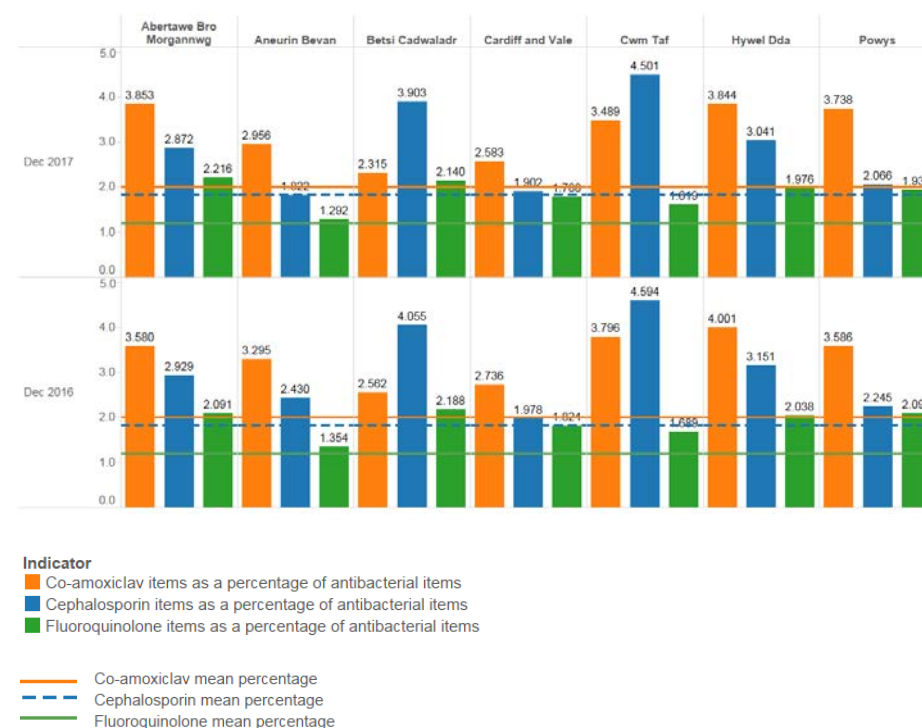
Aim: To reduce prescribing

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

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

- Across Wales, for the quarter ending December 2017, the number of items of co-amoxiclav, cephalosporins and fluoroquinolones as a percentage of all antibacterial prescribing was lower than the equivalent quarter of the previous year (by 3.77%, 6.99% and 1.77% respectively).
- The proportion of co-amoxiclav prescribing decreased, compared with the equivalent quarter of the previous year, in five out of the seven health boards. The largest percentage decrease was seen in Aneurin Bevan UHB (10.3%). There were increases of 7.61% and 4.23% in Abertawe Bro Morgannwg UHB and Powys Teaching HB respectively.
- The proportion of cephalosporin prescribing decreased, compared with the equivalent quarter of the previous year, in all seven health boards. The largest percentage decrease was seen in Aneurin Bevan UHB (25.0%). The smallest percentage decrease was seen in Abertawe Bro Morgannwg UHB (1.97%).
- The proportion of fluoroquinolone prescribing decreased, compared with the equivalent quarter of the previous year, in six out of the seven health boards. The largest percentage decrease was seen in Powys Teaching HB (7.49%). Abertawe Bro Morgannwg UHB demonstrated an increase of 6.00%.

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



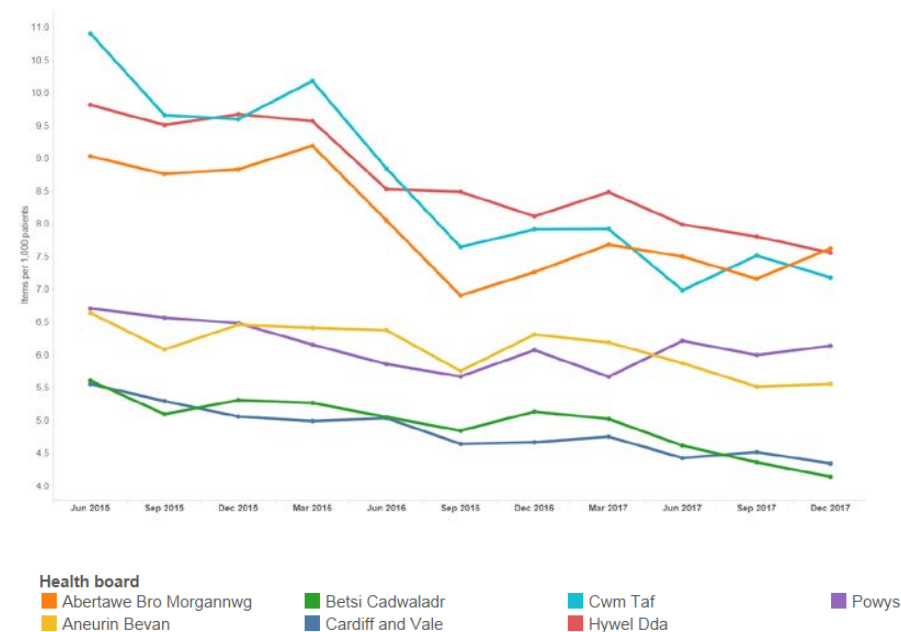
5.2.2 Co-amoxiclav items per 1,000 patients

- Across Wales, for the quarter ending December 2017, the number of co-amoxiclav items per 1,000 patients decreased by 7.68%, compared with the equivalent quarter of the previous year, in line with the aim of this indicator.
- For the quarter ending December 2017, co-amoxiclav prescribing ranged from 4.14 to 7.63 items per 1,000 patients across the health boards.
- The health board with the lowest prescribing was Betsi Cadwaladr UHB, whilst the highest prescribing was seen in Abertawe Bro Morgannwg UHB.
- Co-amoxiclav prescribing decreased compared with the equivalent quarter of the previous year in five out of the seven health boards.
- The largest percentage decrease was seen in Betsi Cadwaladr UHB.
- Abertawe Bro Morgannwg UHB and Powys Teaching HB demonstrated increases of 4.93% and 1.07% respectively.

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

	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Betsi Cadwaladr	5.14	4.14	-19.4%
Aneurin Bevan	6.32	5.56	-11.9%
Cwm Taf	7.92	7.19	-9.26%
Cardiff and Vale	4.67	4.35	-6.94%
Hywel Dda	8.12	7.56	-6.85%
Powys	6.08	6.14	1.07%
Abertawe Bro Morgannwg	7.27	7.63	4.93%
Wales	6.32	5.83	-7.68%

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



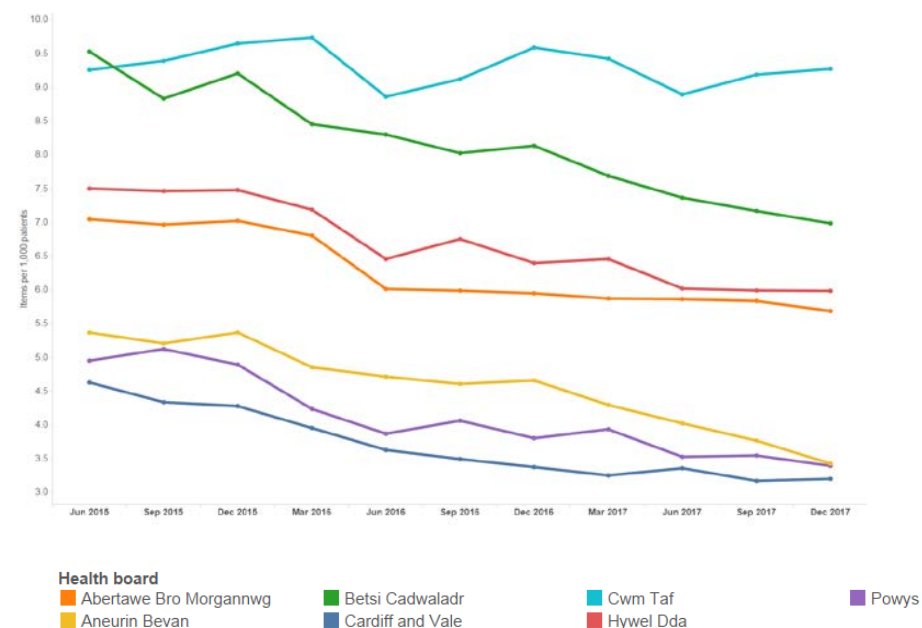
5.2.3 Cephalosporin items per 1,000 patients

- Across Wales, for the quarter ending December 2017, the number of cephalosporin items per 1,000 patients decreased by 10.8%, compared with the equivalent quarter of the previous year, in line with the aim of this indicator.
- For the quarter ending December 2017, cephalosporin prescribing ranged from 3.20 to 9.27 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 with the equivalent quarter of the previous year in all seven health boards.
- The largest percentage decrease was seen in Aneurin Bevan UHB.
- The smallest percentage decrease was seen in Cwm Taf UHB.

Table 9. Cephalosporin items per 1,000 patients

	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Aneurin Bevan	4.66	3.43	-26.4%
Betsi Cadwaladr	8.13	6.98	-14.1%
Powys	3.80	3.39	-10.8%
Hywel Dda	6.40	5.98	-6.44%
Cardiff and Vale	3.38	3.20	-5.19%
Abertawe Bro Morgannwg	5.95	5.69	-4.41%
Cwm Taf	9.59	9.27	-3.28%
Wales	6.08	5.43	-10.8%

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



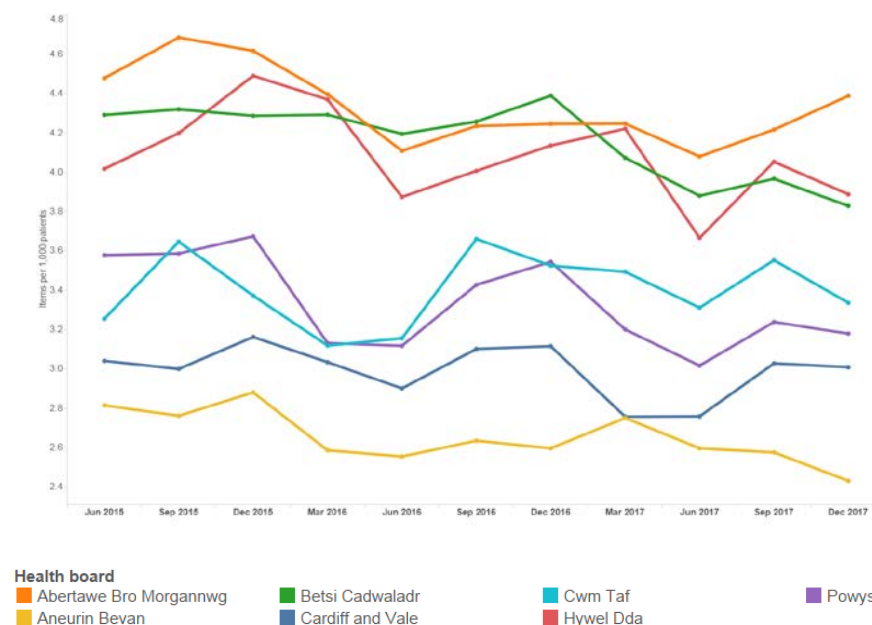
5.2.4 Fluoroquinolone items per 1,000 patients

- Across Wales, for the quarter ending December 2017, the number of fluoroquinolone items per 1,000 patients decreased by 5.76%, compared with the equivalent quarter of the previous year. This is in line with the aim of the indicator.
- For the quarter ending December 2017, fluoroquinolone prescribing ranged from 2.43 to 4.39 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 Abertawe Bro Morgannwg UHB.
- Fluoroquinolone prescribing decreased compared with the equivalent quarter of the previous year in six out of the seven health boards.
- Betsi Cadwaladr UHB demonstrated the greatest percentage reduction in prescribing compared with the equivalent quarter of the previous year.
- Abertawe Bro Morgannwg UHB demonstrated an increase in prescribing compared with the equivalent quarter of the previous year.

Table 10. Fluoroquinolone items per 1,000 patients

	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Betsi Cadwaladr	4.39	3.83	-12.8%
Powys	3.54	3.18	-10.3%
Aneurin Bevan	2.60	2.43	-6.38%
Hywel Dda	4.14	3.89	-6.00%
Cwm Taf	3.52	3.34	-5.36%
Cardiff and Vale	3.11	3.01	-3.41%
Abertawe Bro Morgannwg	4.25	4.39	3.36%
Wales	3.67	3.46	-5.76%

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



6.0 ANTICHOLINERGIC BURDEN

Purpose: To encourage a review of patients with an Anticholinergic Effect on Cognition (AEC) score of 3 or more, with the aim of reducing anticholinergic use where appropriate.

Unit of measure: Patients aged 75 and over with an AEC score of 3 or more for items on active repeat, as a percentage of all patients aged 75 and over.

Aim: To reduce the prescribing of medicines contributing to the AEC score

An increasing number of studies report that medicines with anticholinergic effects are associated with an increased risk of cognitive impairment, dementia and falls in older people. The cumulative effect of taking one or more medicines with anticholinergic properties is referred to as anticholinergic burden.

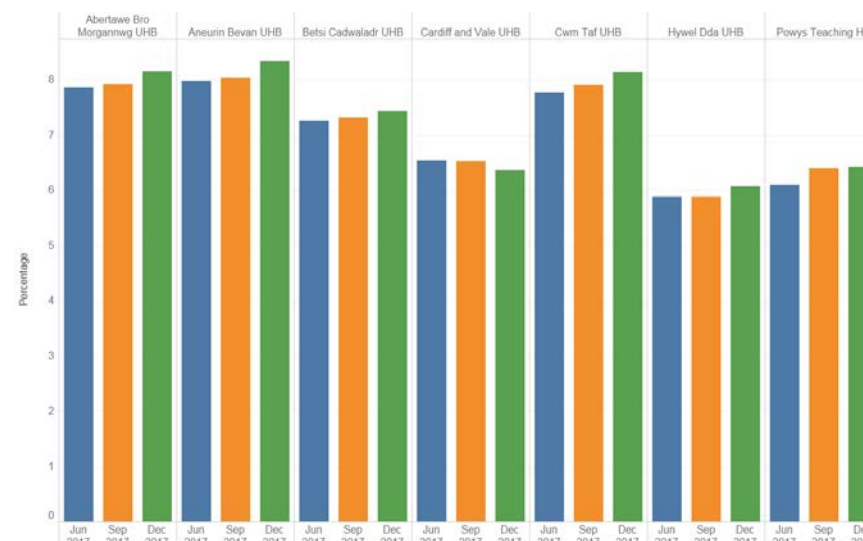
This is a new indicator for 2017–2018 and aims to encourage timely review to reduce the anticholinergic burden in older people, by avoiding, reducing and deprescribing medicines with anticholinergic activity where clinically possible.

- Across Wales, for the quarter ending December 2017, the number of patients aged 75 and over with an AEC score of 3 or more for items on active repeat, as a percentage of all patients aged 75 and over, increased by 2.07% compared with the previous quarter.
- For the quarter ending December 2017, health board percentages ranged from 6.07% to 8.33%.
- The health board with the lowest percentage was Hywel Dda UHB, whilst the highest percentage was seen in Aneurin Bevan UHB.
- Percentages decreased, compared with the previous quarter, in one out of the seven health boards.
- Cardiff and Vale UHB demonstrated a 2.30% decrease, whilst Aneurin Bevan UHB demonstrated the largest percentage increase of 3.61%.

Table 11. Number of patients aged 75 and over with an AEC score of 3 or more for items on active repeat, as a percentage of all patients aged 75 and over

	2017–2018 Qtr 2	2017–2018 Qtr 3	% Change
Cardiff and Vale	6.52	6.37	-2.30%
Powys	6.40	6.43	0.47%
Betsi Cadwaladr	7.31	7.43	1.64%
Abertawe Bro Morgannwg	7.92	8.15	2.90%
Cwm Taf	7.91	8.14	2.91%
Hywel Dda	5.88	6.07	3.23%
Aneurin Bevan	8.04	8.33	3.61%
Wales	7.25	7.40	2.07%

Figure 12. Number of patients aged 75 and over with an AEC score of 3 or more for items on active repeat, as a percentage of all patients aged 75 and over



7.0 NON-STEROIDAL ANTI-INFLAMMATORY DRUGS

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

There are two NSAID NPIs for 2017–2018.

1. All NSAIDs
2. NSAIDs and chronic kidney disease (CKD)

7.1 All NSAIDs

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

Aim: To reduce prescribing

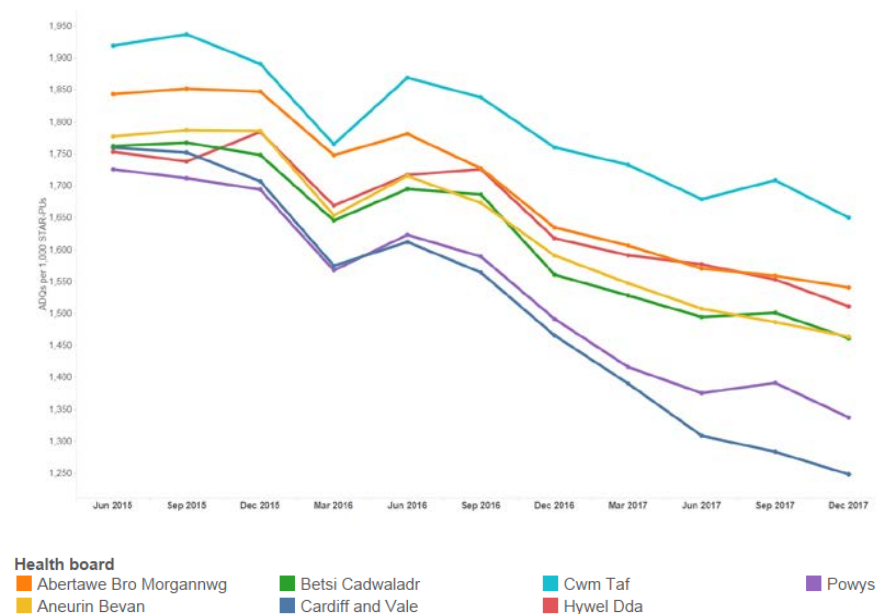
This indicator aims to encourage a reduction in total NSAID prescribing, which is 26.7% higher than that seen in England. NSAIDs are associated with increased risk of serious gastro-intestinal toxicity, cardiovascular adverse events and renal failure, and are contraindicated in many other disease areas.

- Across Wales, for the quarter ending December 2017, NSAID prescribing decreased (by 7.87%), in line with the aim of the indicator, compared with the equivalent quarter of the previous year.
- For the quarter ending December 2017, total NSAID prescribing ranged from 1,249 to 1,650 ADQs per 1,000 STAR-PUs 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 with the equivalent quarter of the previous year in all of the health boards.
- The largest percentage decrease was seen in Cardiff and Vale UHB, and the smallest percentage decrease was seen in Abertawe Bro Morgannwg UHB.

Table 12. NSAID ADQs per 1,000 STAR-PUs

	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Cardiff and Vale	1,466	1,249	-14.8%
Powys	1,492	1,337	-10.3%
Aneurin Bevan	1,591	1,464	-7.98%
Hywel Dda	1,618	1,511	-6.58%
Betsi Cadwaladr	1,561	1,461	-6.38%
Cwm Taf	1,760	1,650	-6.25%
Abertawe Bro Morgannwg	1,635	1,541	-5.75%
Wales	1,588	1,463	-7.87%

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



7.2 NSAIDs and CKD

Units of measure:

- Number of patients on the CKD register (CKD stage 3–5) who have received a repeat prescription for an NSAID within the last 3 months, as a percentage of all patients on the CKD register.
- Number of patients who are not on the CKD register but have an eGFR of < 59 ml/min, and have received a repeat prescription for an NSAID within the last 3 months, as a percentage of all patients who are not on the CKD register but have an eGFR of < 59 ml/min.

Aim: To reduce prescribing

In patients with CKD, the chronic use of NSAIDs may be associated with disease progression. The effects on GFR should be monitored when treating people with CKD with NSAIDs over prolonged periods of time. NSAIDs may precipitate renal failure, and vulnerable patients, such as the elderly, may be at increased risk.

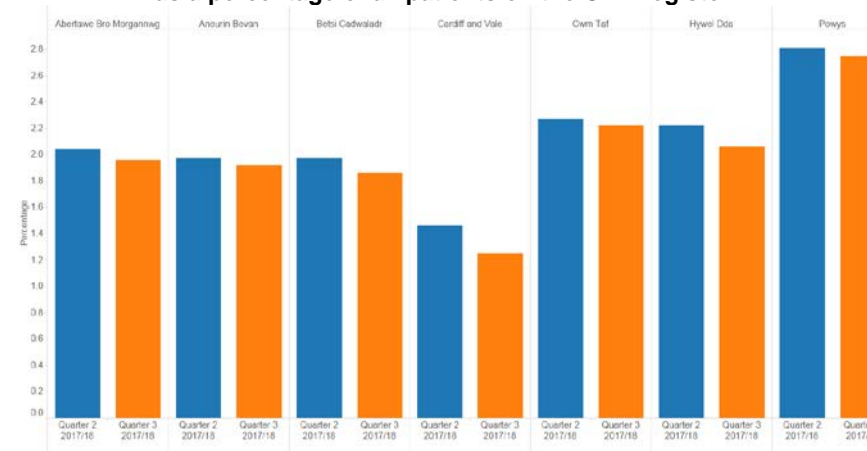
The aim of this NPI is to highlight the requirement for regular review of the ongoing need for an NSAID, and reassessment of the risk versus benefit. As this is a new indicator for 2017–2018, data for the quarter ending December 2017 are compared with data for quarter ending September 2017.

- Across Wales, percentage of patients on the CKD register receiving a repeat prescription for an NSAID in the last 3 months decreased by 4.90%.
- For the quarter ending December 2017, percentage ranged from 1.25 to 2.75 across the health boards.
- The health board with the lowest percentage was Cardiff and Vale UHB whilst the highest percentage was seen in Powys Teaching HB.
- All seven health boards demonstrated a reduction, compared with the previous quarter of the same year.
- Cardiff and Vale UHB demonstrated the largest percentage decrease and Powys Teaching HB demonstrated the smallest percentage decrease.

Table 13. Number of patients on the CKD register (CKD stage 3–5) who have received a repeat prescription for an NSAID within the last 3 months, as a percentage of all patients on the CKD register

	2017–2018 Qtr 2	2017–2018 Qtr 3	% Change
Cardiff and Vale	1.46	1.25	-14.4%
Hywel Dda	2.22	2.06	-7.21%
Betsi Cadwaladr	1.97	1.86	-5.58%
Abertawe Bro Morgannwg	2.04	1.96	-3.92%
Aneurin Bevan	1.97	1.92	-2.54%
Cwm Taf	2.27	2.22	-2.20%
Powys	2.81	2.75	-2.14%
Wales	2.04	1.94	-4.90%

Figure 14. Number of patients on the CKD register (CKD stage 3–5) who have received a repeat prescription for an NSAID within the last 3 months, as a percentage of all patients on the CKD register



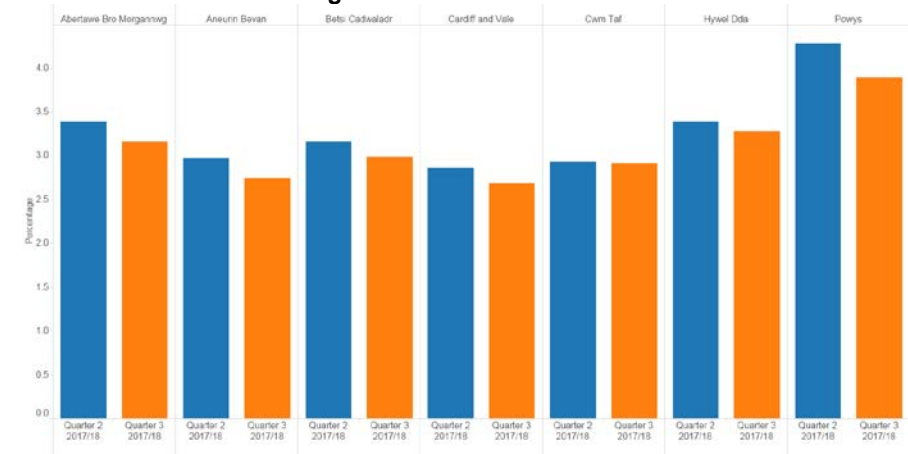
Welsh Analytical Prescribing Support Unit

- Across Wales, percentage of patients not on the CKD register but with an eGFR of < 59 ml/min receiving a repeat NSAID in the last 3 months decreased by 5.30%.
- For the quarter ending December 2017, percentage ranged from 2.68 to 3.89 across the health boards.
- The health board with the lowest percentage was Cardiff and Vale whilst the highest percentage was seen in Powys Teaching HB.
- All seven health boards demonstrated a reduction, compared with the previous quarter of the same year.
- Powys Teaching HB demonstrated the largest percentage decrease and Cwm Taf UHB demonstrated the smallest percentage decrease.

Table 14. Number of patients who are not on the CKD register but have an eGFR of < 59 ml/min, and have received a repeat prescription for an NSAID within the last 3 months, as a percentage of all patients who are not on the CKD register but have an eGFR of < 59 ml/min

	2017–2018 Qtr 2	2017–2018 Qtr 3	% Change
Powys	4.28	3.89	-9.11%
Aneurin Bevan	2.97	2.74	-7.74%
Abertawe Bro Morgannwg	3.39	3.16	-6.78%
Cardiff and Vale	2.86	2.68	-6.29%
Betsi Cadwaladr	3.16	2.98	-5.70%
Hywel Dda	3.39	3.28	-3.24%
Cwm Taf	2.93	2.91	-0.68%
Wales	3.21	3.04	-5.30%

Figure 15. Number of patients who are not on the CKD register but have an eGFR of < 59 ml/min, and have received a repeat prescription for an NSAID within the last 3 months, as a percentage of all patients who are not on the CKD register but have an eGFR of < 59 ml/min



8.0 YELLOW CARDS

Purpose: To encourage an increase in the number of Yellow Cards submitted 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.

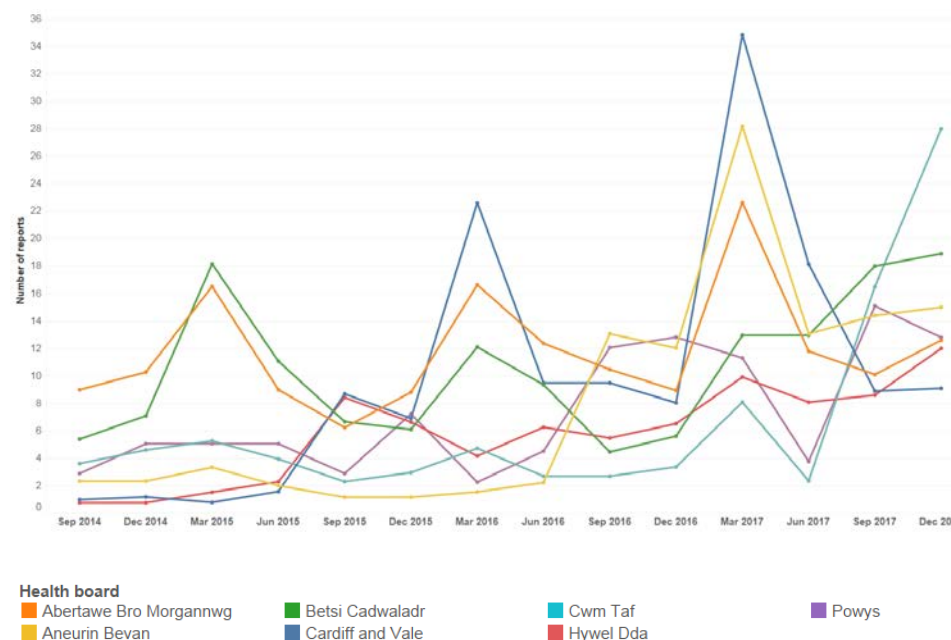
The Yellow Card Scheme is vital in helping the Medicines and Healthcare products Regulatory Agency (MHRA) monitor the safety of medicines and vaccines that are on the market.

- Across Wales, the number of Yellow Cards submitted by GP practices increased by 92% compared with the equivalent quarter of the previous year.
- For the quarter ending December 2017, the number of GP practice reports ranged from 17 to 131 across the health boards.
- Six out of the seven health boards demonstrated an increase, compared with the equivalent quarter of the previous year.
- The largest percentage increase in GP practice Yellow Card reporting was seen in Cwm Taf UHB.
- There was no change for Powys Teaching HB.

Table 15. Number of Yellow Cards submitted by GP practices

	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Cwm Taf	10	83	730%
Betsi Cadwaladr	39	131	236%
Hywel Dda	25	46	84%
Abertawe Bro Morgannwg	47	66	40%
Aneurin Bevan	70	87	24%
Cardiff and Vale	39	44	13%
Powys	17	17	0%
Wales	247	474	92%

Figure 16. Number of GP practice reports per 100,000 health board population



Welsh Analytical Prescribing Support Unit

Across Wales, the number of Yellow Cards submitted by health boards in Wales increased by 41% compared with the equivalent quarter of the previous year.

- For the quarter ending December 2017, number of health board reports ranged from 18 to 192 across the health boards.
- Five out of the seven health boards demonstrated an increase, compared with the equivalent quarter of the previous year.
- The largest percentage increase in health board Yellow Card reporting was seen in Cwm Taf UHB.
- Powys Teaching HB demonstrated the largest percentage decrease.

Table 16. Number of Yellow Cards submitted by health boards

	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Cwm Taf	21	99	371%
Betsi Cadwaladr	116	192	66%
Hywel Dda	62	100	61%
Aneurin Bevan	94	121	29%
Cardiff and Vale	84	95	13%
Abertawe Bro Morgannwg	111	102	-8%
Powys	26	18	-31%
Wales	514	727	41%

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 long- and intermediate-acting 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.

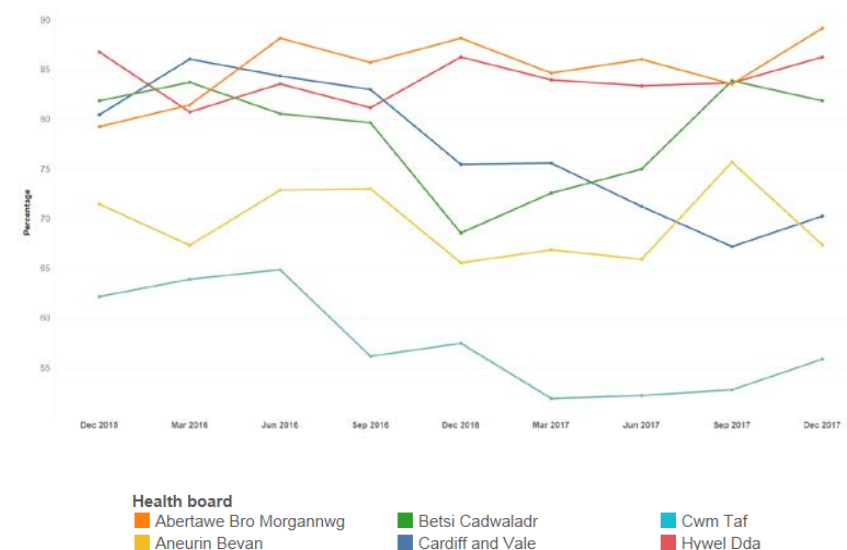
Secondary care prescribing

- Across Wales, secondary care use of long-acting insulin as a percentage of all long- and intermediate-acting insulin prescribing was 3.24% higher in the quarter ending December 2017 than in the equivalent quarter of the previous year.
- For the quarter ending December 2017, prescribing of long-acting insulin analogues as a percentage of total long- and intermediate-acting insulin ranged from 55.9% to 100%.
- The health board/trust with the lowest prescribing percentage was Cwm Taf UHB (55.9%). This was a decrease of 2.85% from the equivalent quarter of the previous year.
- The highest prescribing percentage was seen in Velindre NHS Trust (100%); however, usage in this trust is very low and so percentages and corresponding percentage changes are likely to show a greater magnitude of fluctuation between comparative periods. Abertawe Bro Morgannwg UHB had the next highest prescribing at 89.2%, an increase of 1.52% compared with the equivalent quarter of the previous year.
- The proportion of long-acting insulin analogue prescribing decreased in two of the seven health boards/trusts, compared with the equivalent quarter of the previous year.
- The health board/trust with the greatest percentage decrease was Cardiff and Vale UHB. There was a reduction by 6.92% from 75.5% to 70.3%.

Table 17. Long-acting insulin analogues as a percentage of total long- and intermediate-acting insulin prescribing in secondary care

	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Cardiff and Vale	75.5	70.3	-6.92
Cwm Taf	57.5	55.9	-2.85
Hywel Dda	86.3	86.3	0.05
Abertawe Bro Morgannwg	87.9	89.2	1.52
Aneurin Bevan	65.8	67.4	2.44
Betsi Cadwaladr	68.5	81.9	19.5
Velindre	50.0	100	100
Wales	73.7	76.1	3.24

Figure 17. Trend in long-acting analogue prescribing as a percentage of total long- and intermediate-acting insulin prescribed in secondary care



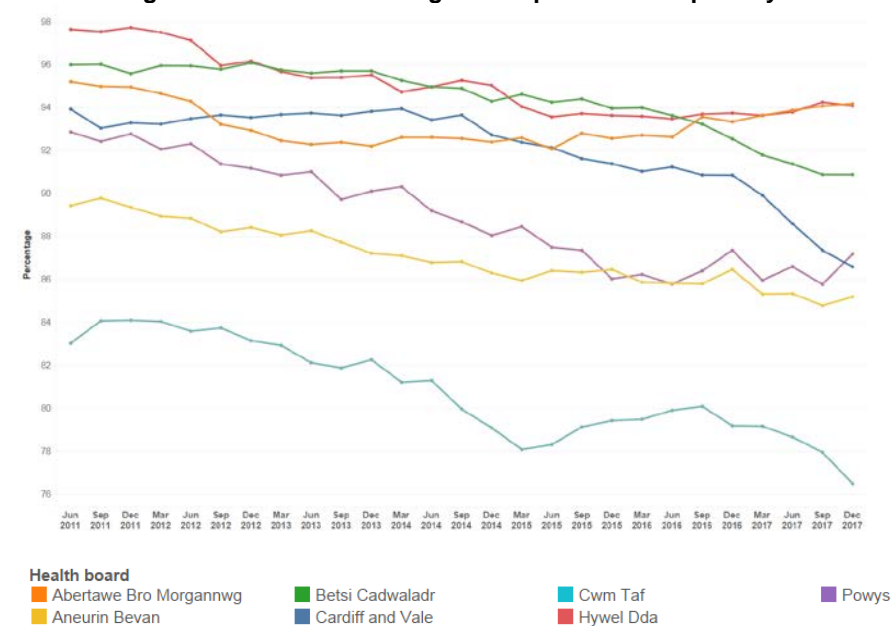
Primary care prescribing

- Across Wales, the prescribing of long-acting insulin analogues as a proportion of total long- and intermediate-acting insulin prescribing decreased by 1.56% for the quarter ending in December 2017, compared with the equivalent quarter of the previous year. This is in line with the aim of the indicator.
- For the quarter ending December 2017, long-acting insulin analogue prescribing ranged from 76.5% to 94.2% across the health boards.
- The health board with the lowest prescribing was Cwm Taf UHB, whilst the highest prescribing was seen in Abertawe Bro Morgannwg UHB.
- Across the seven health boards in Wales prescribing decreased compared with the equivalent quarter of the previous year in five health boards and increased in two health boards.
- The health board/trust with the greatest percentage decrease was Cardiff and Vale UHB. There was a reduction by 4.73% from 90.9% to 86.6%.
- The largest percentage increase was seen in Abertawe Bro Morgannwg UHB. There was an increase by 0.93% from 93.4% to 94.2%.

Table 18. Long-acting insulin analogues as a percentage of total long- and intermediate-acting insulin prescribing in primary care

	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Cardiff and Vale	90.9	86.6	-4.73
Cwm Taf	79.2	76.5	-3.41
Betsi Cadwaladr	92.6	90.9	-1.82
Aneurin Bevan	86.5	85.2	-1.51
Powys	87.4	87.2	-0.24
Hywel Dda	93.8	94.1	0.36
Abertawe Bro Morgannwg	93.4	94.2	0.93
Wales	89.7	88.3	-1.56

Figure 18. 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, Medusa data suggest 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

Across Wales there was a decrease in the use of filgrastim biosimilars (Nivestim®, Zarzio® and Ratiograstim®) as a percentage of all filgrastim for the quarter ending December 2017 compared with the quarter ending December 2016, from 97.94% to 96.47%.

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

Filgrastim (generic)	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Primary care	10	0	-100%
Secondary care	130	217	66.9%
Total	140	217	55.0%
Reference (Neupogen®)	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Primary care	0	0	0%
Secondary care	30	112	273.3%
Total	30	112	273.3%
Biosimilar (Nivestim®, Zarzio®, Ratiograstim®)	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Primary care	0	23	N/A
Secondary care	8,081	8,970	11.00%
Total	8,081	8,993	11.29%

Table 20. Filgrastim biosimilars as a percentage of reference, generic and biosimilar prescribed

	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Primary care	0%	100%	N/A
Secondary care	98.06%	96.46%	-1.63%
Total	97.94%	96.47%	-1.50%

2.1.1 Secondary care

Prescribing of filgrastim biosimilars decreased as a percentage of all filgrastim from 98.06% to 96.46% in secondary care for the quarter ending December 2017 compared with the quarter ending December 2016.

Figure 19. Proportion of filgrastim prescribing as reference and biosimilar (Nivestim®, Ratiograstim® and Zarzio®) in secondary care – Quarter ending December 2017

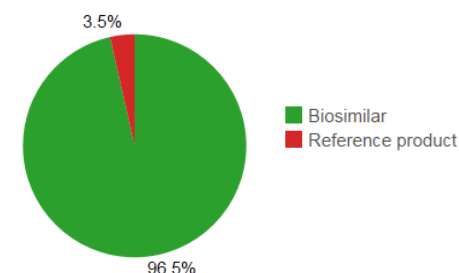
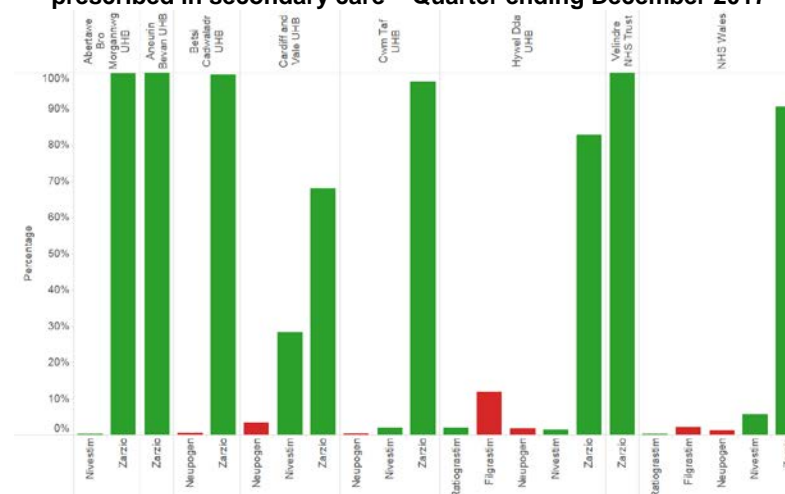


Figure 20. Health board filgrastim reference (Neupogen®) and biosimilar (Nivestim®, Ratiograstim® and Zarzio®) as a percentage of total filgrastim prescribed in secondary care – Quarter ending December 2017



2.1.2 Primary care

Prescribing of filgrastim biosimilar increased as a percentage of all filgrastim from 0% to 100% for the quarter ending December 2017 compared with the quarter ending December 2016.

2.2 Infliximab

Within Wales there was an increase in the use of the infliximab biosimilar (Inflectra®) as a percentage of all infliximab for the quarter ending December 2017 compared with the quarter ending December 2016, from 59.54% to 84.50%.

Table 21. Quantity of infliximab reference (Remicade®) and biosimilar (Inflectra®) prescribed in NHS Wales

Reference (Remicade®)†	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Total	2,439	1,079	-55.75%
Biosimilar (Inflectra®)	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Total	3,589	5,884	63.95%

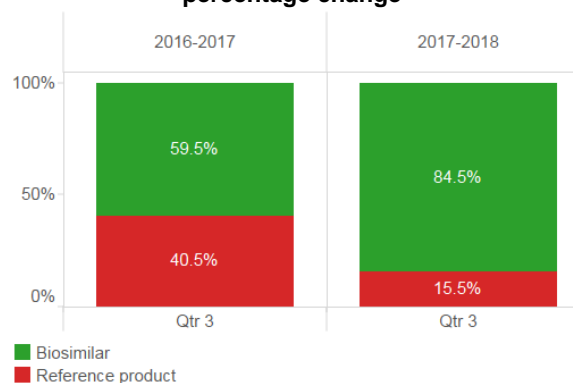
† These data include supplies recorded through homecare.

*Due to quantity discrepancy in the data set, this number has been estimated.

Table 22. Infliximab biosimilars as a percentage of reference and biosimilar prescribed

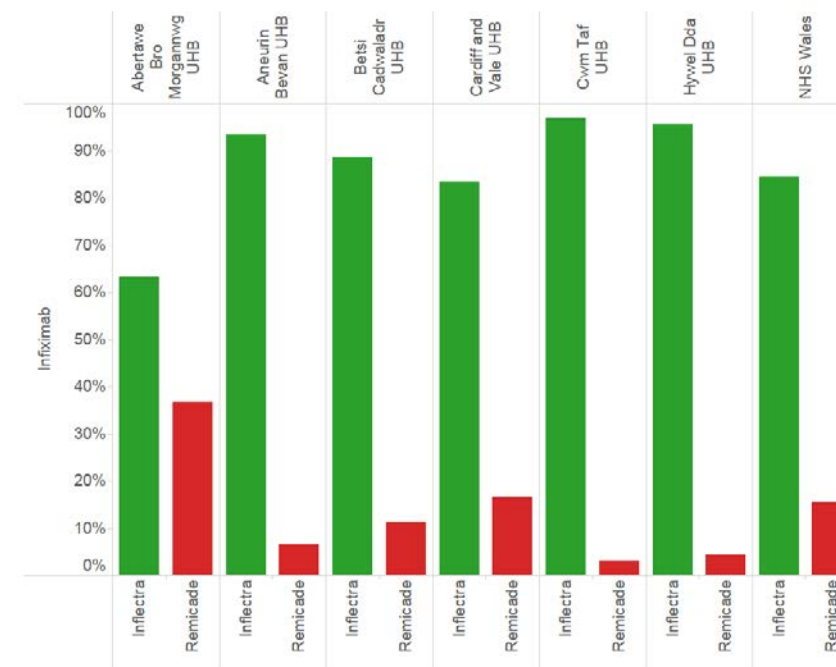
	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Total	59.54%	84.50%	41.93%

Figure 21. Infliximab reference (Remicade®) and biosimilar (Inflectra®) percentage change



2.2.1 Secondary care

Figure 22. Infliximab reference (Remicade®) and biosimilar (Inflectra®) as a proportion of total infliximab prescribed in secondary care – Quarter ending December 2017



2.3 Etanercept

Within Wales there was an increase in the use of the etanercept biosimilar (Benepali®, Erelzi®) as a percentage of all etanercept for the quarter ending December 2017 compared with the quarter ending December 2016, from 19.1% to 64.2%.

Table 23. Quantity of etanercept reference (Enbrel®) and biosimilar (Benepali®, Erelzi®) prescribed in NHS Wales

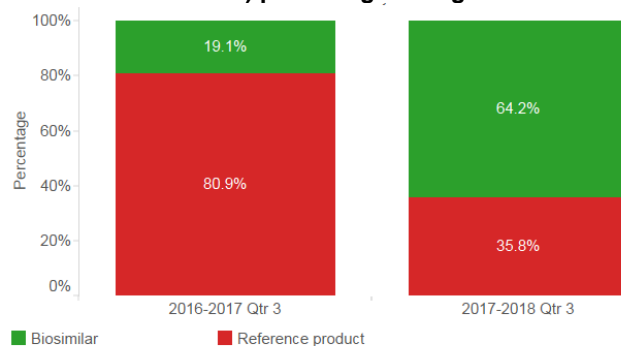
Reference (Enbrel®) [†]	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Total	13,631	7,244	-46.9%
Biosimilar (Benepali®, Erelzi®)	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Total	3,228	13,012	303.1%

[†]These data include supplies recorded through homecare.

Table 24. Etanercept biosimilar as a percentage of reference and biosimilar prescribed

	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Total	19.1%	64.2%	236.1%

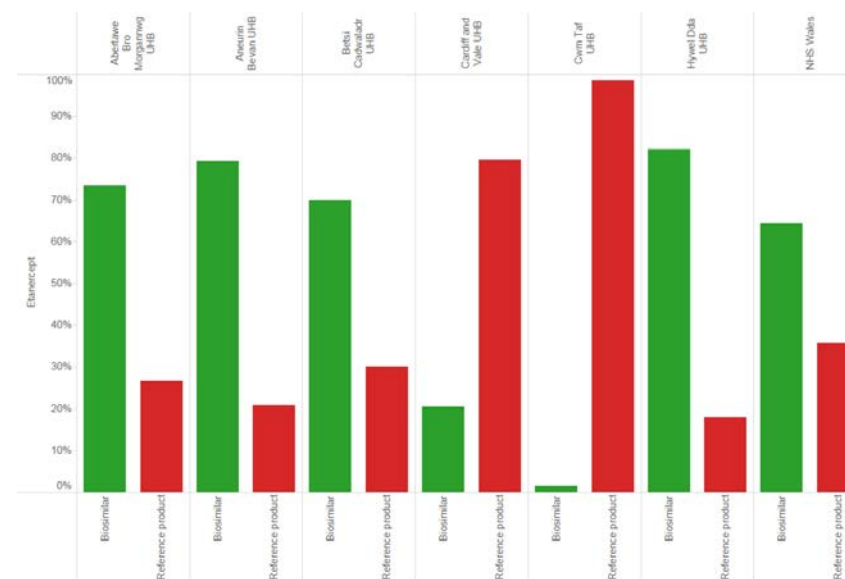
Figure 23. Etanercept reference (Enbrel®) and biosimilar (Benepali®, Erelzi®) percentage change



2.3.1 Secondary care

All health boards have data for biosimilar etanercept prescribing in secondary care. Four health boards (Abertawe Bro Morgannwg, Aneurin Bevan, Betsi Cadwaladr and Hywel Dda University Health Boards) use the biosimilar for the majority of their supplies.

Figure 24. Etanercept reference (Enbrel®) and biosimilar (Benepali®, Erelzi®) as a proportion of total etanercept prescribed in secondary care – Quarter ending December 2017



2.4 Rituximab

Within Wales there was an increase in the use of the rituximab biosimilar (Truxima®) as a percentage of all rituximab from 0% to 66.22% for quarter ending December 2017 compared with the quarter ending December 2016.

Table 25. Quantity of rituximab reference (MabThera®) and biosimilar (Truxima®) prescribed in NHS Wales

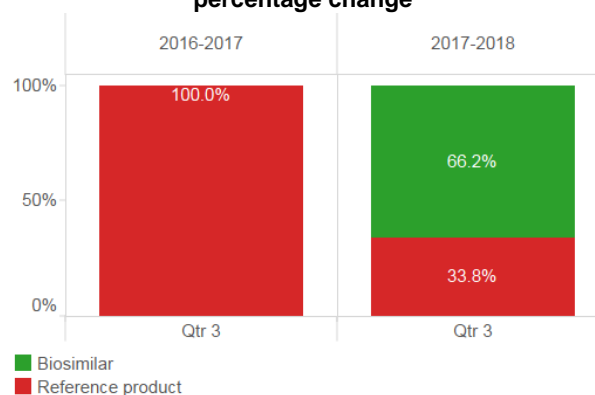
Reference (MabThera®)†	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Total	2,197	827	-62.36%
Biosimilar (Truxima®)	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Total	0	1,621	N/A

†These data include supplies recorded through homecare.

Table 26. Rituximab biosimilar as a percentage of reference and biosimilar prescribed

	2016–2017 Qtr 2	2017–2018 Qtr 2	% Change
Total	0%	66.22%	N/A

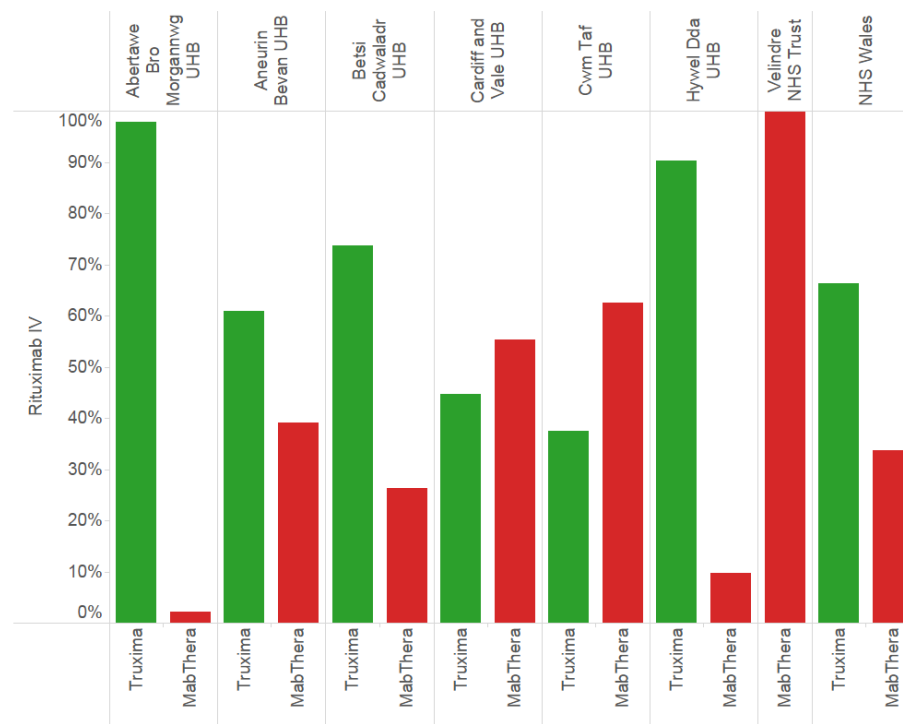
Figure 25. Rituximab reference (MabThera®) and biosimilar (Truxima®) percentage change



2.4.1 Secondary care

Six health boards show biosimilar rituximab prescribing in secondary care.

Figure 26. Rituximab reference (MabThera®) and biosimilar (Truxima®) as a proportion of total rituximab prescribed in secondary care – Quarter ending December 2017



2.5 Insulin glargine

Within Wales there was an increase in the use of insulin glargine biosimilar (Abasaglar®) for quarter ending December 2017 compared with the quarter ending December 2016, from 1.73% to 3.56%.

Table 27. Quantity of insulin glargine reference (Lantus® and Toujeo®) and biosimilar (Abasaglar®) prescribed

Reference (Lantus® and Toujeo®)	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Primary care	208,398	193,592	-7.10%
Secondary care	3,830	4,010	4.70%
Total	212,228	197,602	-6.89%
Biosimilar (Abasaglar®)	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Primary care	3,153	6,793	115.45%
Secondary care	589	493	-16.30%
Total	3,742	7,286	94.71%

Table 28. Insulin glargine biosimilar (Abasaglar®) as a percentage of reference (Lantus® and Toujeo®) and biosimilar prescribed

	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Primary care	1.49%	3.39%	127.45%
Secondary care	13.33%	10.95%	-17.86%
Total	1.73%	3.56%	105.24%

Figure 27. Insulin glargine reference (Lantus® and Toujeo®) and biosimilar (Abasaglar®) percentage change

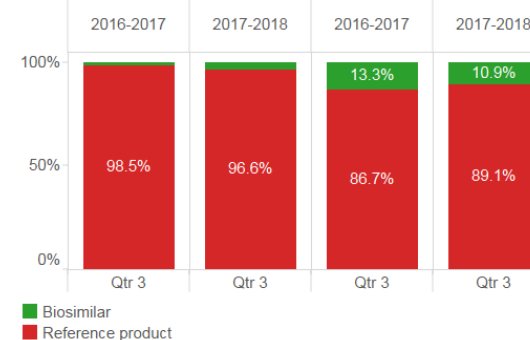
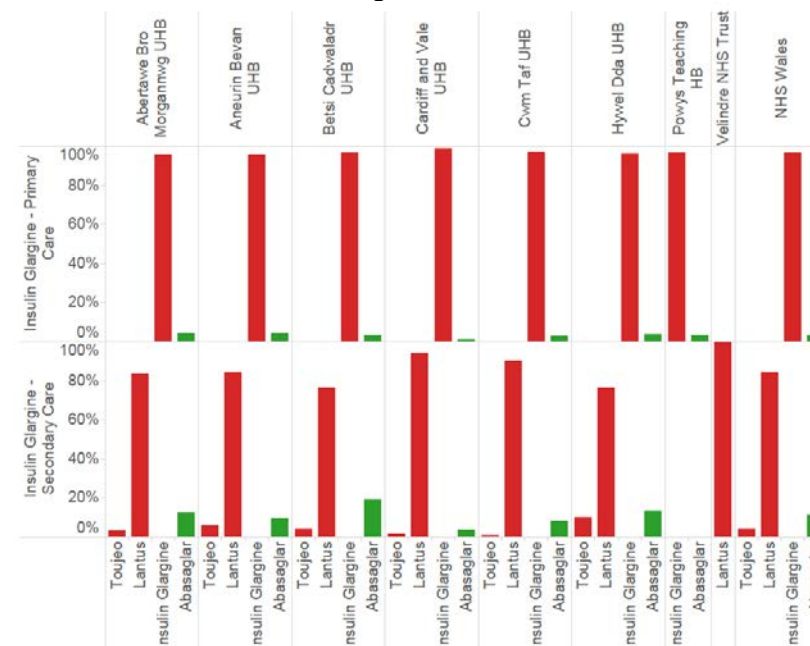


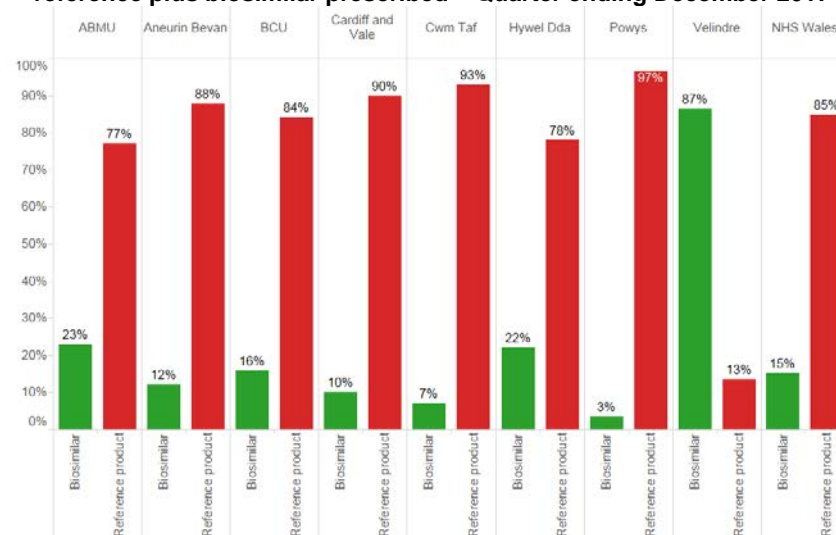
Figure 28. Insulin glargine reference (Lantus® and Toujeo®) and biosimilar (Abasaglar®) as a proportion of total insulin glargine prescribed – Quarter ending December 2017



2.6 Total biosimilar usage

Within Wales there was an increase in the use of the reported biosimilar medicines (filgrastim, infliximab, etanercept, rituximab and insulin glargine) combined as a percentage of reported 'reference' biological medicines plus biosimilars combined, from 7% to 15% for the quarter ending December 2017 compared with the quarter ending December 2016.

Figure 29. Biological reference and biosimilar as a proportion of total reference plus biosimilar prescribed – Quarter ending December 2017



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.

- Across Wales, there was a decrease in the percentage of patients receiving colorectal surgical prophylaxis for greater than 24 hours for quarter ending December 2017 compared with the quarter ending December 2016.
- For the quarter ending December 2017, the percentage of patients receiving colorectal surgical prophylaxis for greater than 24 hours ranged from 0% to 20% across the health boards.
- The health boards with the lowest proportion of patients receiving colorectal surgical prophylaxis for greater than 24 hours were Abertawe Bro Morgannwg, Cardiff and Vale and Betsi Cadwaladr UHB (all with 0%), whilst the highest proportion of patients receiving surgical prophylaxis for greater than 24 hours was in Hywel Dda UHB (20%).
- Four out of the six health boards demonstrated a reduction, compared with the equivalent quarter of the previous year.
- The largest percentage decreases were in Abertawe Bro Morgannwg UHB (100%) and Cardiff and Vale UHB (100%).
- For the quarter ending December 2017 compared with the quarter ending December 2016 there was no change in the

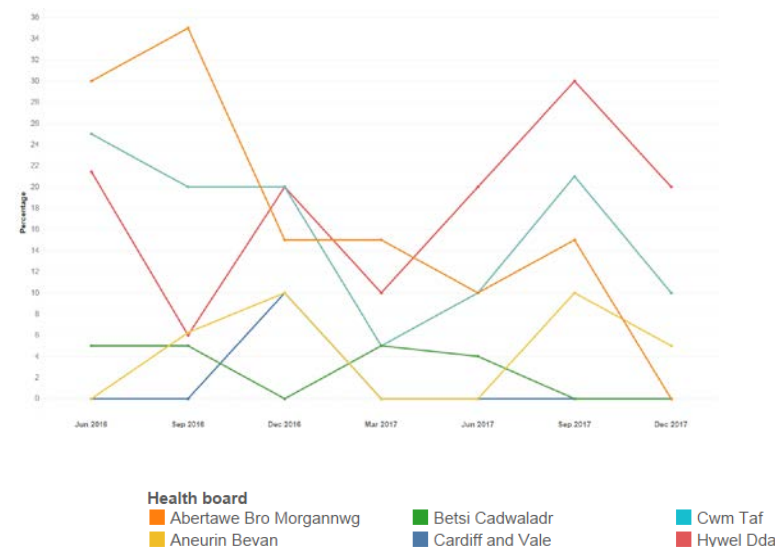
percentage of patients receiving prophylaxis for greater than 24 hours in Betsi Cadwaladr UHB and Hywel Dda UHB.

- In Betsi Cadwaladr UHB all patients were receiving prophylaxis for less than 24 hours in the quarters ending December 2017 and December 2016.

Table 29. Percentage of patients receiving colorectal surgical prophylaxis for greater than 24 hours

	2016–2017 Qtr 3	2017–2018 Qtr 3	% Change
Abertawe Bro Morgannwg	15%	0%	-100%
Cardiff and Vale	10%	0%	-100%
Aneurin Bevan	10%	5%	-50%
Cwm Taf	20%	10%	-50%
Hywel Dda	20%	20%	0%
Betsi Cadwaladr	0%	0%	0%
Wales	12%	5%	-58%

Figure 30. Percentage of patients whose duration of colorectal surgical prophylaxis is > 24 hours



CAUTION WITH INTERPRETING NPI MONITORING DATA

Calculations for the percentage difference reported are based on raw data, and values may therefore vary slightly from those calculated from the data tables or graphs, where figures have been rounded up or down.

Data for the anticholinergic burden and NSAIDs and CKD NPIs have been provided by Audit+, the GP software tool delivered and supported by the NHS Wales Informatics Service (NWIS).

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 DDGs 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. In relation to the secondary care data presented within this report please see information above.

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 2017–2018

Primary care indicator	Unit of measure	Target for 2017–2018
Proton pump inhibitors	PPI DDDs per 1,000 PUs	Maintain performance levels within the lower quartile, or show a reduction towards the quartile below
Inhaled corticosteroids	High strength ICS items as a percentage of all ICS prescribing	Maintain performance levels within the lower quartile, or show a reduction towards the quartile below
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
	Opioid patch items as a percentage of all opioid prescribing	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
Anticholinergic burden	Patients aged 75 and over with an Anticholinergic Effect on Cognition (AEC) score of 3 or more for items on active repeat, as a percentage of all patients aged 75 and over	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
	Number of patients on the CKD register (CKD stage 3–5) who have received a repeat prescription for an NSAID within the last 3 months, as a percentage of all patients on the CKD register.	Maintain performance levels within the upper quartile, or show an increase towards the quartile above
	Number of patients who are not on the CKD register but have an eGFR of < 59 ml/min and have received a repeat prescription for an NSAID within the last 3 months, as a percentage of all patients who are not on the CKD register but have an eGFR of < 59 ml/min	
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 December 2017 versus quarter ending December 2016

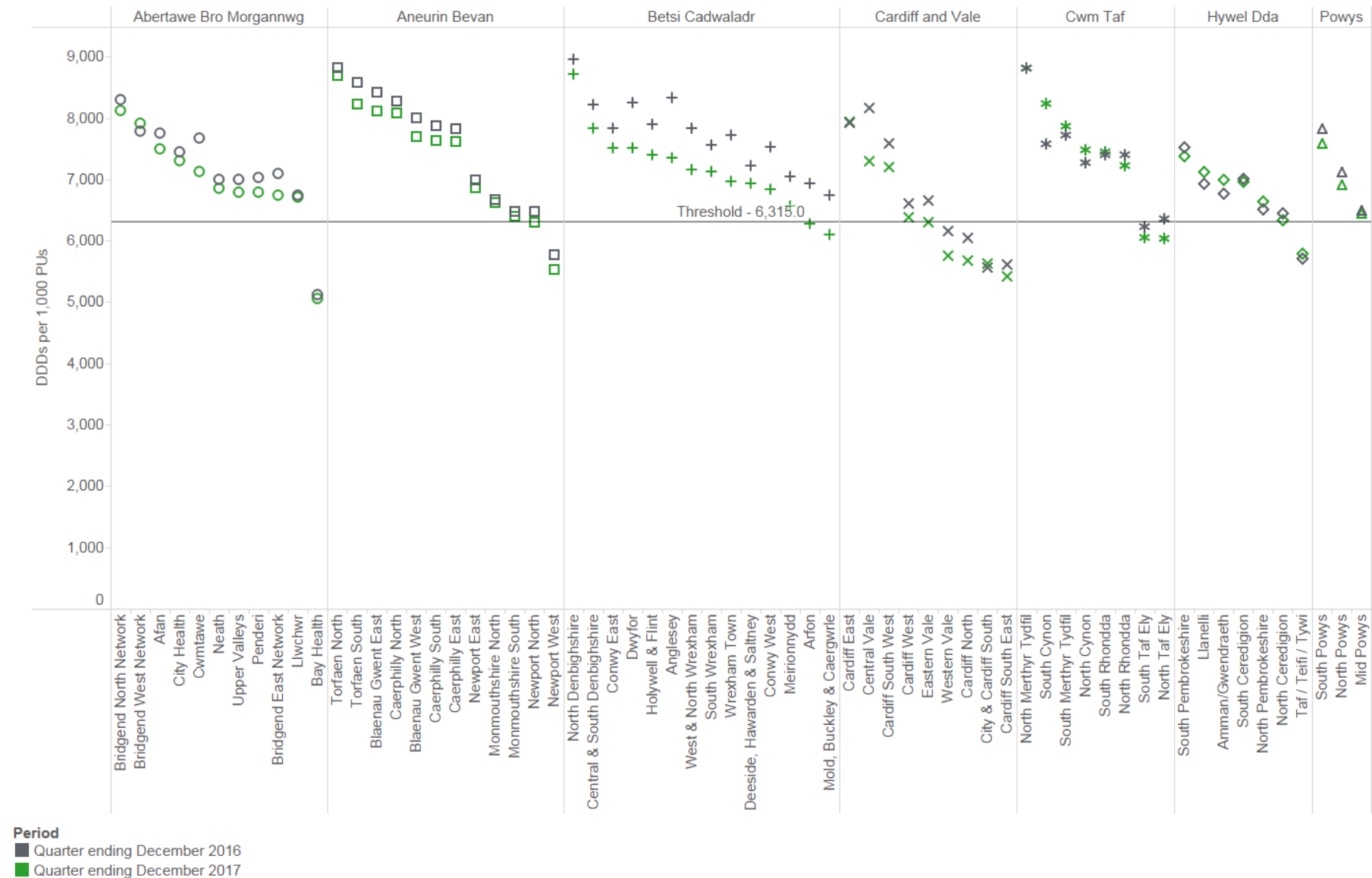


Figure 2. High strength ICS prescribing as a percentage of all ICS prescribing – Quarter ending December 2017 versus quarter ending December 2016

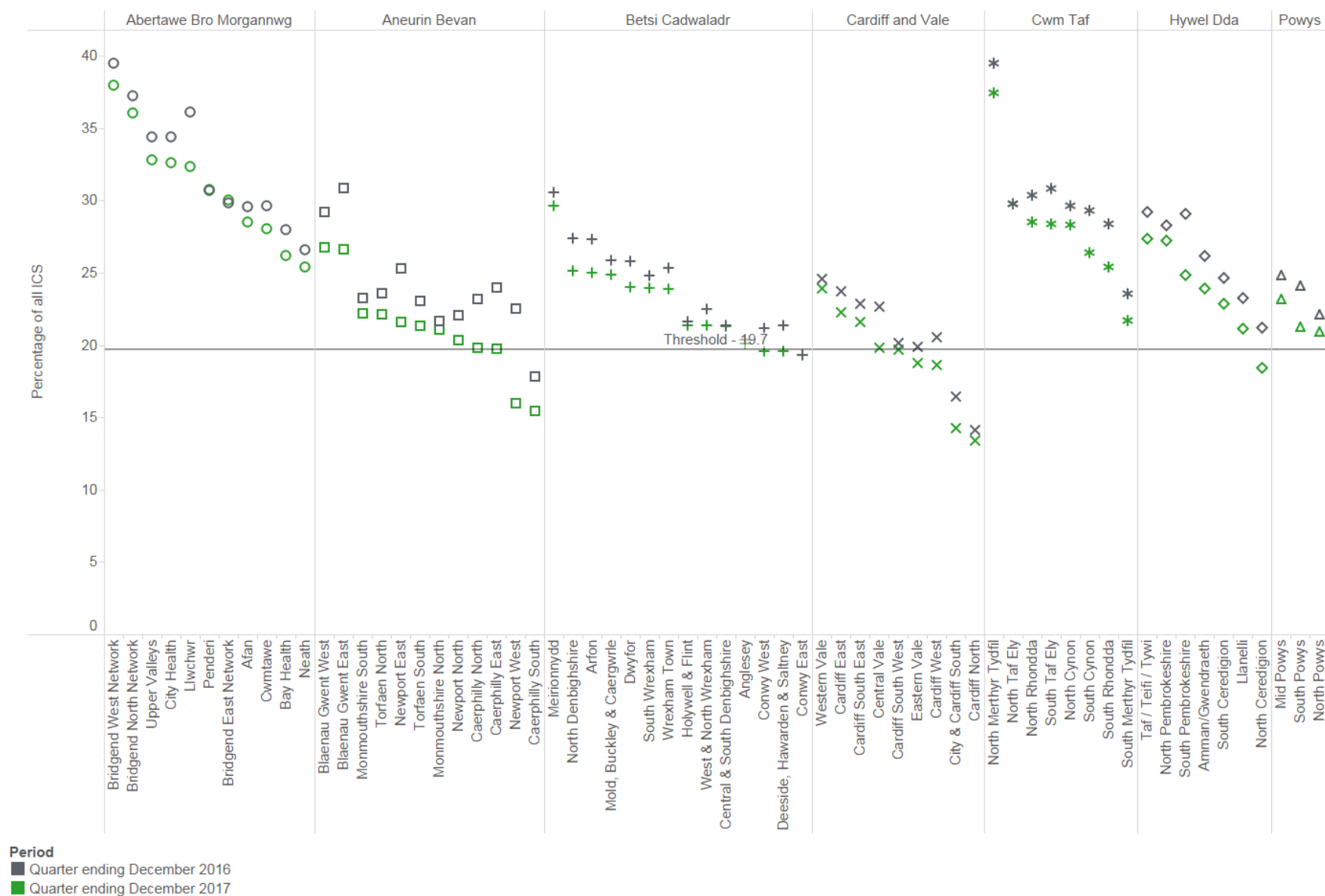


Figure 3. Hypnotic and anxiolytic prescribing – Quarter ending December 2017 versus quarter ending December 2016

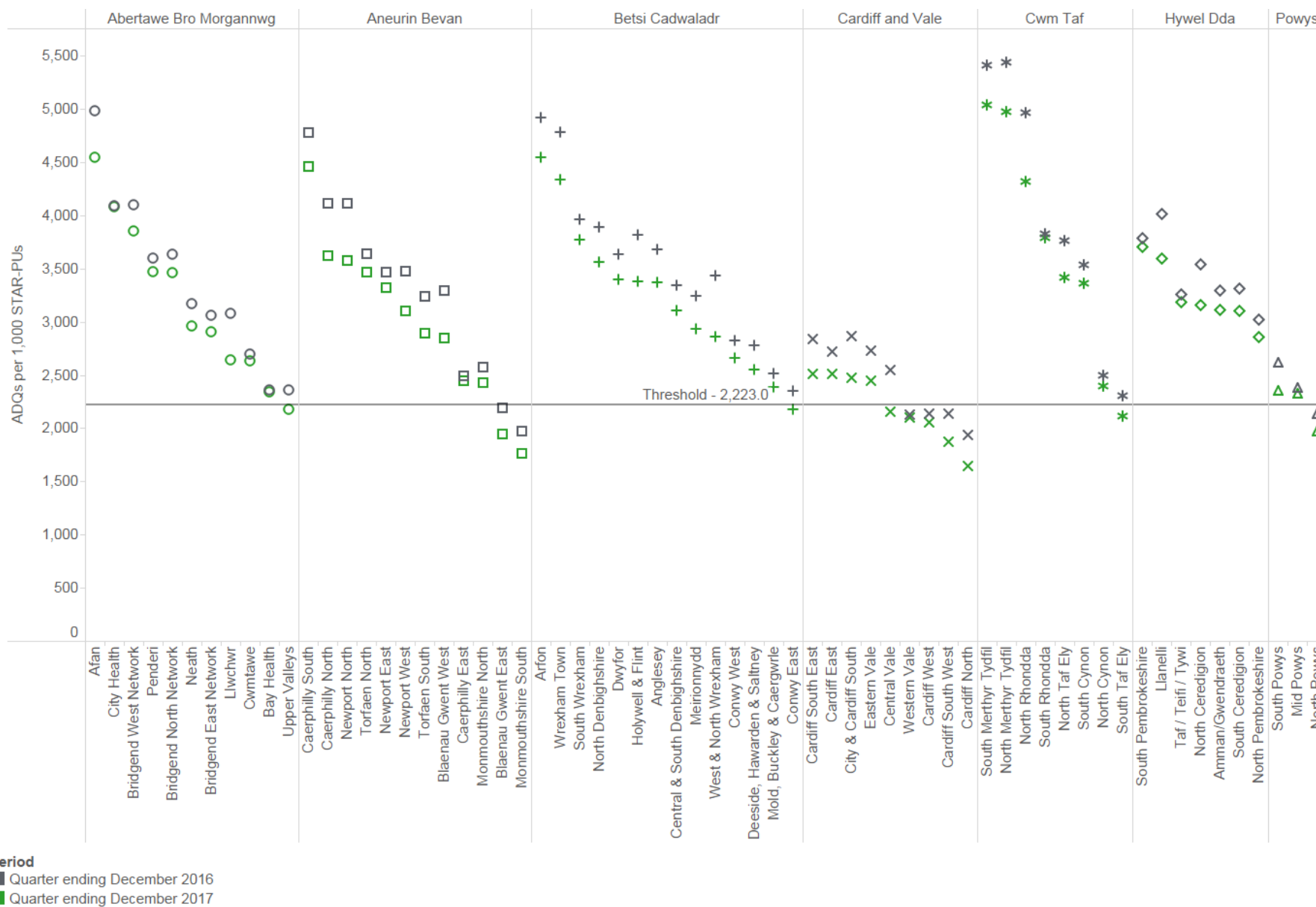


Figure 4. Tramadol prescribing – Quarter ending December 2017 versus quarter ending December 2016

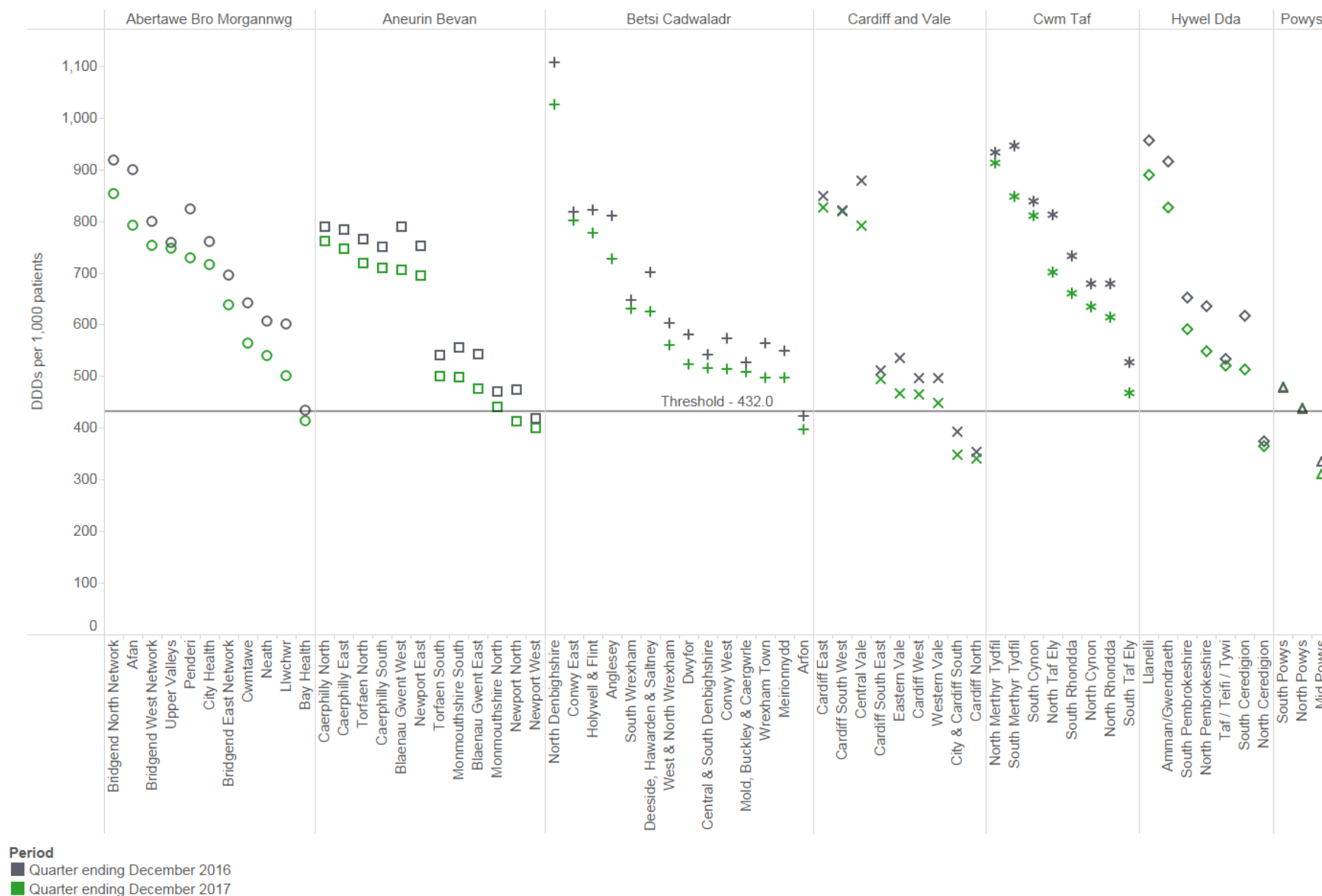


Figure 5. Opioid patch prescribing as a percentage of all opioid prescribing – Quarter ending December 2017 versus quarter ending December 2016

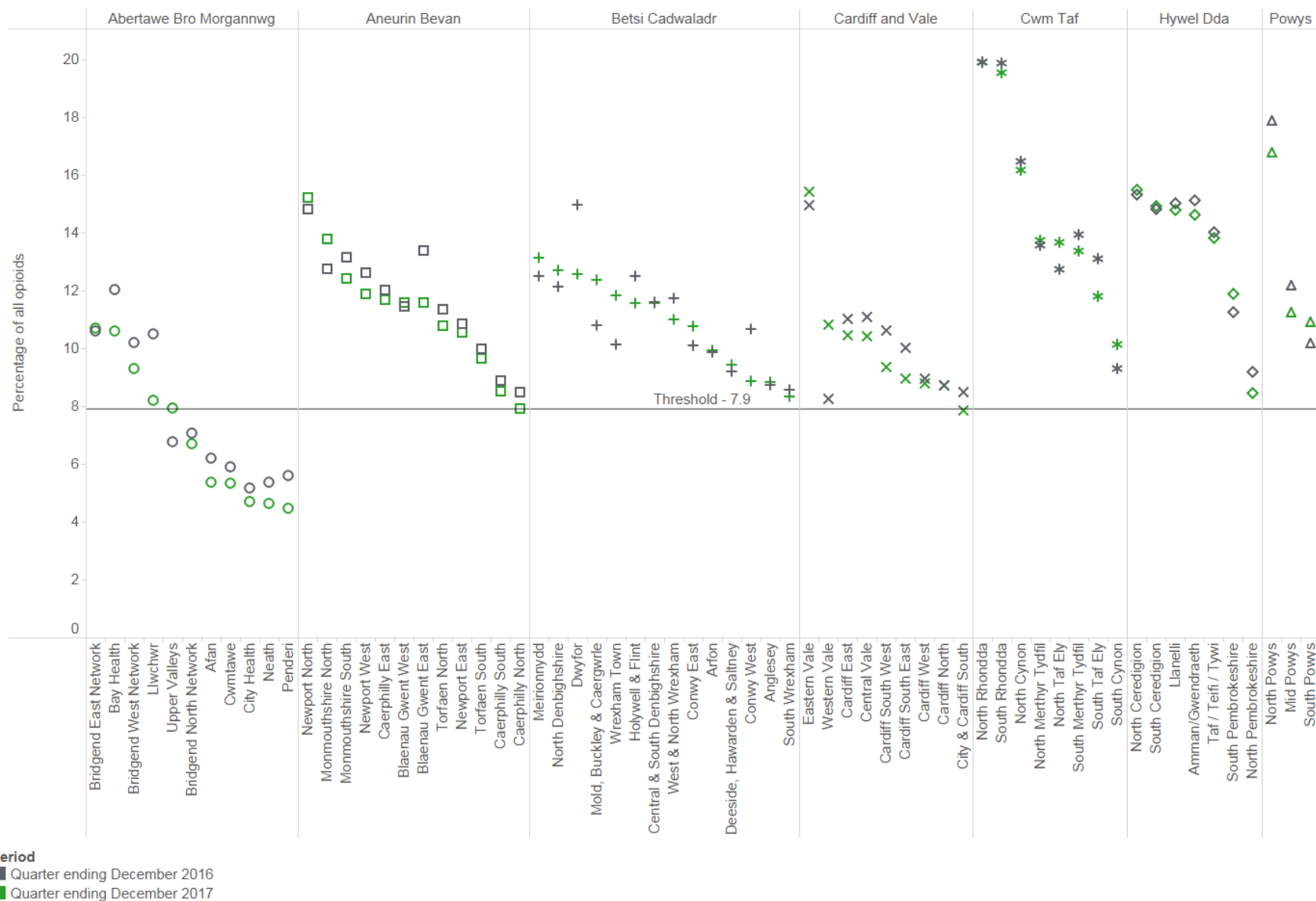


Figure 6. Gabapentin and pregabalin prescribing – Quarter ending December 2017 versus quarter ending December 2016

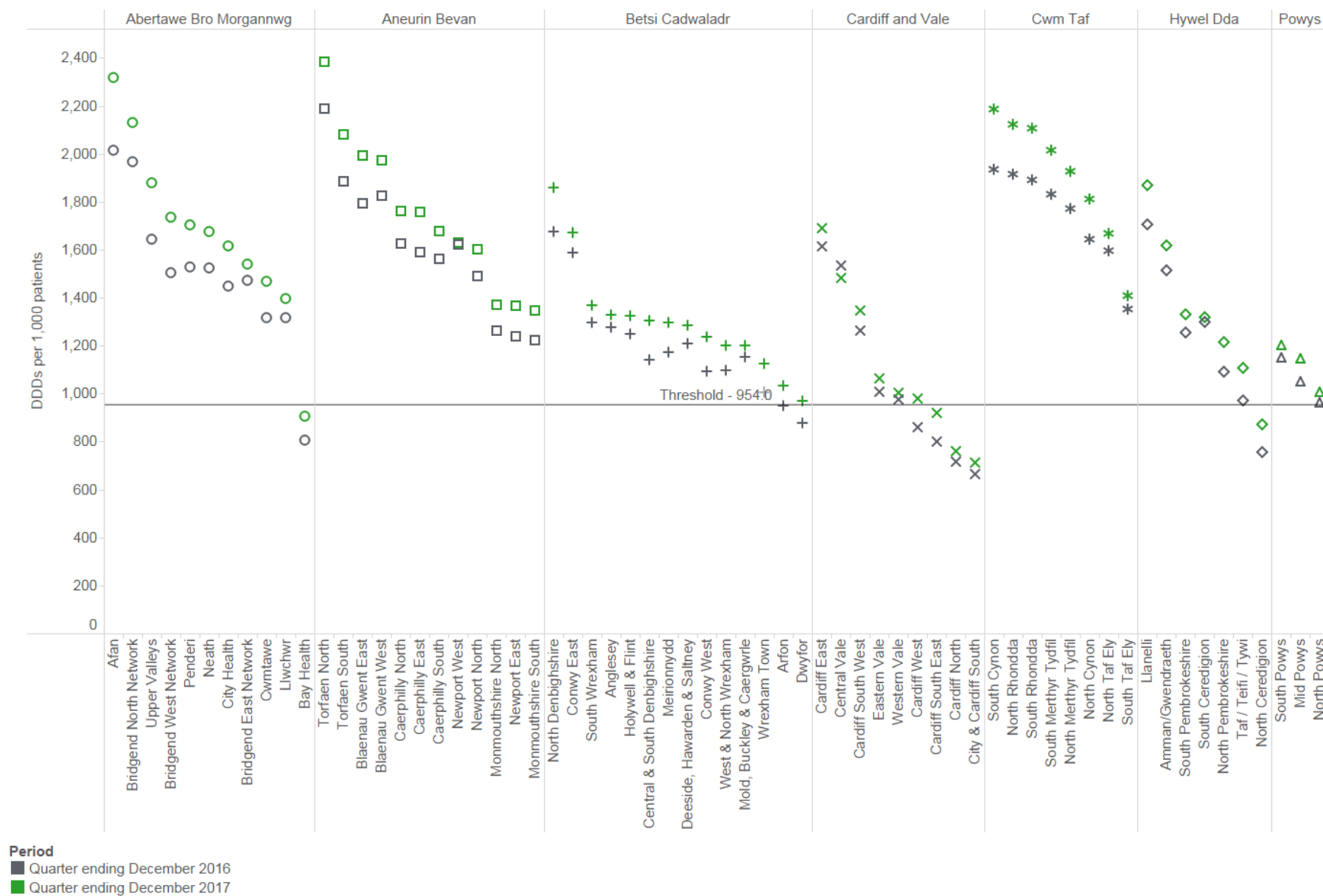


Figure 7. Antibiotic prescribing – Quarter ending December 2017 versus quarter ending December 2016

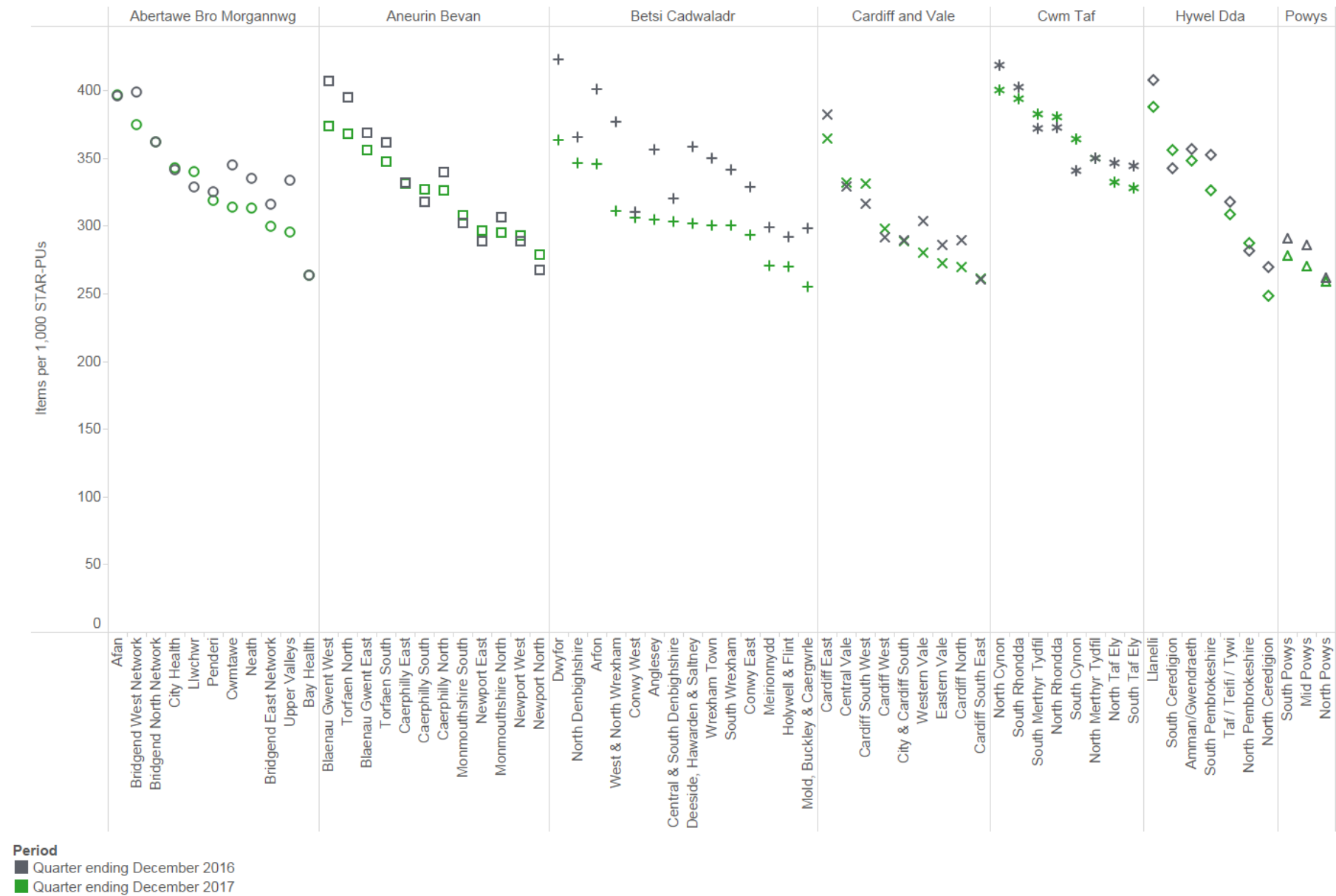


Figure 8. Co-amoxiclav prescribing – Quarter ending December 2017 versus quarter ending December 2016

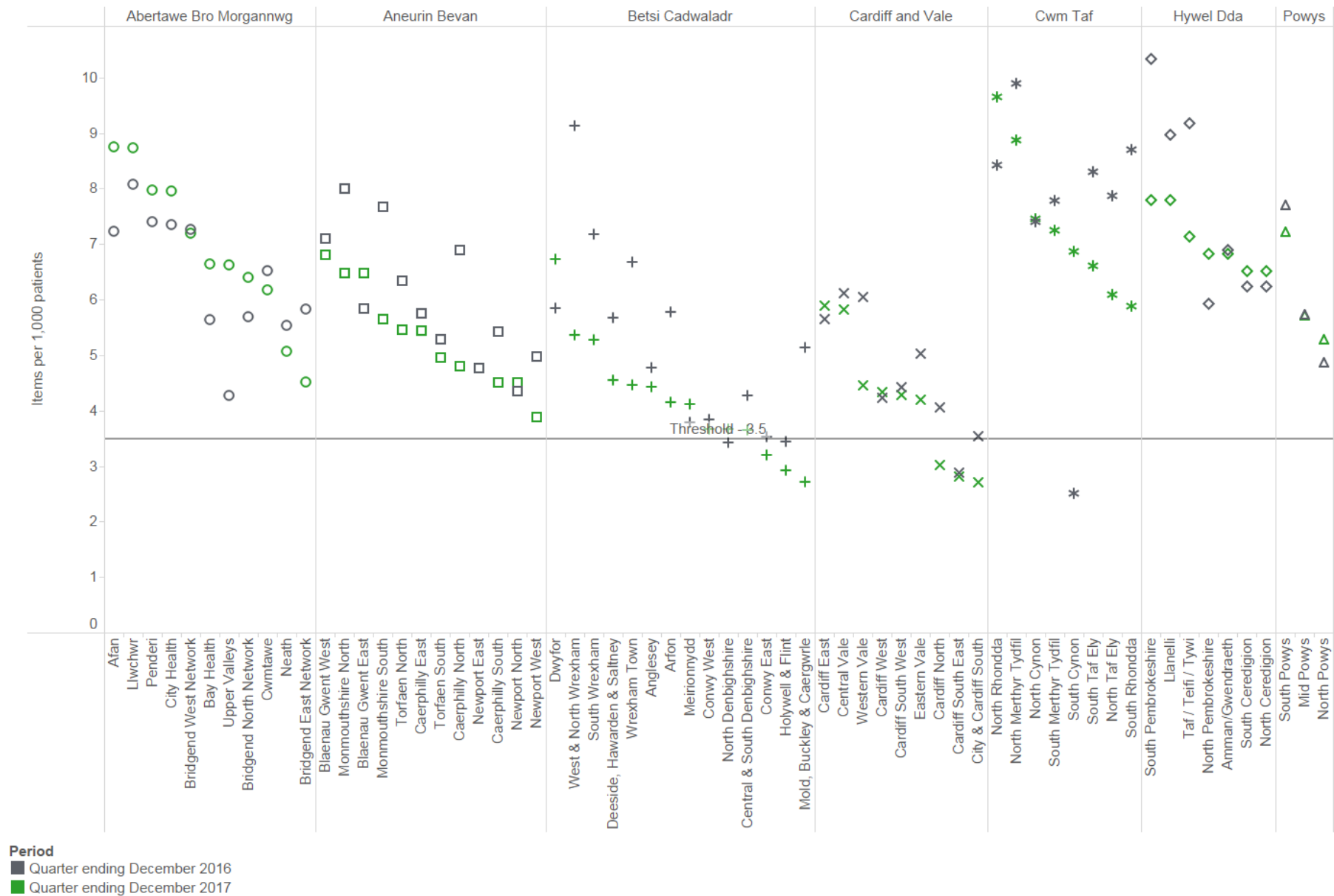


Figure 9. Co-amoxiclav as a percentage of total antibacterial items – Quarter ending December 2017 versus quarter ending December 2016

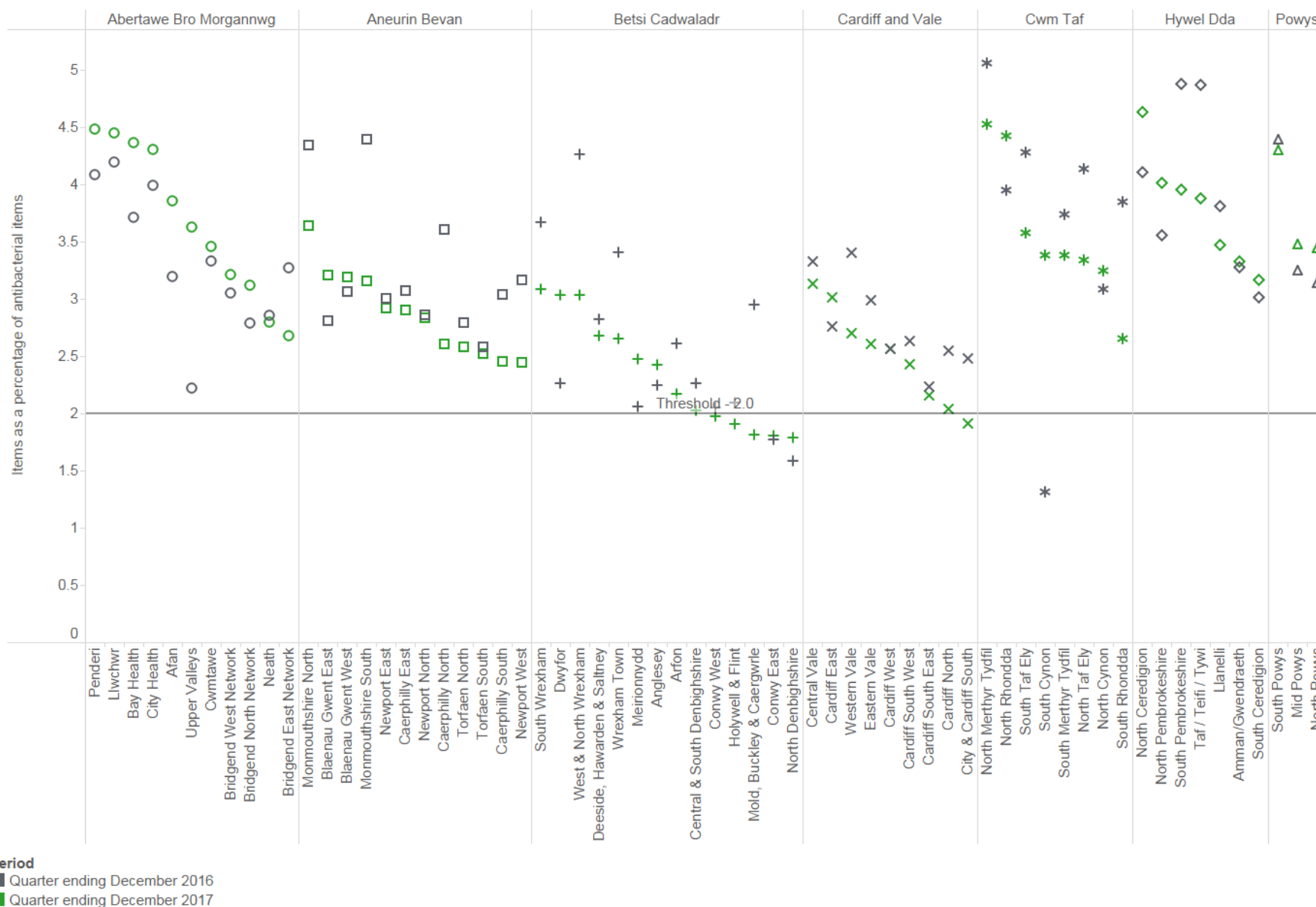


Figure 10. Cephalosporin prescribing – Quarter ending December 2017 versus quarter ending December 2016

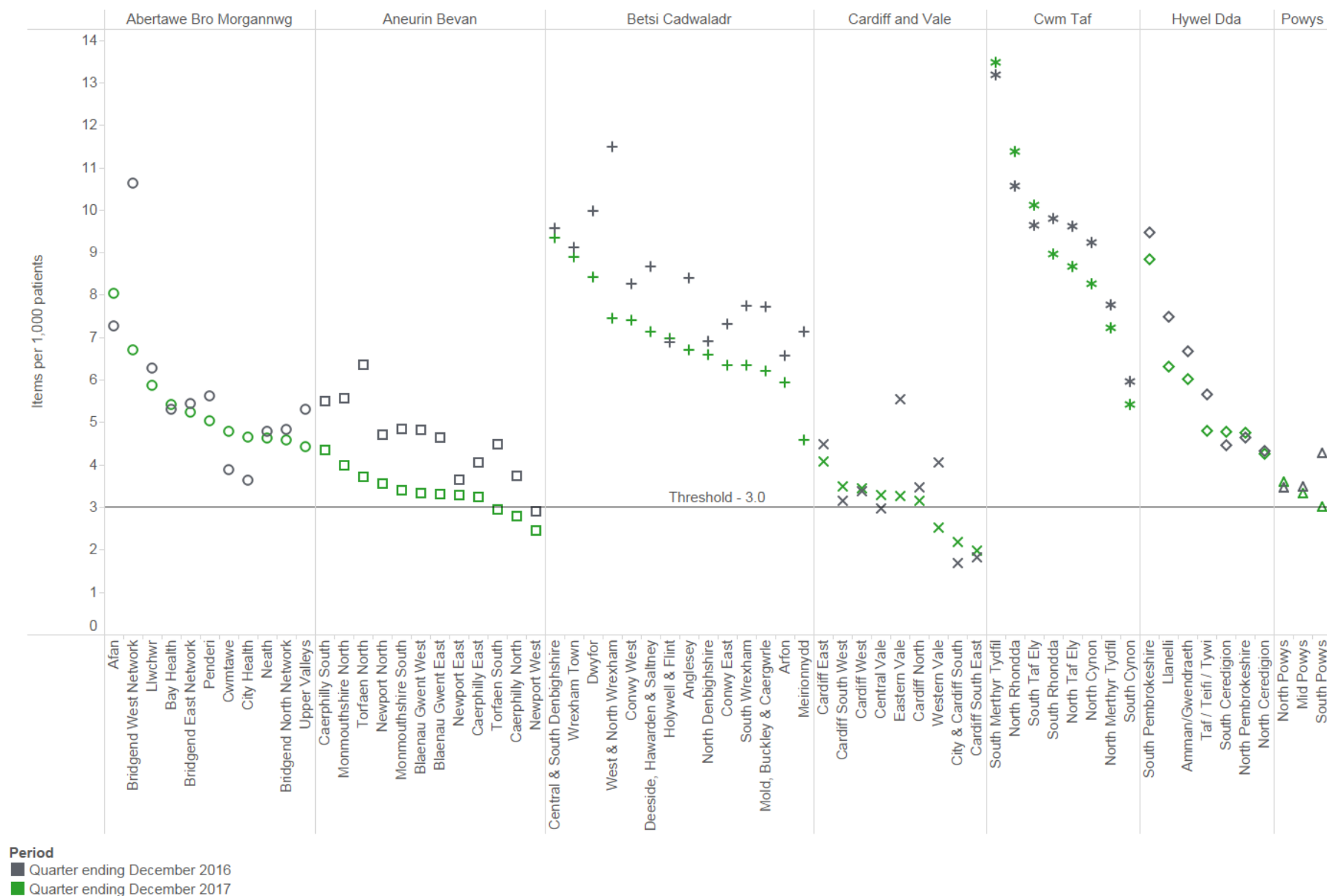


Figure 11. Cephalosporins as a percentage of total antibacterial items – Quarter ending December 2017 versus quarter ending December 2016

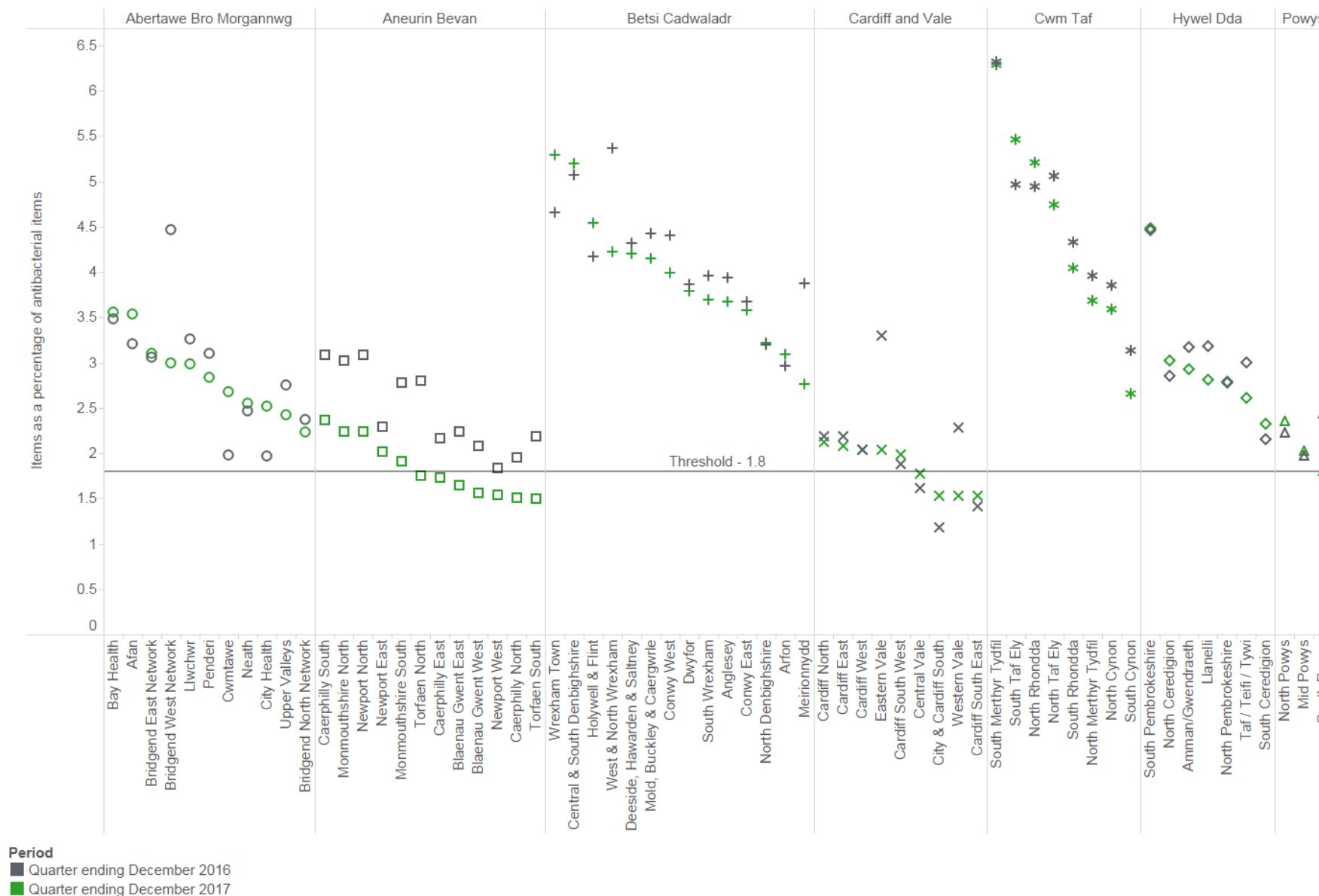


Figure 12. Fluoroquinolone prescribing – Quarter ending December 2017 versus quarter ending December 2016

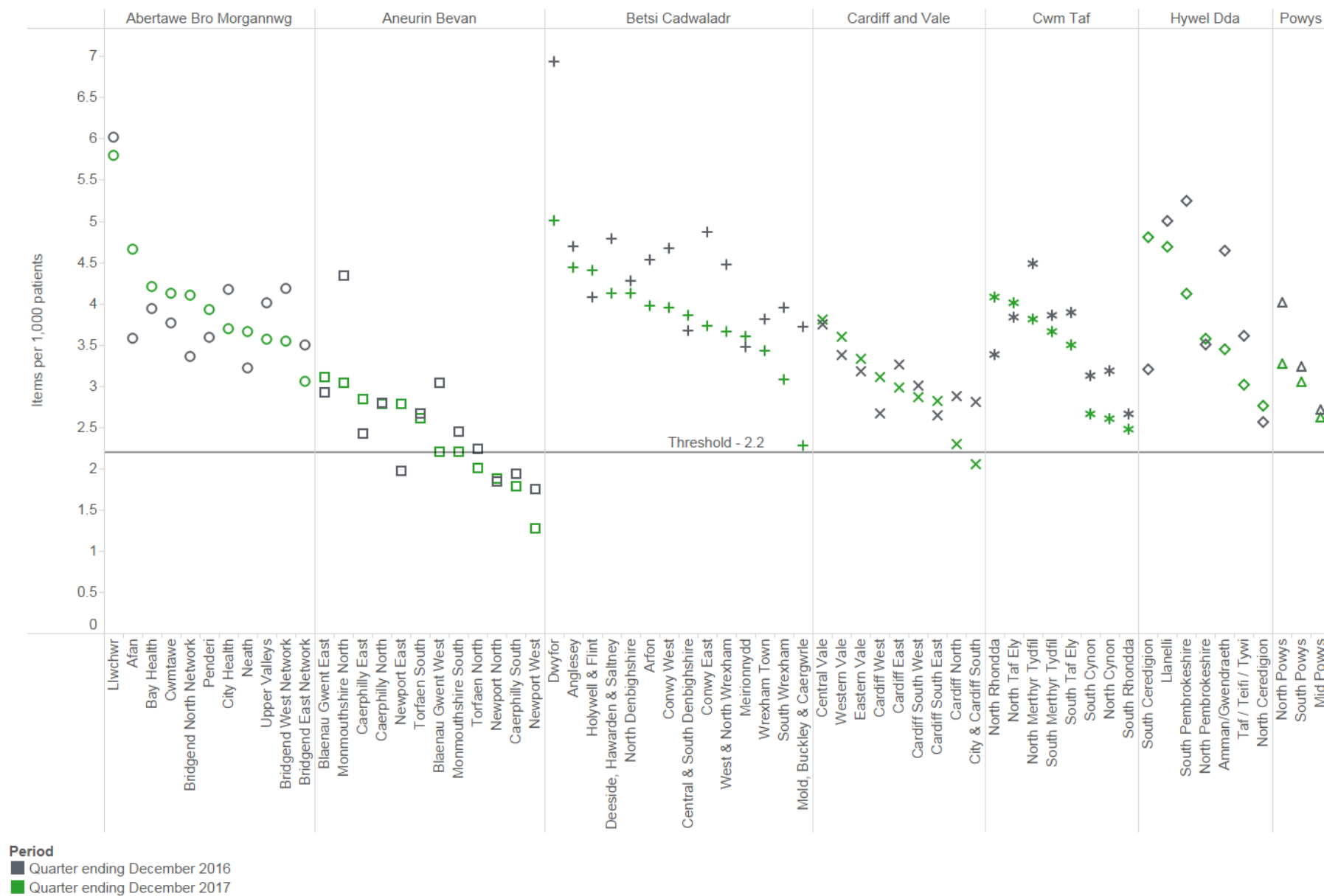


Figure 13. Fluoroquinolones as a percentage of total antibacterial items – Quarter ending December 2017 versus quarter ending December 2016

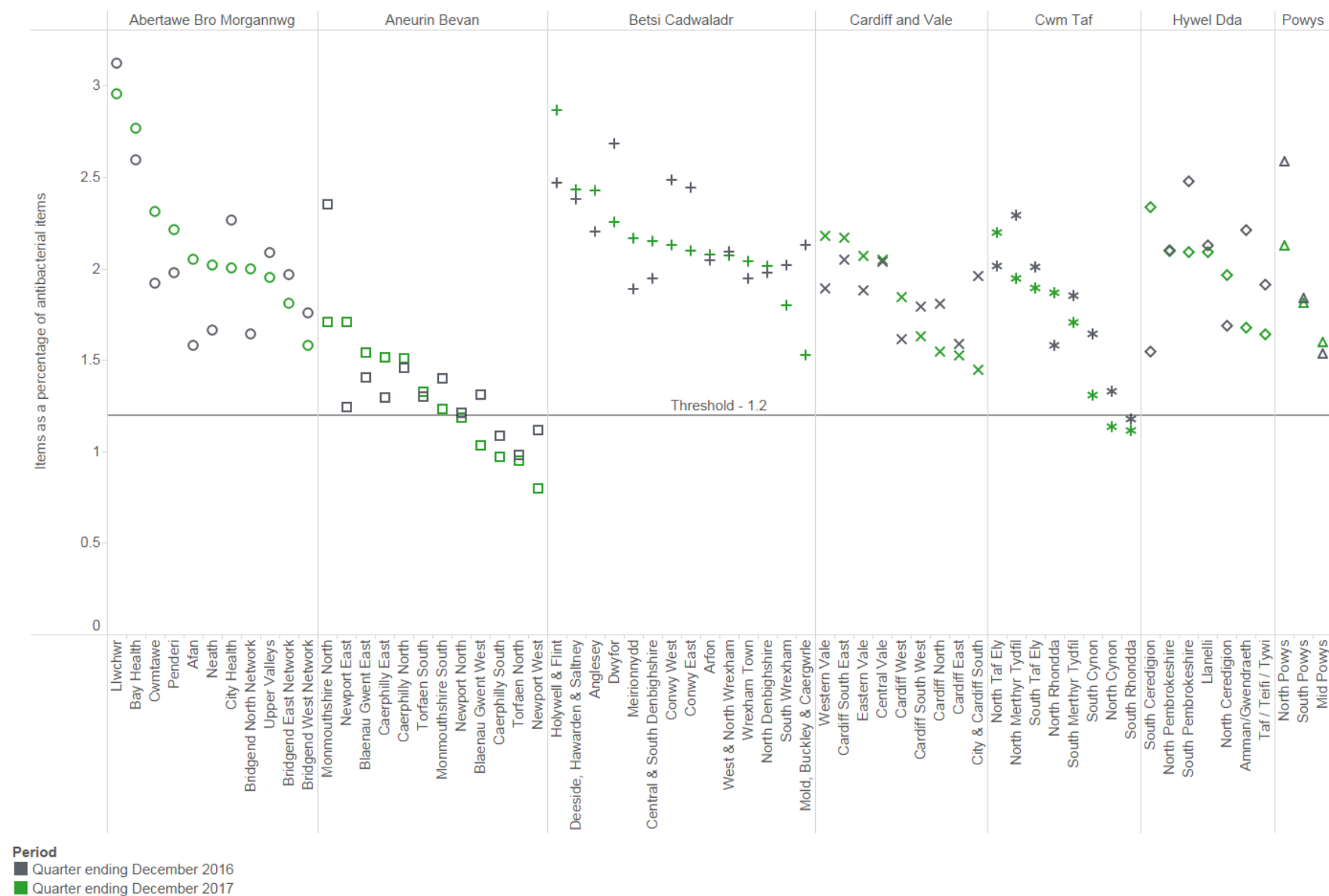


Figure 14. NSAID prescribing – Quarter ending December 2017 versus quarter ending December 2016

