



**AWTTC**

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

# National Prescribing Indicators 2019–2020

Analysis of Prescribing Data to December 2019

Data in Sections 7 (Insulin) and 8 (Biosimilars) were updated on 30 June 2020



## 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 for 2019–2020 include indicators for primary and secondary care, and have been categorised as safety, stewardship or efficiency indicators.

Background information supporting the choice of NPIs is detailed in the document [National Prescribing Indicators 2019–2020](#).

This report contains data relating to the NPIs for the third quarter of 2019–2020. Unit of measure and targets for each NPI are included in Appendix 1 and primary care NPI prescribing data for GP clusters are presented in Appendix 2.

### SAFETY INDICATORS

For 2019–2020 there are five safety NPIs:

- The Prescribing Safety Indicators: the aim of which are to identify patients at high risk of adverse drug reactions and medicines related harm in primary care. There are no targets associated with these indicators.
- Proton pump inhibitors (DDDs per 1,000 PUs) in primary care increased by 1.22% across Wales, compared with the equivalent quarter of the previous year, despite the aim of the indicator being to decrease prescribing.
- Prescribing of hypnotics and anxiolytics (ADQs per 1,000 STAR-PUs) in primary care reduced by 8.06% across Wales, compared with the equivalent quarter of the previous year. This is in line with the aim of the indicator.
- Analgesics in primary care:
  - Opioid burden (ADQs per 1,000 patients) reduced by 3.25% across Wales, compared with the equivalent quarter of the previous year, in line with the aim of the indicator.
  - Tramadol (DDDs per 1,000 patients) reduced by 8.49% across Wales, compared with the equivalent quarter of the previous year, in line with the aim of the indicator.
  - Gabapentin and pregabalin (DDDs per 1,000 patients) demonstrated an increase of 0.56% across Wales, compared with the equivalent quarter of the previous year, despite the aim of the indicator being to reduce prescribing.
- Yellow Card reporting. Annual targets have been set for these indicators, with the aim of increasing the number of Yellow Card reports submitted. Quarter two data demonstrates:
  - A 13% increase in reporting by GP practices across Wales, compared with the equivalent quarter of the previous year.
  - A 24% decrease in secondary care reporting across Wales, compared with the equivalent quarter of the previous year.
  - A 1% decrease in reporting by health boards across Wales, compared with the equivalent quarter of the previous year.
  - A 9% decrease in reporting by members of the public across Wales, compared with the equivalent quarter of the previous year.
  - The number of reports submitted by community pharmacy are also included in the report; however, targets have not been set.

### STEWARDSHIP INDICATORS

Stewardship indicators for 2019–2020 focus on antimicrobial prescribing in primary care with the aim of reducing inappropriate prescribing and variation. Specific reduction targets have been set for these indicators, either at health board or GP practice level:

- Total antibacterial items per 1,000 STAR-PUs decreased across Wales by 4.08% compared with the quarter ending December 2017. Two out of the seven health boards achieved the target of a 5% reduction against the baseline of quarter 3 2017–2018.
- 4C (co-amoxiclav, cephalosporins, fluoroquinolones and clindamycin) items per 1,000 patients decreased across Wales by 19.5%, compared with the baseline of quarter 3 2017–2018.

### EFFICIENCY INDICATORS

There are two efficiency indicators for 2019–2020, covering primary and secondary care:

- Prescribing of long-acting insulin analogues decreased in secondary care compared with the equivalent quarter of the previous year, in line with the aim of the NPI.
- Prescribing of long-acting insulin analogues increased in primary care compared with the equivalent quarter of the previous year, contrary to the aim of the indicator.
- There was an increase in the overall use of three of the five biosimilar medicines being monitored (infliximab, trastuzumab and adalimumab) compared with the equivalent quarter of the previous year, in line with the aim of the NPI. There was a decrease in the overall use of etanercept and rituximab biosimilars compared with the equivalent quarter of the previous year, contrary to the aim of the indicator.

You are welcome to use the data presented within this report. If you wish to reproduce any information in your own outputs, please include the following citation:  
All Wales Therapeutics and Toxicology Centre. National Prescribing Indicators 2019-2020 – Analysis of Prescribing Data to December 2019. June 2020.

Data presented within this report are also accessible via the Server for Prescribing Information Reporting and Analysis (SPIRA) at [www.awttc.org/spira](http://www.awttc.org/spira).

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## HEALTH BOARDS/PRACTICES ACHIEVING INDICATOR TARGETS/THRESHOLDS

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

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

The target for antibacterial items per 1,000 STAR-PU's is by health board, therefore the tick or cross demonstrates achievement.

### Health boards/practices achieving the indicator targets/thresholds – Quarter ending December 2019

Indicator Description	Aneurin Bevan	Betsi Cadwaladr	Cardiff And Vale	Cwm Taf Morgannwg	Hywel Dda	Powys	Swansea Bay
Proton pump inhibitors DDDs per 1,000 PUs	16 21%	21 20%	30 48%	7 13%	10 20%	2 13%	13 27%
Hypnotics and anxiolytics ADQs per 1,000 STAR-PU's	23 31%	25 24%	37 60%	12 23%	8 16%	8 50%	14 29%
Opioid burden (UDG) ADQs per 1,000 Patients	16 21%	24 23%	44 71%	6 11%	12 24%	8 50%	10 20%
Tramadol DDDs per 1,000 patients	28 37%	31 30%	35 56%	7 13%	18 37%	10 63%	11 22%
Gabapentin and pregabalin DDDs per 1,000 patients	11 15%	25 24%	38 61%	1 2%	16 33%	6 38%	7 14%
Antibacterial items per 1,000 STAR-PU's	✗	✗	✓	✗	✓	✗	✗
4C antibacterial items per 1,000 patients	50 67%	71 68%	47 76%	32 60%	38 78%	7 44%	39 80%

Percentage of practices meeting threshold



## SAFETY INDICATORS

### 1.0 PRESCRIBING SAFETY INDICATORS

**Purpose:** To identify patients at high risk of adverse drug reactions (ADRs) and medicines-related harm in primary care.

**Units of measure:**

- Number of patients with a peptic ulcer who have been prescribed NSAIDs without a PPI.
- Number of patients with asthma who have been prescribed a beta-blocker.
- Number of patients with concurrent prescriptions of verapamil and a beta-blocker.
- Number of female patients with a past medical history of venous or arterial thrombosis who have been prescribed combined hormonal contraceptives.
- Number of female patients with a current prescription of oestrogen-only hormone replacement therapy without any hysterectomy READ/SNOMED codes.
- Number of patients with concurrent prescriptions of warfarin and an oral NSAID.
- Number of patients aged under 16 years with a current prescription of aspirin.
- Number of patients aged 65 years or over prescribed an NSAID plus aspirin and/or clopidogrel but without gastroprotection (PPI or H<sub>2</sub> receptor antagonist).
- Number of patients aged 65 years or over prescribed an antipsychotic.
- Number of patients aged 75 and over with an Anticholinergic Effect on Cognition (AEC) score of 3 or more for items on active repeat.
- 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.
- 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.
- Number of female patients aged 14–45 with a prescription for sodium valproate.

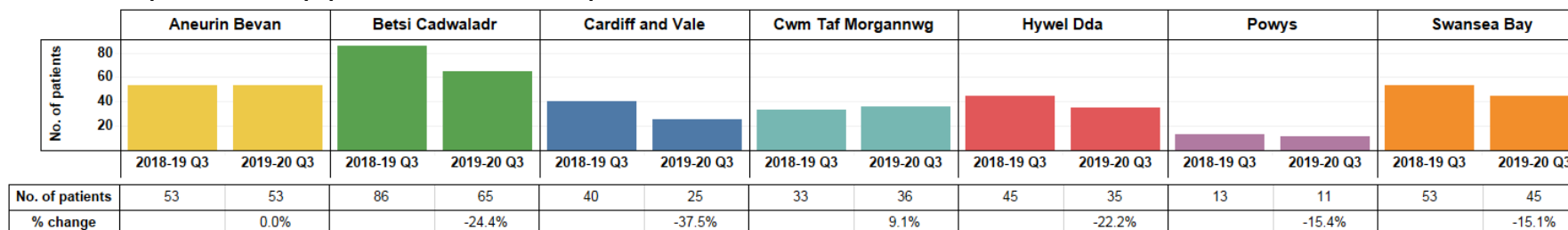
**Aim:** To review patients identified as being at high risk of ADRs and reduce inappropriate prescribing.

No target has been set for this NPI and it is not intended that comparisons are made between health boards. However, data can provide a baseline for future quarters to enable monitoring within health boards.

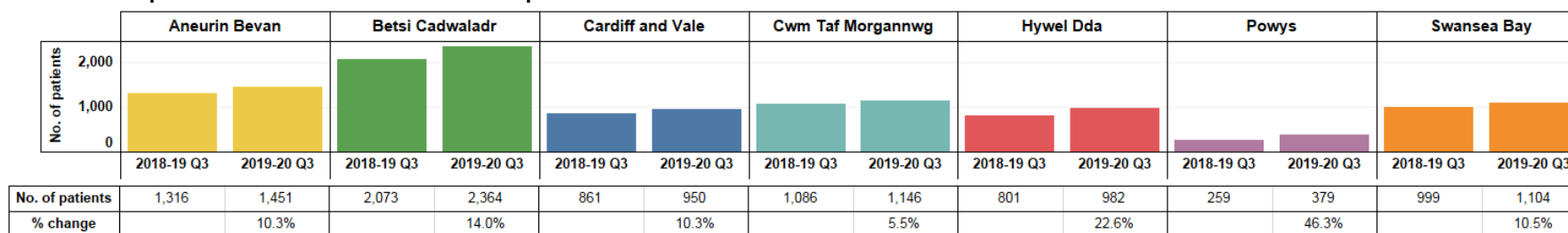
In the UK, it is estimated that around 6.5% of hospital admissions are related to adverse drug reactions (ADRs). ADRs can often be predictable making it possible to identify potential causes and address them before actual patient harm occurs. This NPI provides a process of identifying patients electronically, enabling intervention and helping to avoid patient harm.

Figure 1. Prescribing Safety Indicators – Quarter ending December 2019 compared with quarter ending December 2018

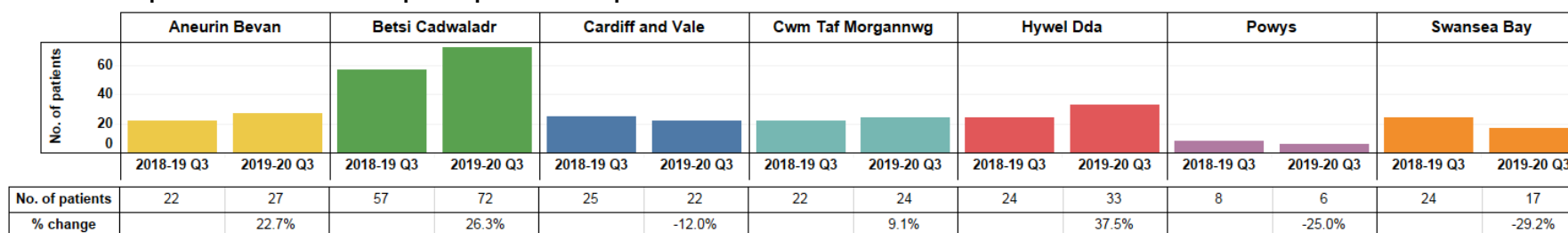
## 01. Number of patients with a peptic ulcer who have been prescribed NSAIDs without a PPI.



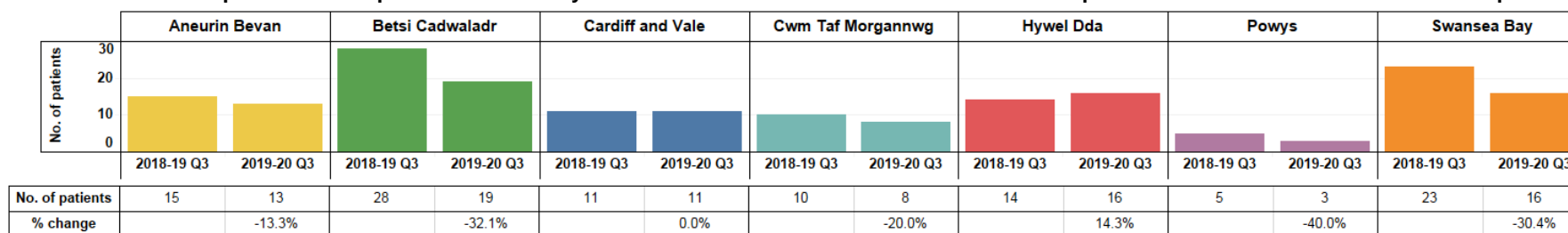
## 02. Number of patients with asthma who have been prescribed a beta-blocker.



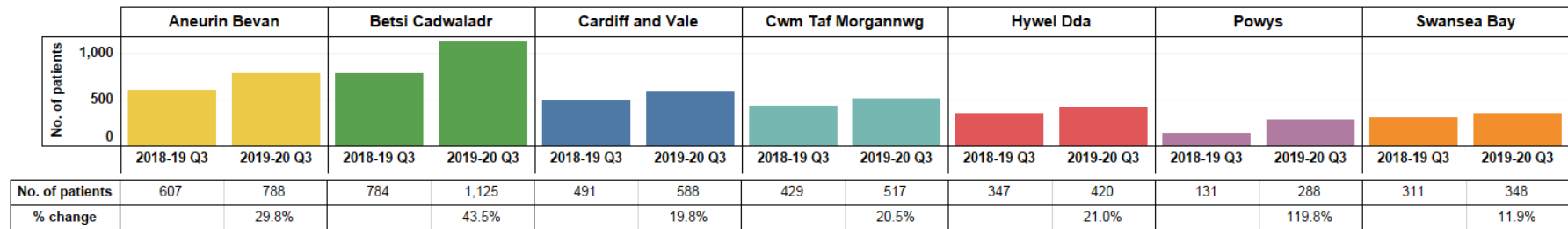
## 03. Number of patients with concurrent prescriptions of verapamil and a beta-blocker.



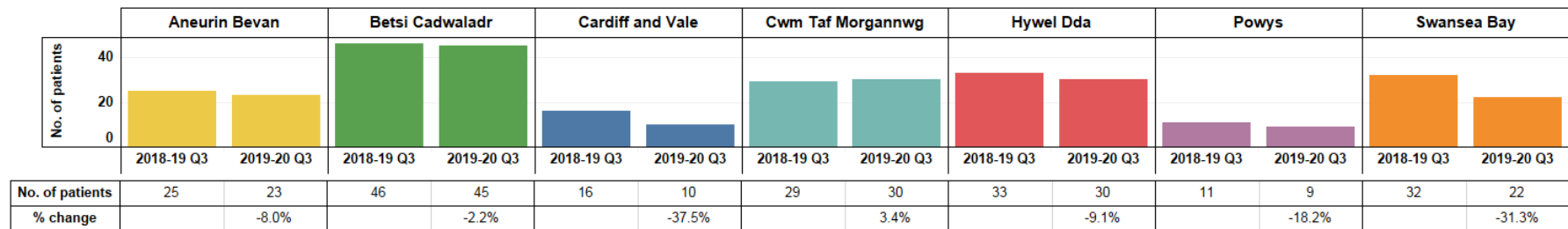
## 04. Number of female patients with a past medical history of venous or arterial thrombosis who have been prescribed combined hormonal contraceptives.



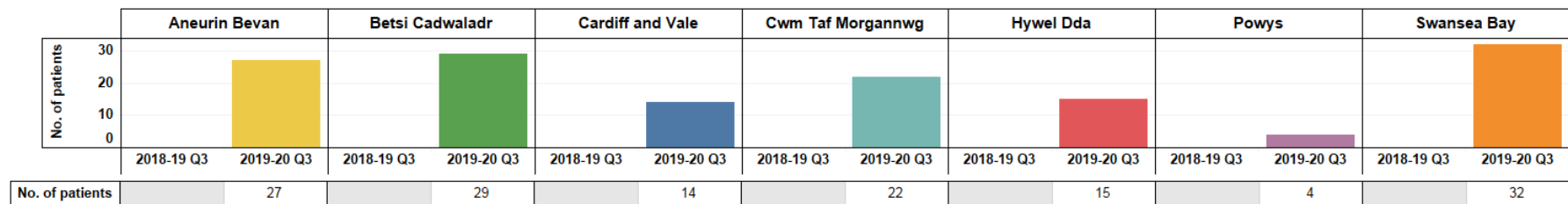
**05. Number of female patients with a current prescription of oestrogen-only hormone replacement therapy without any hysterectomy READ/SNOMED codes.**



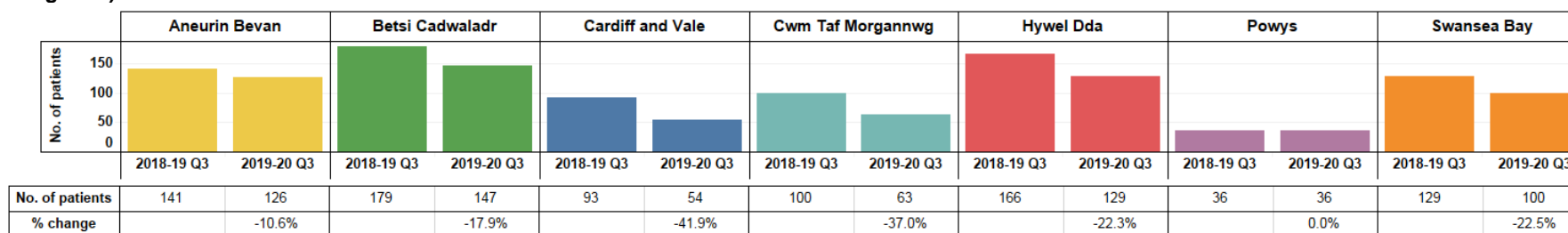
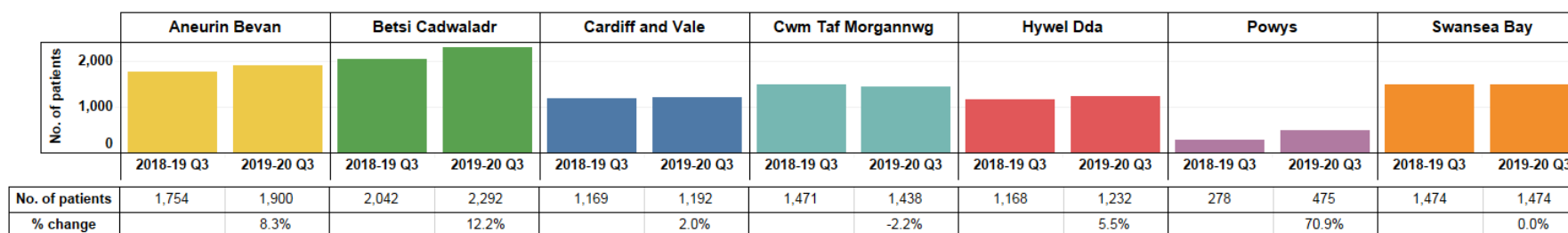
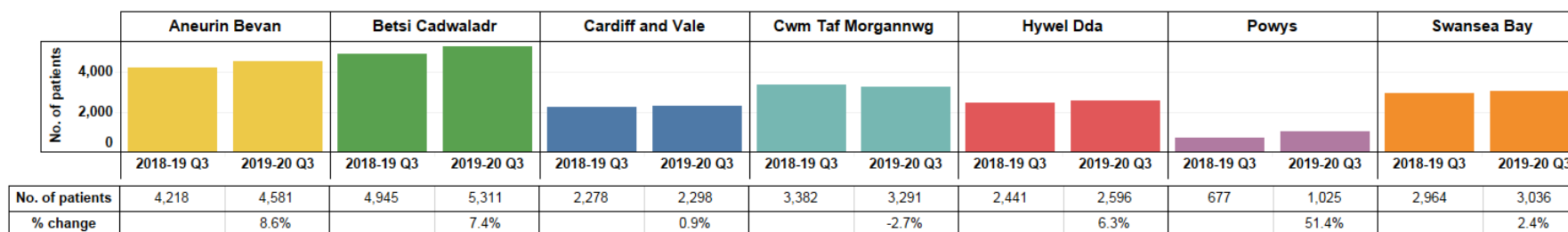
**06. Number of patients with concurrent prescriptions of warfarin and an oral NSAID.**



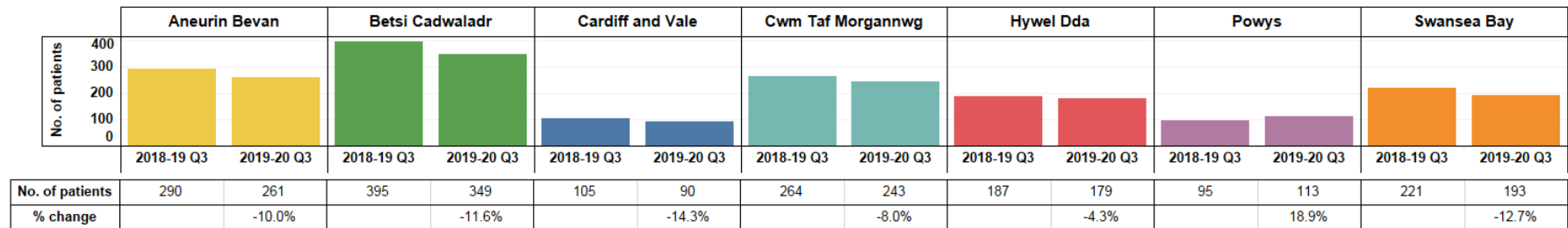
**07. Number of patients aged under 16 years with a current prescription of aspirin\*.**



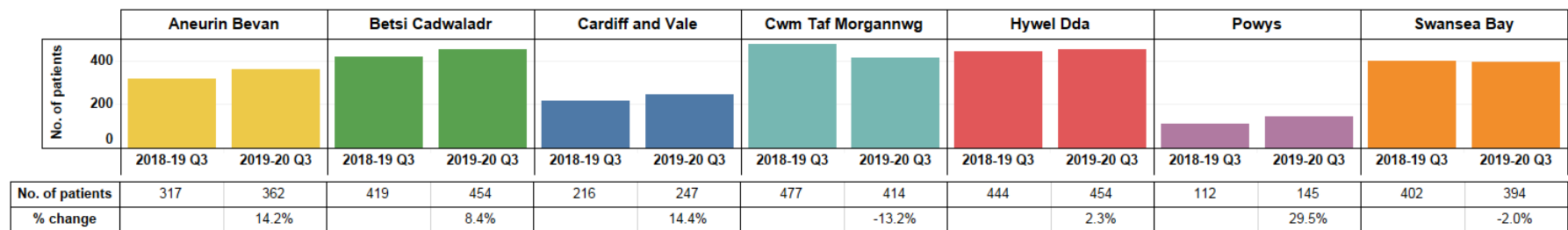
\* This prescribing safety indicator is new for 2019–2020, replacing the previous prescribing safety indicator monitoring the number of patients under the age of 12 years. Therefore, there are no comparative data for 2018–2019.

**08. Number of patients aged 65 years or over prescribed an NSAID plus aspirin and/or clopidogrel but without gastroprotection (PPI or H<sub>2</sub> receptor antagonist).****09. Number of patients aged 65 years or over prescribed an antipsychotic.****10. Number of patients aged 75 and over with an Anticholinergic Effect on Cognition (AEC) score of 3 or more for items on active repeat.**

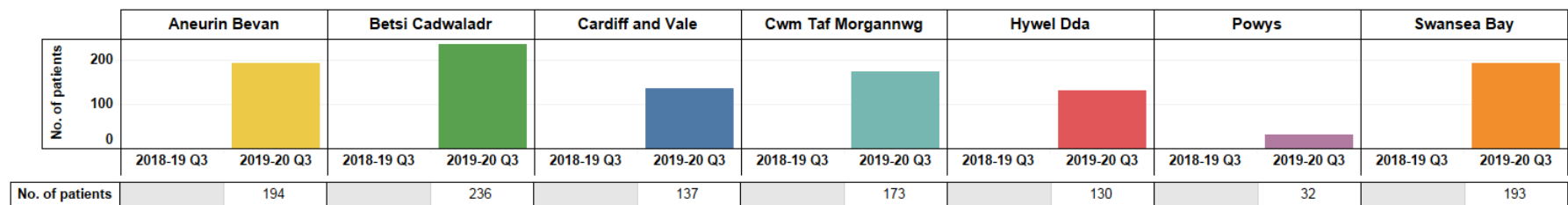
11. Number of patients on the CKD register (CKD stage 3–5) who have received a repeat prescription for an NSAID within the last 3 months.



12. 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.



13. Number of female patients aged 14–45 with a prescription for sodium valproate\*.



\* This prescribing safety indicator is new for 2019–2020. Therefore, there are no comparative data for 2018–2019.

## 2.0 PROTON PUMP INHIBITORS

**Purpose:** To encourage appropriate use of proton pump inhibitors (PPIs) in primary care.

**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, *Clostridioides difficile* infection, and hypomagnesaemia. Prescribers are therefore encouraged to review and reduce where possible.

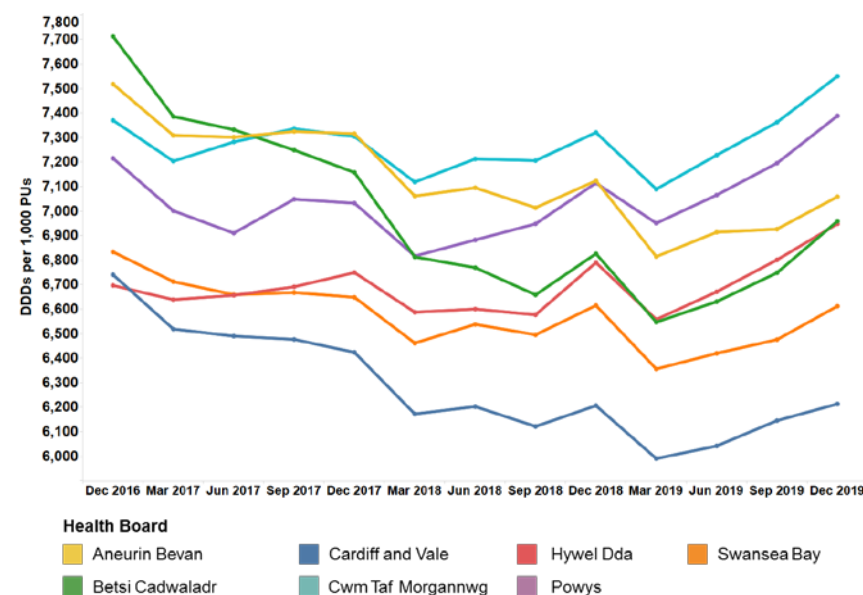
- Across Wales, for the quarter ending December 2019, PPI DDDs per 1,000 PUs increased by 1.22%, compared with the quarter ending December 2018, despite the aim of the indicator being to decrease prescribing.
- For the quarter ending December 2019, PPI usage ranged from 6,213 to 7,550 DDDs per 1,000 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 Morgannwg UHB.
- Two out of the seven health boards demonstrated a reduction in DDDs per 1,000 PUs, compared with the equivalent quarter of the previous year.
- The largest percentage decrease was seen in Aneurin Bevan UHB, and the largest percentage increase was seen in Powys Teaching HB.

*Please note: Consideration should be given to the impact of disruption to the supply of ranitidine from October 2019, and the subsequent recommendation to switch to patients to omeprazole where ongoing treatment is still required, and the patient cannot be stepped down to an alginate or antacid.*

Table 1. PPI DDDs per 1,000 PUs

	2018–2019 Qtr 3	2019–2020 Qtr 3	% Change
Aneurin Bevan	7,124	7,059	-0.91%
Swansea Bay	6,615	6,612	-0.04%
Cardiff and Vale	6,206	6,213	0.11%
Betsi Cadwaladr	6,826	6,959	1.95%
Hywel Dda	6,790	6,948	2.33%
Cwm Taf Morgannwg	7,321	7,550	3.14%
Powys	7,115	7,388	3.85%
<b>Wales</b>	<b>6,843</b>	<b>6,927</b>	<b>1.22%</b>

Figure 2. Trend in PPI prescribing DDDs per 1,000 PUs



### 3.0 HYPNOTICS AND ANXIOLYTICS

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

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

**Aim:** To reduce prescribing

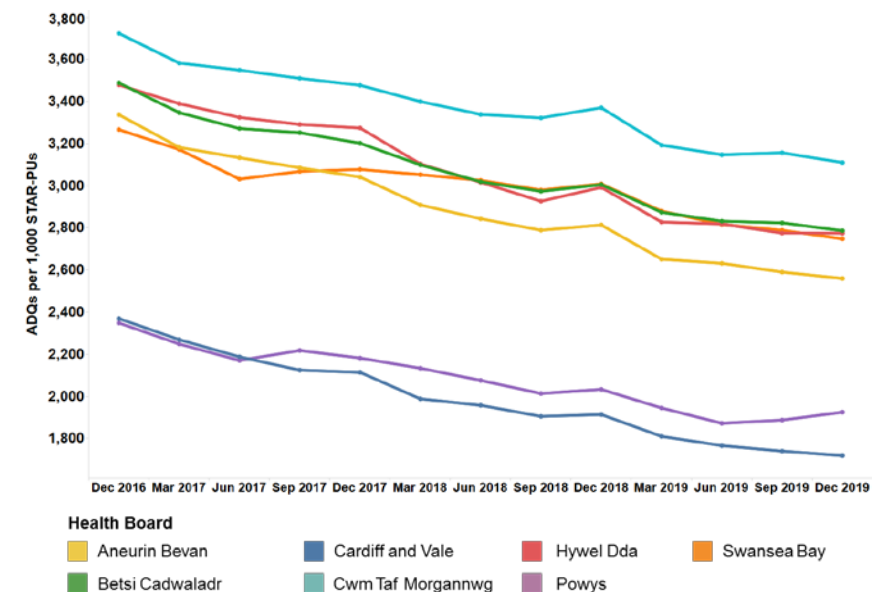
There has been ongoing concern with regard to the high level of hypnotic and anxiolytic prescribing within NHS Wales. Some prescribing may be inappropriate and contribute to the problem of physical and psychological dependence, and/or may be responsible for masking underlying depression.

- Across Wales, the prescribing of hypnotics and anxiolytics decreased by 8.06% for the quarter ending December 2019 compared with the equivalent quarter of the previous year, in line with the aim of this indicator.
- For the quarter ending December 2019, hypnotic and anxiolytic prescribing ranged from 1,719 to 3,110 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 Morgannwg 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 Powys Teaching HB.

Table 2. Hypnotic and anxiolytic ADQs per 1,000 STAR-PUs

	2018–2019 Qtr 3	2019–2020 Qtr 3	% Change
Cardiff and Vale	1,914	1,719	-10.2%
Aneurin Bevan	2,814	2,560	-9.03%
Swansea Bay	3,009	2,748	-8.67%
Cwm Taf Morgannwg	3,371	3,110	-7.72%
Betsi Cadwaladr	3,006	2,787	-7.28%
Hywel Dda	2,992	2,775	-7.28%
Powys	2,033	1,925	-5.32%
<b>Wales</b>	<b>2,821</b>	<b>2,594</b>	<b>-8.06%</b>

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 2019–2020:

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

### 4.1 Opioid burden

**Purpose:** To encourage the appropriate use and review of opioids in primary care, minimising the potential for dependence, diversion, misuse and ADRs.

**Unit of measure:** Opioid burden UDG ADQs per 1,000 patients

**Aim:** To reduce prescribing

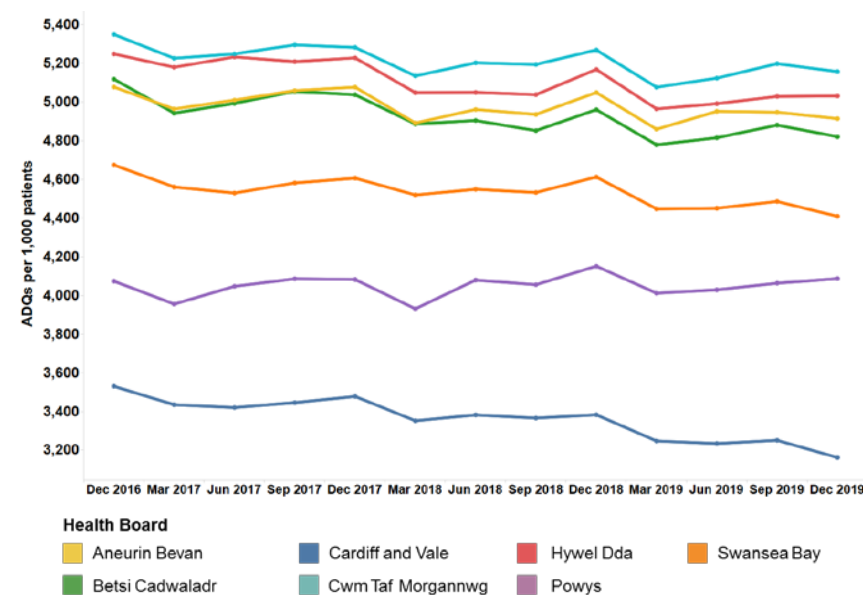
There is a lack of good quality evidence to support strong clinical recommendation for the long term use of opioid for patients with chronic non-cancer pain. Opioid analgesics have well established side effects and repeated administration may cause tolerance and dependence. This NPI is new for 2019–2020 and promotes a prudent approach to prescribing opioid analgesics, taking into account the indication, risks and benefits, and encouraging timely review of patients prescribed opioids for chronic pain.

- Across Wales, opioid burden decreased by 3.25% in the quarter ending December 2019 compared with the equivalent quarter of the previous year. This is in line with the aim of the indicator.
- For the quarter ending December 2019, opioid burden prescribing ranged from 3,162 to 5,157 ADQs per 1,000 patients across the health boards.
- The health board with the lowest opioid burden was Cardiff and Vale UHB, whilst the highest opioid burden was seen in Cwm Taf Morgannwg UHB.
- All seven health boards demonstrated a reduction in ADQs per 1,000 patients, compared with the equivalent quarter of the previous year.
- The largest percentage decrease was seen in Cardiff and Vale UHB, and the smallest percentage decrease was seen in Powys Teaching HB.

Table 3. Opioid burden ADQs per 1,000 patients

	2018–2019 Qtr 3	2019–2020 Qtr 3	% Change
Cardiff and Vale	3,383	3,162	-6.54%
Swansea Bay	4,612	4,409	-4.41%
Betsi Cadwaladr	4,960	4,821	-2.82%
Aneurin Bevan	5,049	4,914	-2.67%
Hywel Dda	5,168	5,031	-2.65%
Cwm Taf Morgannwg	5,269	5,157	-2.13%
Powys	4,151	4,087	-1.55%
<b>Wales</b>	<b>4,717</b>	<b>4,564</b>	<b>-3.25%</b>

Figure 4. Trend in opioid burden ADQs per 1,000 patients



## 4.2 Tramadol

**Purpose:** To encourage the appropriate use and review of tramadol in primary care, minimising the potential dependence, diversion, misuse and ADRs.

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

**Aim:** To reduce prescribing

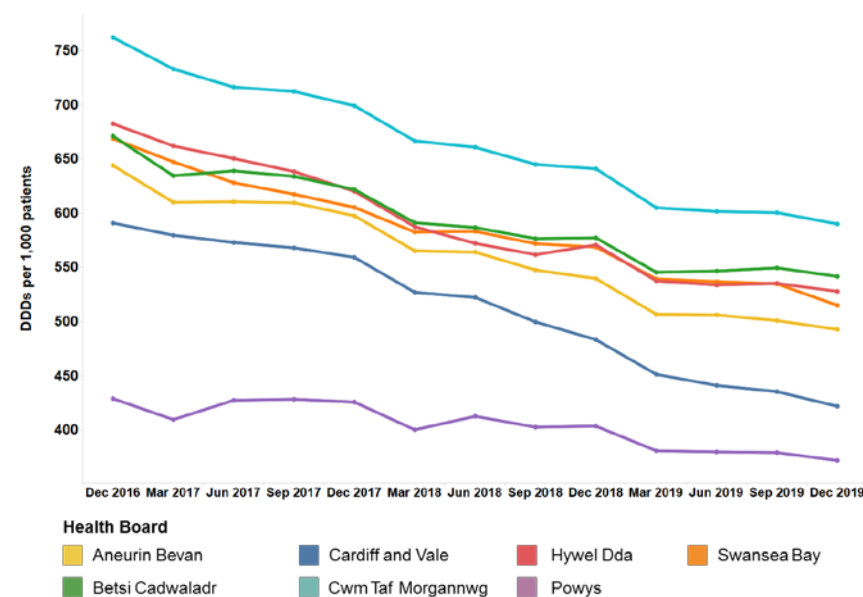
Whilst there is a recognised place in pain management for tramadol, there are concerns regarding the risks associated with dependence, diversion, misuse and ADRs. This NPI promotes a prudent approach to prescribing tramadol, taking into account the risks and benefits, and encouraging timely review.

- Across Wales, prescribing of tramadol was 8.49% lower in the quarter ending December 2019, than in the equivalent quarter of the previous year. This is in line with the aim of the indicator.
- For the quarter ending December 2019, tramadol prescribing ranged from 372 to 590 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 Morgannwg 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 Cardiff and Vale UHB and the smallest percentage decrease was seen in Betsi Cadwaladr UHB.

Table 4. Tramadol DDDs per 1,000 patients

	2018–2019 Qtr 3	2019–2020 Qtr 3	% Change
Cardiff and Vale	483	422	-12.7%
Swansea Bay	569	515	-9.45%
Aneurin Bevan	540	493	-8.69%
Cwm Taf Morgannwg	641	590	-7.96%
Powys	404	372	-7.86%
Hywel Dda	571	528	-7.52%
Betsi Cadwaladr	577	542	-6.17%
Wales	555	508	-8.49%

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



### 4.3 Gabapentin and pregabalin

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

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

**Aim:** To reduce prescribing

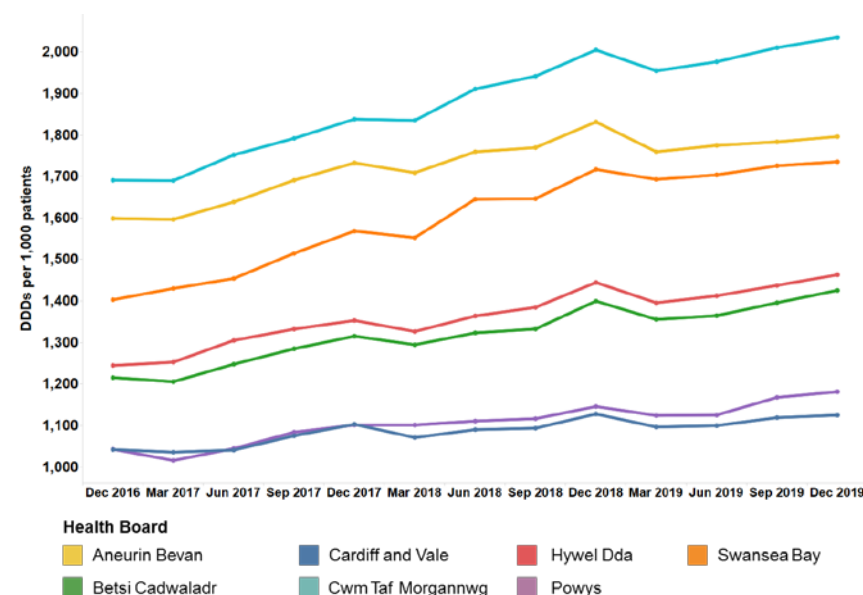
Gabapentin and pregabalin have a well-defined role in the management of a number of conditions including epilepsy and neuropathic pain, and pregabalin also has a role in treatment of generalised anxiety disorder. Both gabapentin and pregabalin have known psychiatric side effects and there is a potential risk of dependence, diversion, misuse and ADRs. 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 2019, prescribing of gabapentin and pregabalin increased by 0.56% compared with the equivalent quarter of the previous year.
- For the quarter ending December 2019, gabapentin and pregabalin prescribing ranged from 1,125 to 2,035 DDDs 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 Morgannwg UHB.
- Gabapentin and pregabalin prescribing decreased, compared with the equivalent quarter of the previous year, in two of the health boards.
- The largest percentage decrease was seen in Aneurin Bevan UHB and the largest percentage increase was seen in Powys Teaching HB.

Table 5. Gabapentin and pregabalin DDDs per 1,000 patients

	2018–2019 Qtr 3	2019–2020 Qtr 3	% Change
Aneurin Bevan	1,832	1,796	-1.93%
Cardiff and Vale	1,128	1,125	-0.24%
Swansea Bay	1,717	1,736	1.07%
Hywel Dda	1,445	1,463	1.28%
Cwm Taf Morgannwg	2,005	2,035	1.50%
Betsi Cadwaladr	1,400	1,426	1.84%
Powys	1,146	1,181	3.11%
Wales	1,558	1,567	0.56%

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



## 5.0 YELLOW CARD REPORTING

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

**Unit of measure:** Number of Yellow Cards submitted per GP practice, per hospital, per health board and by members of the public.  
Number of Yellow Cards submitted by community pharmacies, by health board.

**Aim:** To increase reporting

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.

Yellow Card reporting supports the identification and collation of ADRs, which might not have been known about before.

A strong safety culture requires good reporting of adverse events and critical incidents from across all professions and healthcare settings, as well as from patients.

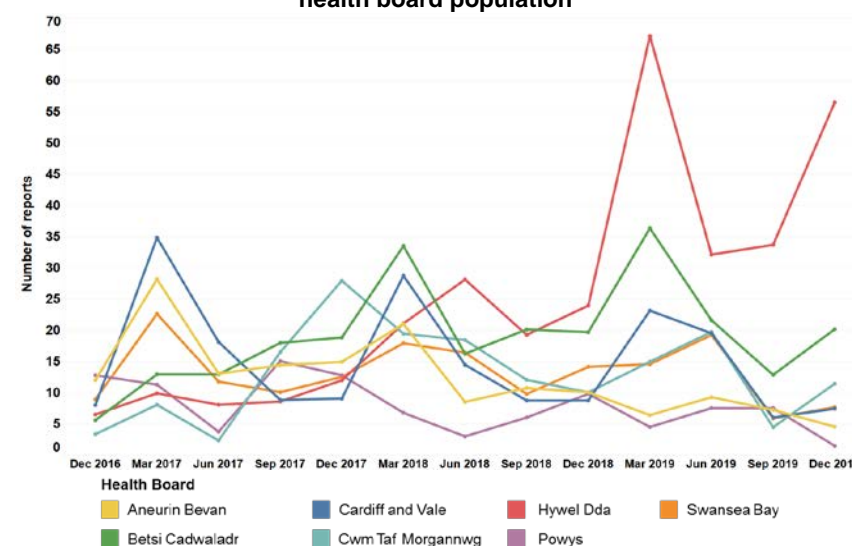
### GP practices

- The number of Yellow Cards submitted by GP practices in Wales increased by 13% compared with the equivalent quarter of the previous year.
- The largest percentage increase in GP practice Yellow Card reporting was seen in Hywel Dda UHB. The largest percentage decrease was seen in Powys Teaching HB.

**Table 6. Number of Yellow Cards submitted by GP practices**

	2018-2019 Qtr 3	2019-2020 Qtr 3	% Change
Hywel Dda	92	218	137%
Betsi Cadwaladr	137	141	3%
Cwm Taf Morgannwg	55	51	-7%
Cardiff and Vale	43	37	-14%
Swansea Bay	50	30	-40%
Aneurin Bevan	59	27	-54%
Powys	13	2	-85%
<b>Wales</b>	<b>449</b>	<b>506</b>	<b>13%</b>

**Figure 7. Number of Yellow Cards submitted by GP practices per 100,000 health board population\***



\* Please note: prior to the quarter ending June 2019, data displayed for Cwm Taf Morgannwg and Swansea Bay UHBs relate to the former health boards of Cwm Taf and Abertawe Bro Morgannwg respectively.

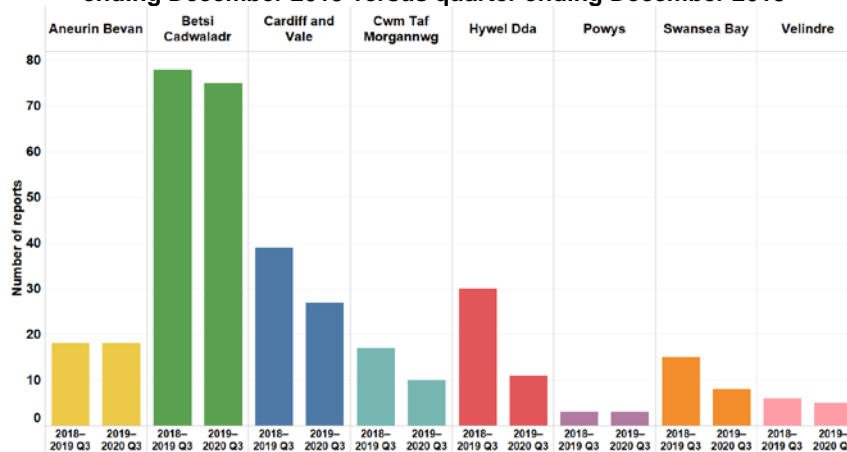
### Secondary care

- The number of Yellow Cards submitted by secondary care decreased by 24% compared with the equivalent quarter of the previous year.
- Aneurin Bevan UHB and Powys Teaching HB demonstrated no change in secondary care reporting. The largest percentage decrease was seen in Hywel Dda UHB.

Table 7. Number of Yellow Cards submitted by secondary care

	2018–2019 Qtr 3	2019–2020 Qtr 3	% Change
Aneurin Bevan	18	18	0%
Powys	3	3	0%
Betsi Cadwaladr	78	75	-4%
Velindre	6	5	-17%
Cardiff and Vale	39	27	-31%
Cwm Taf Morgannwg	17	10	-41%
Swansea Bay	15	8	-47%
Hywel Dda	30	11	-63%
<b>Wales</b>	<b>206</b>	<b>157</b>	<b>-24%</b>

Figure 8. Number of Yellow Cards submitted by secondary care – Quarter ending December 2019 versus quarter ending December 2018



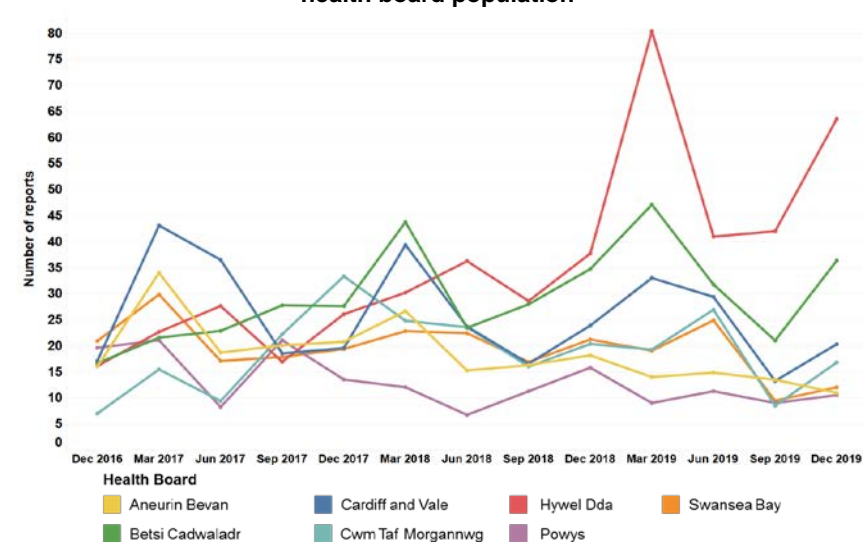
### Health boards

- The number of Yellow Cards submitted by health boards decreased by 1% compared with the equivalent quarter of the previous year.
- The largest percentage increase in health board reporting was seen in Hywel Dda UHB. The largest percentage decrease was seen in Swansea Bay UHB.

Table 8. Number of Yellow Cards submitted by health board/NHS Trust

	2018–2019 Qtr 3	2019–2020 Qtr 3	% Change
Hywel Dda	145	245	69%
Betsi Cadwaladr	242	254	5%
Cardiff and Vale	118	101	-14%
Velindre	6	5	-17%
Cwm Taf Morgannwg	94	75	-20%
Powys	21	14	-33%
Aneurin Bevan	107	65	-39%
Swansea Bay	80	47	-41%
<b>Wales</b>	<b>813</b>	<b>806</b>	<b>-1%</b>

Figure 9. Number of Yellow Cards submitted by health boards per 100,000 health board population\*



\* Please note: prior to the quarter ending June 2019, data displayed for Cwm Taf Morgannwg and Swansea Bay UHBs relate to the former health boards of Cwm Taf and Abertawe Bro Morgannwg respectively.

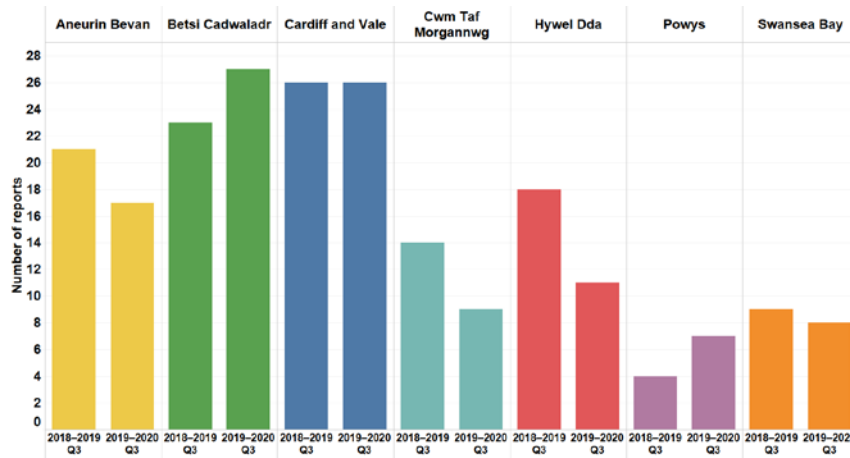
### Members of the public

- The number of Yellow Cards submitted by members of the public decreased by 9% compared with the equivalent quarter of the previous year.
- The largest percentage increase in member of the public reporting was seen in Powys Teaching HB. The largest percentage decrease was seen in Hywel Dda UHB.

Table 9. Number of Yellow Cards submitted by members of the public

	2018–2019 Qtr 3	2019–2020 Qtr 3	% Change
Powys	4	7	75%
Betsi Cadwaladr	23	27	17%
Cardiff and Vale	26	26	0%
Swansea Bay	9	8	-11%
Aneurin Bevan	21	17	-19%
Cwm Taf Morgannwg	14	9	-36%
Hywel Dda	18	11	-39%
Wales	115	105	-9%

Figure 10. Number of Yellow Cards submitted by members of the public – Quarter ending December 2019 versus quarter ending December 2018



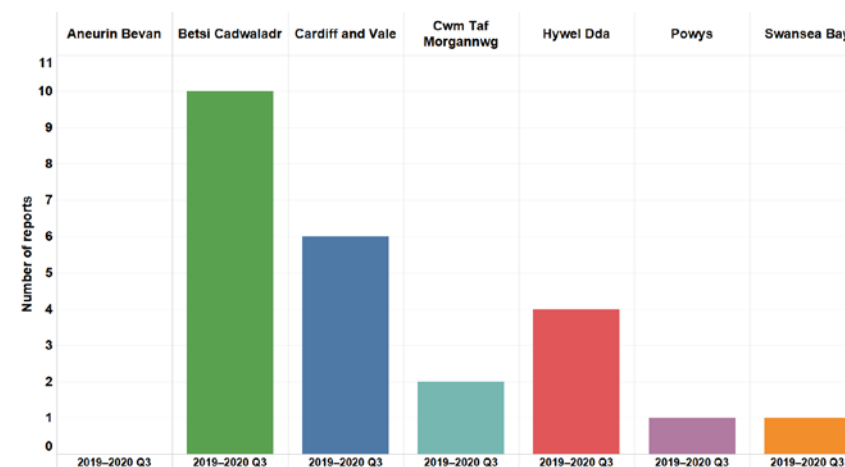
### Community pharmacy

- Across Wales, a total of 24 Yellow Card reports were submitted by community pharmacies during the quarter ending December 2019.
- The number of Yellow Card reports submitted by community pharmacies ranged from 10 to 0.

Table 10. Number of Yellow Cards submitted by community pharmacies

	2019–2020 Qtr 3
Betsi Cadwaladr	10
Cardiff and Vale	6
Hywel Dda	4
Cwm Taf Morgannwg	2
Powys	1
Swansea Bay	1
Aneurin Bevan	0
Wales	24

Figure 11. Number of Yellow Cards submitted by community pharmacy – Quarter ending December 2019



## STEWARDSHIP INDICATORS

### 6.0 ANTIMICROBIAL STEWARDSHIP

There are two antimicrobial NPIs for 2019–2020:

1. Total antibacterial items per 1,000 STAR-PUs
2. 4C antimicrobials (co-amoxiclav, cephalosporins, fluoroquinolones and clindamycin) items per 1,000 patients

#### 6.1 Total antibacterial items

**Purpose:** To encourage the appropriate prescribing of all antibiotics in primary care.

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

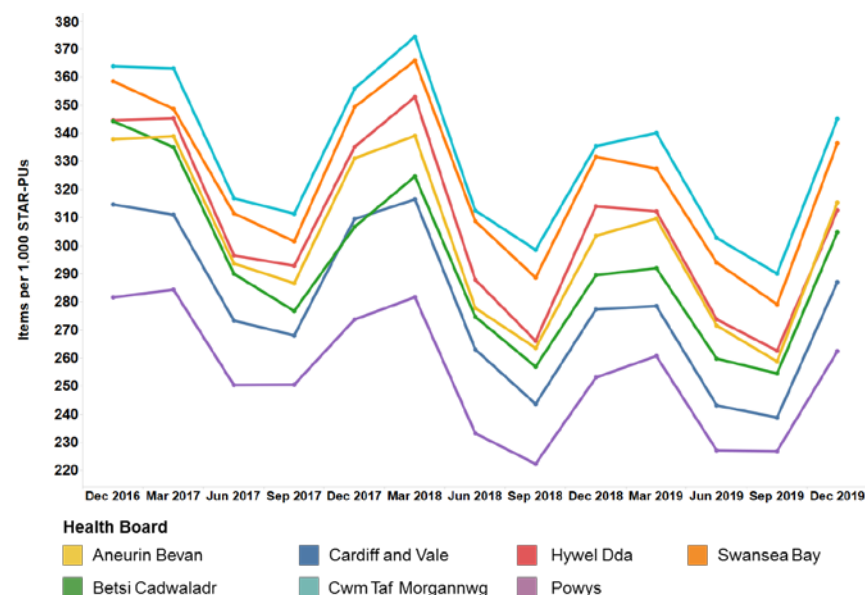
**Aim:** To reduce prescribing

- Across Wales, for the quarter ending December 2019, total antibacterial items per 1,000 STAR-PUs reduced by 4.08%, compared with the quarter ending December 2017. This is in line with the indicator target.
- For the quarter ending December 2019, the total number of antibacterial items per 1,000 STAR-PUs ranged from 262 to 345 across the health boards.
- The health board with the lowest prescribing was Powys Teaching HB, whilst the highest prescribing was seen in Cwm Taf Morgannwg UHB.
- For the quarter ending December 2019, two health boards achieved the target of a 5% reduction against the baseline of quarter 3 2017–2018.
- Cardiff and Vale UHB demonstrated the greatest percentage reduction in prescribing, compared with the quarter ending December 2017.
- Betsi Cadwaladr UHB demonstrated the smallest percentage reduction in prescribing, compared with the quarter ending December 2017.

Table 11. Total antibacterial items per 1,000 STAR-PUs

	2017–2018 Qtr 3	2019–2020 Qtr 3	% Change
Cardiff and Vale	309	287	-7.25%
Hywel Dda	335	313	-6.73%
Aneurin Bevan	331	315	-4.75%
Powys	274	262	-4.13%
Swansea Bay	349	337	-3.69%
Cwm Taf Morgannwg	356	345	-3.03%
Betsi Cadwaladr	307	305	-0.62%
Wales	326	313	-4.08%

Figure 12. Trend in antibacterial prescribing items per 1,000 STAR-PUs



## 6.2 4C antimicrobials

**Purpose:** To encourage a reduction in variation and reduce overall prescribing of the 4C antimicrobials (co-amoxiclav, cephalosporins, fluoroquinolones and clindamycin) in primary care.

**Unit of measure:** 4C items per 1,000 patients

**Aim:** To reduce prescribing

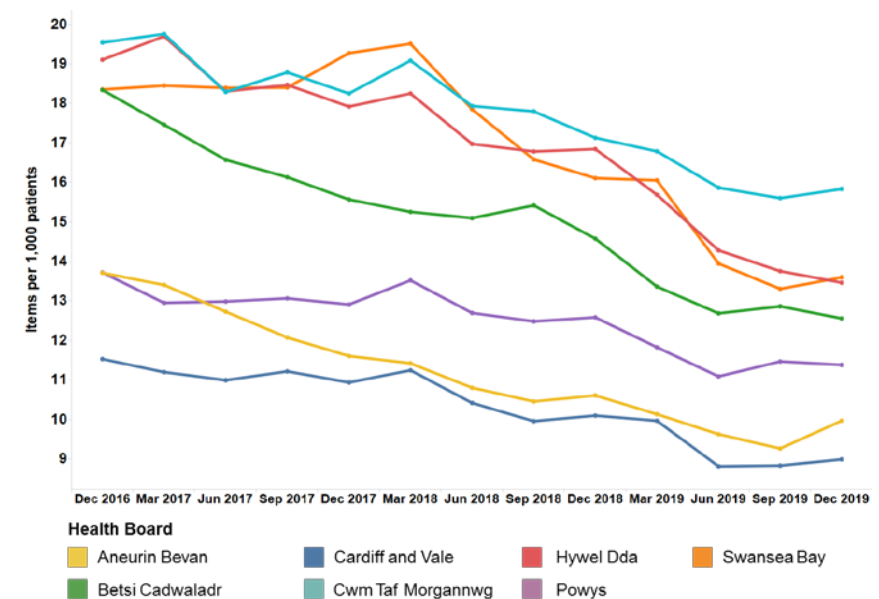
The use of simple generic antibiotics and the avoidance of these broad-spectrum antibiotics preserve them from resistance and reduce the risk of *C. difficile*, MRSA and resistant urinary tract infections.

- Across Wales, for the quarter ending December 2019, the number of 4C antimicrobial items per 1,000 patients decreased by 19.5%, compared with the quarter ending December 2017, in line with the aim of this indicator.
- For the quarter ending December 2019, 4C prescribing ranged from 8.98 to 15.8 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 Morgannwg UHB.
- 4C prescribing decreased, compared with the quarter ending December 2017, in all seven health boards.
- The largest percentage decrease was seen in Swansea Bay UHB.
- The smallest percentage decrease was seen in Powys Teaching HB.

Table 12. 4C antimicrobial items per 1,000 patients

	2017–2018 Qtr 3	2019–2020 Qtr 3	% Change
Swansea Bay	19.3	13.6	-29.5%
Hywel Dda	17.9	13.5	-24.9%
Betsi Cadwaladr	15.6	12.5	-19.4%
Cardiff and Vale	10.9	8.98	-17.8%
Aneurin Bevan	11.6	10.0	-14.1%
Cwm Taf Morgannwg	18.2	15.8	-13.2%
Powys	12.9	11.4	-11.9%
Wales	15.1	12.1	-19.5%

Figure 13. Trend in 4C antimicrobial items per 1,000 patients



## EFFICIENCY INDICATORS

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### 7.0 INSULIN

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**Purpose:** To encourage a reduction in the prescribing of long-acting insulin analogues in line with NICE guidance to maximise cost-effectiveness in Wales.

**Unit of measure:** Items/number of long-acting insulin analogues expressed as a percentage of total long- and intermediate-acting insulin prescribed in 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.

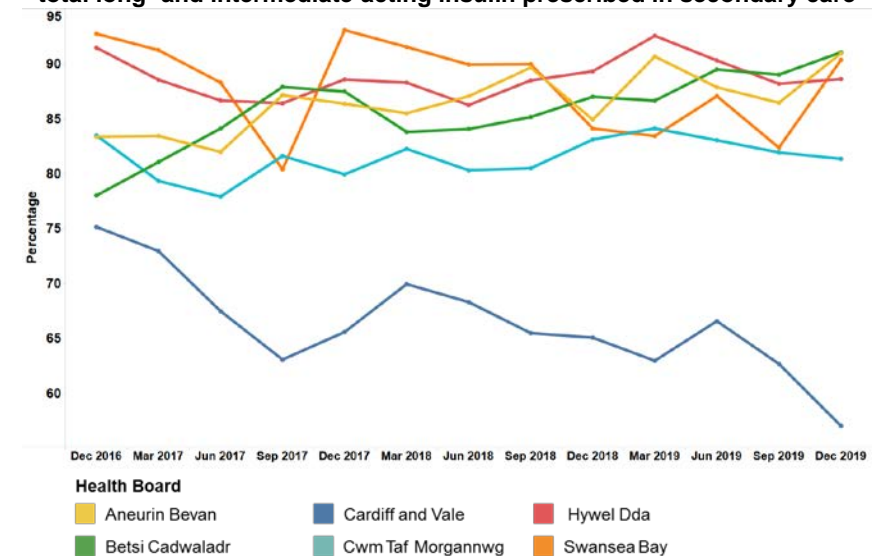
### Secondary care prescribing

- Across Wales, secondary care use of long-acting insulin as a percentage of all long- and intermediate-acting insulin prescribing was 0.84% lower in the quarter ending December 2019 than in the equivalent quarter of the previous year.
- For the quarter ending December 2019, prescribing of long-acting insulin analogues as a percentage of total long- and intermediate-acting insulin ranged from 57.0% to 91.1%.
- The health board/trust with the lowest prescribing percentage was Cardiff and Vale UHB. The highest prescribing percentage was seen in Betsi Cadwaladr UHB.
- The proportion of long-acting insulin analogue prescribing decreased in three of the six health boards which data is reported for, compared with the equivalent quarter of the previous year.
- Cardiff and Vale UHB showed the greatest percentage decrease.
- The health board/trust with the greatest percentage increase was Swansea Bay UHB.

**Table 13. Long-acting insulin analogues as a percentage of total long- and intermediate-acting insulin prescribing in secondary care**

	2018–2019 Qtr 3	2019–2020 Qtr 3	% Change
Cardiff and Vale	65.1	57.0	-12.4
Cwm Taf Morgannwg	83.1	81.4	-2.11
Hywel Dda	89.4	88.7	-0.79
Betsi Cadwaladr	87.0	91.1	4.66
Aneurin Bevan	85.0	91.0	7.12
Swansea Bay	84.1	90.4	7.43
<b>Wales</b>	<b>81.3</b>	<b>82.0</b>	<b>0.84</b>

**Figure 14. Trend in long-acting analogue prescribing as a percentage of total long- and intermediate-acting insulin prescribed in secondary care**

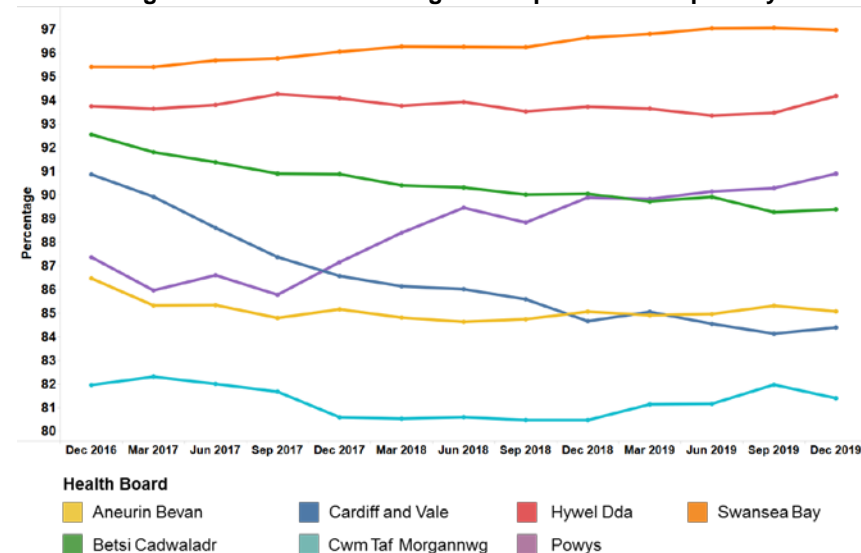


**Primary care prescribing**

- Across Wales, the prescribing of long-acting insulin analogues as a proportion of total long- and intermediate-acting insulin prescribing increased by 0.13% for the quarter ending in December 2019, compared with the equivalent quarter of the previous year. This is not in line with the aim of the indicator.
- For the quarter ending December 2019, long-acting insulin analogue prescribing ranged from 81.4% to 97.0% across the health boards.
- The health board with the lowest prescribing was Cwm Taf Morgannwg UHB, whilst the highest prescribing was seen in Swansea Bay UHB.
- Across the seven health boards in Wales prescribing increased compared with the equivalent quarter of the previous year in five health boards and decreased in two health boards.
- The health board with the greatest percentage decrease was Betsi Cadwaladr UHB.
- The largest percentage increase was seen in Cwm Taf Morgannwg UHB.

**Table 14. Long-acting insulin analogues as a percentage of total long- and intermediate-acting insulin prescribing in primary care**

	2018–2019 Qtr 3	2019–2020 Qtr 3	% Change
Betsi Cadwaladr	90.0	89.4	-0.73%
Cardiff and Vale	84.7	84.4	-0.32%
Aneurin Bevan	85.1	85.1	0.01%
Swansea Bay	96.7	97.0	0.33%
Hywel Dda	93.7	94.2	0.48%
Powys	89.9	90.9	1.12%
Cwm Taf Morgannwg	80.5	81.4	1.15%
<b>Wales</b>	<b>88.0</b>	<b>88.1</b>	<b>0.13%</b>

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

## 8.0 BIOSIMILARS

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**Purpose:** To ensure prescribing of biological medicines supports cost-effective prescribing in Wales.

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

**Aim:** Increase the appropriate use of cost-effective biological medicines, including biosimilar medicines.

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.

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.

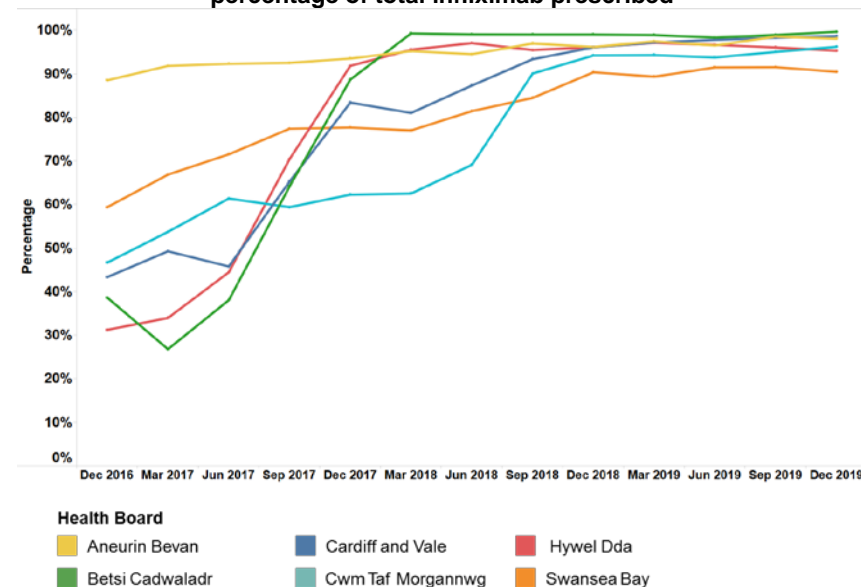
### 8.1 Infliximab

- Across Wales, for the quarter ending December 2019, infliximab biosimilar prescribing increased by 0.96%, compared with the equivalent quarter of the previous year. This is in line with the aim of this indicator.
- For the quarter ending December 2019, infliximab biosimilar prescribing ranged from 90.5% to 98.6% across the health boards.
- The health board with the highest percentage was Betsi Cadwaladr UHB whilst the lowest percentage was seen in Swansea Bay UHB.
- Five of the six health boards which data is reported for demonstrated an increase in percentage, compared with the equivalent quarter of the previous year.
- Cardiff and Vale UHB demonstrated the largest percentage increase.
- Hywel Dda UHB demonstrated a percentage decrease.

**Table 15. Infliximab biosimilars as a percentage of reference and biosimilar prescribed**

	2018–2019 Qtr 3	2019–2020 Qtr 3	% Change
<b>Cardiff and Vale</b>	96.1	98.6	2.67%
<b>Cwm Taf Morgannwg</b>	94.2	96.2	2.12%
<b>Aneurin Bevan</b>	96.2	98.0	1.97%
<b>Swansea Bay</b>	90.4	90.5	0.13%
<b>Betsi Cadwaladr</b>	99.0	99.6	0.61%
<b>Hywel Dda</b>	96.1	95.3	-0.85%
<b>Wales</b>	<b>95.5</b>	<b>96.4</b>	<b>0.96%</b>

**Figure 16. Trend in infliximab biosimilar (Inflectra®) prescribing as a percentage of total infliximab prescribed**



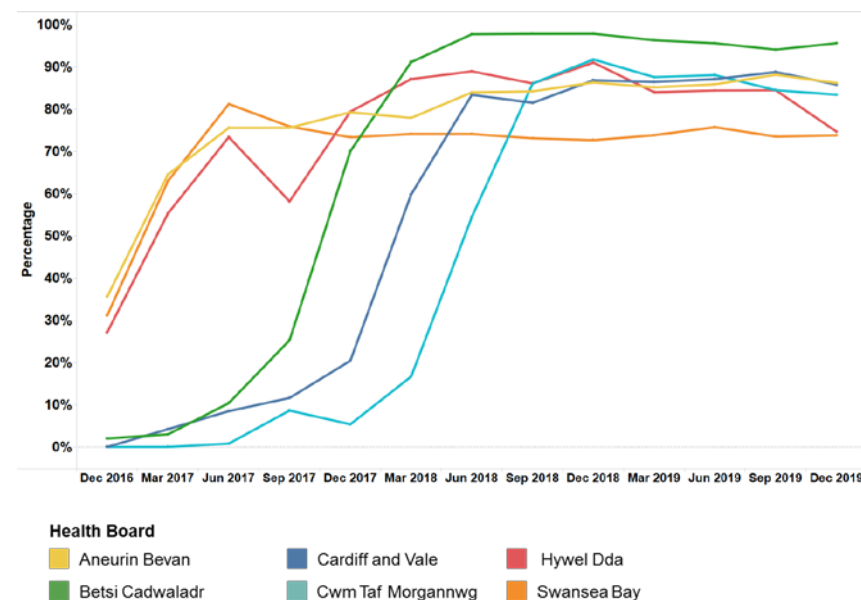
## 8.2 Etanercept

- Across Wales, for the quarter ending December 2019, etanercept biosimilar prescribing decreased by 5.70%, compared with the equivalent quarter of the previous year. This is not in line with the aim of this indicator.
- For the quarter ending December 2019, etanercept biosimilar prescribing ranged from 73.8% to 95.6% across the health boards.
- The health board with the highest percentage was Betsi Cadwaladr UHB whilst the lowest percentage was seen in Swansea Bay UHB.
- Swansea Bay UHB demonstrated a percentage increase.
- Five of the six health boards which data is reported for demonstrated a decrease in percentage, compared with the equivalent quarter of the previous year.
- Hywel Dda UHB demonstrated the largest percentage decrease.

Table 16. Etanercept biosimilars as a percentage of reference and biosimilar prescribed

	2018–2019 Qtr 3	2019–2020 Qtr 3	% Change
Swansea Bay	72.7	73.8	1.61%
Aneurin Bevan	86.3	85.6	-0.85%
Cardiff and Vale	86.9	85.8	-1.19%
Betsi Cadwaladr	97.9	95.6	-2.29%
Cwm Taf Morgannwg	91.8	83.4	-9.10%
Hywel Dda	91.0	74.7	-18.0%
Wales	85.7	80.8	-5.70%

Figure 17. Trend in etanercept biosimilar (Benepali®, Erelzi®) prescribing as a percentage of total etanercept prescribed



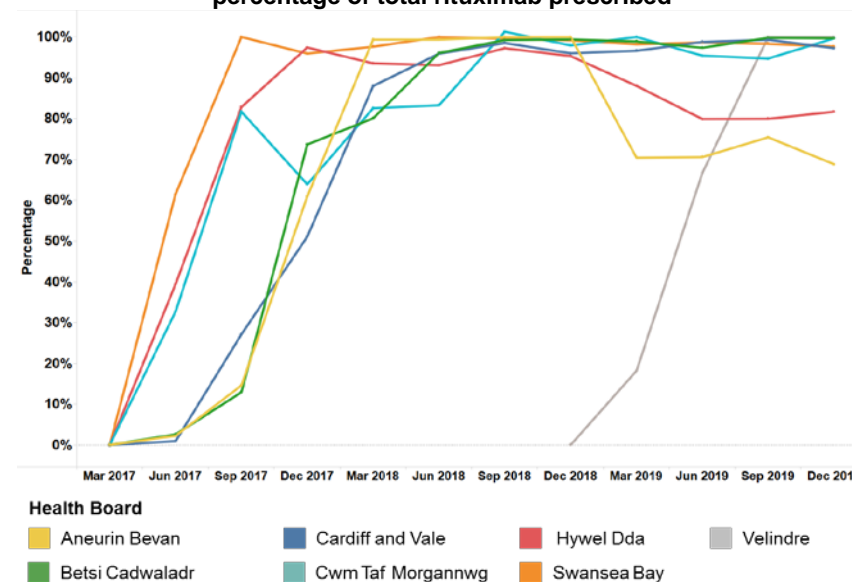
### 8.3 Rituximab

- Across Wales, for the quarter ending December 2019, rituximab biosimilar prescribing decreased by 3.91%, compared with the equivalent quarter of the previous year. This is not in line with the aim of this indicator
- For the quarter ending December 2019, rituximab biosimilar prescribing ranged from 68.8% to 100% across the health boards/trusts.
- The health board/trust with the highest percentage was Velindre NHS Trust whilst the lowest percentage was seen in Aneurin Bevan UHB
- Four of the seven health boards/trusts which data is reported for demonstrated an increase in percentage, compared with the equivalent quarter of the previous year.
- Velindre NHS Trust demonstrated the largest percentage increase.
- Aneurin Bevan UHB demonstrated the largest percentage decrease.

**Table 17. Rituximab biosimilar as a percentage of reference and biosimilar prescribed**

	2018–2019 Qtr 3	2019–2020 Qtr 3	% Change
<b>Velindre</b>	0	100	N/A
<b>Cwm Taf Morgannwg</b>	97.9	99.7	1.78%
<b>Cardiff and Vale</b>	96.0	97.3	1.32%
<b>Betsi Cadwaladr</b>	99.4	99.7	0.29%
<b>Swansea Bay</b>	99.2	97.7	-1.53%
<b>Hywel Dda</b>	95.3	81.7	-14.3%
<b>Aneurin Bevan</b>	100.0	68.8	-31.2%
<b>Wales</b>	<b>97.3</b>	<b>93.5</b>	<b>-3.91%</b>

**Figure 18. Trend in rituximab biosimilar (Truxima®) prescribing as a percentage of total rituximab prescribed**



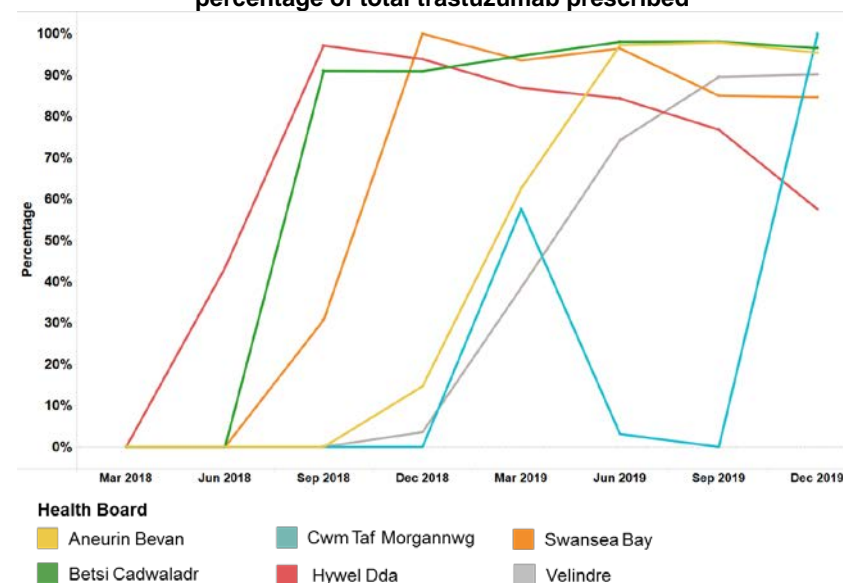
#### 8.4 Trastuzumab

- Across Wales, trastuzumab biosimilar prescribing increased by 80.5% for the quarter ending December 2019 compared with the equivalent quarter of the previous year. This is in line with the aim of this indicator.
- For the quarter ending December 2019, trastuzumab biosimilar prescribing ranged from 57.5% to 100% across the health boards/trusts.
- The health board with the highest percentage was Cwm Taf Morgannwg UHB whilst the lowest percentage was seen in Hywel Dda UHB.
- Four of the six health boards/trusts which data is reported for demonstrated an increase in percentage, compared with the equivalent quarter of the previous year.
- Hywel Dda UHB demonstrated the largest percentage decrease.

**Table 18. Trastuzumab biosimilar as a percentage of reference and biosimilar prescribed**

	2018–2019 Qtr 3	2019–2020 Qtr 3	% Change
<b>Cwm Taf Morgannwg</b>	0	100	N/A
<b>Velindre</b>	3.58	90.2	2419.0%
<b>Aneurin Bevan</b>	14.7	95.4	550.2%
<b>Betsi Cadwaladr</b>	90.9	96.5	6.15%
<b>Swansea Bay</b>	100	84.6	-15.4%
<b>Hywel Dda</b>	93.9	57.5	-38.7%
<b>Wales</b>	<b>48.4</b>	<b>87.3</b>	<b>80.5%</b>

**Figure 19. Trend in trastuzumab biosimilar (Ontruzant®) prescribing as a percentage of total trastuzumab prescribed**



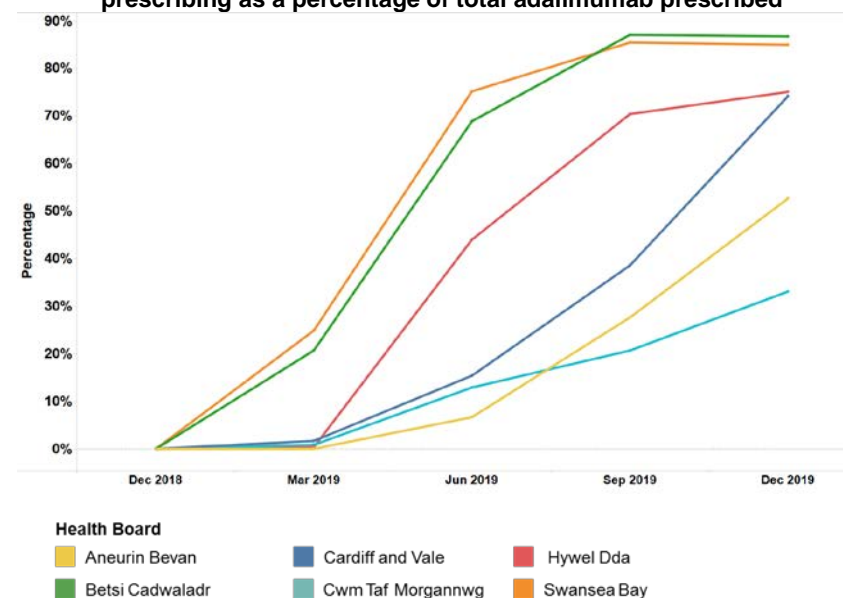
### 8.5 Adalimumab

- Across Wales, adalimumab biosimilar prescribing increased from 0% to 69.7%, for the quarter ending December 2019 compared with the equivalent quarter of the previous year. This is in line with the aim of this indicator.
- For the quarter ending December 2019, adalimumab biosimilar prescribing ranged from 33.0% to 86.7% across the health boards.
- The health board with the highest percentage was Betsi Cadwaladr UHB whilst the lowest percentage was seen in Cwm Taf Morgannwg UHB.
- All six of the health boards which data is reported for demonstrated an increase in percentage, compared with the equivalent quarter of the previous year.
- Betsi Cadwaladr UHB demonstrated the largest percentage increase.

**Table 19. Adalimumab biosimilar as a percentage of reference and biosimilar prescribed**

	2018–2019 Qtr 3	2019–2020 Qtr 3	% Change
<b>Betsi Cadwaladr</b>	0	86.7	N/A
<b>Swansea Bay</b>	0	85.0	N/A
<b>Hywel Dda</b>	0	75.1	N/A
<b>Cardiff and Vale</b>	0	74.1	N/A
<b>Aneurin Bevan</b>	0	44.3	N/A
<b>Cwm Taf Morgannwg</b>	0	33.0	N/A
<b>Wales</b>	<b>0</b>	<b>69.7</b>	<b>N/A</b>

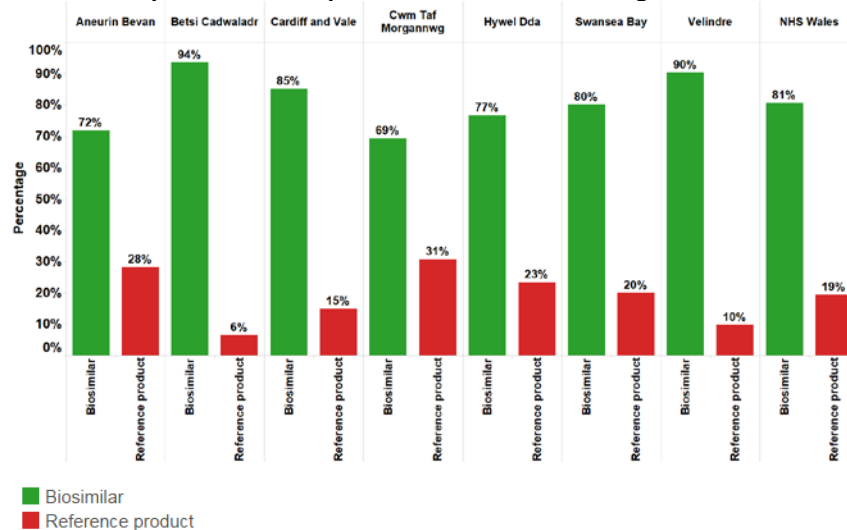
**Figure 20. Trend in adalimumab biosimilar (Amgevita®, Imraldi®) prescribing as a percentage of total adalimumab prescribed**



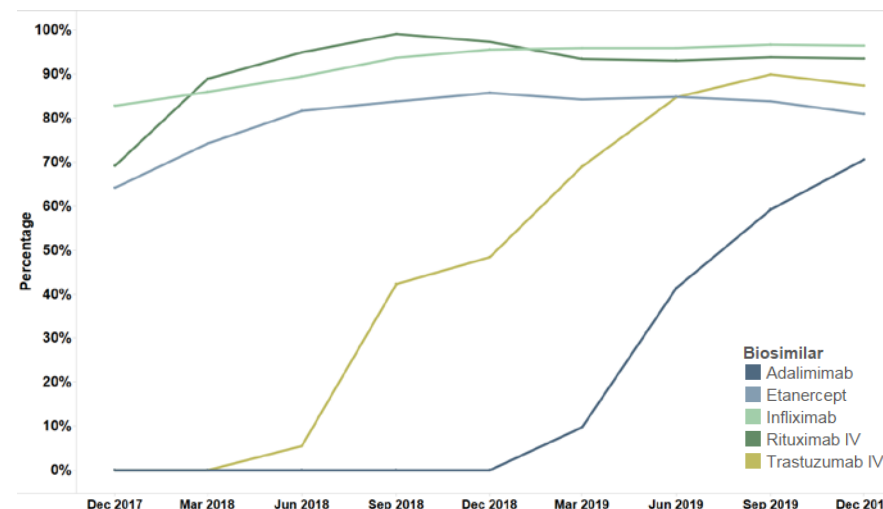
### 8.6 Total biosimilar usage

Within Wales there was an increase in the use of the reported biosimilar medicines (infliximab, etanercept, rituximab, trastuzumab, adalimumab) combined as a percentage of reported 'reference' biological medicines plus biosimilars combined, from 62% to 81% for the quarter ending December 2019 compared with the equivalent quarter of the previous year.

**Figure 21. Biological reference and biosimilar as a proportion of total reference plus biosimilar prescribed – Quarter ending December 2019**



**Figure 22. Trend in biosimilar percentage in Wales**



## CAUTION WITH INTERPRETING NPI MONITORING DATA

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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 Prescribing Safety Indicators have been provided by Audit+, the GP software tool delivered and supported by the NHS Wales Informatics Service (NWIS).

As of Quarter 3 2018-2019, the method of calculating secondary care data for the Insulin NPI has changed. Therefore, any comparison to historic data before that point should be made via SPIRA rather than any previously published quarterly reports.

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

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**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. 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.

**UDG** – A user defined group is a specific basket of items developed to monitor a particular NPI.

## APPENDIX 1. AWMMSG NATIONAL PRESCRIBING INDICATORS 2019–2020

National Prescribing Indicator	Applicable to:	Unit of measure	Target for 2019–2020	Data source
Safety				
Prescribing Safety Indicators	Primary care	Number of patients identified as a percentage of the practice population or sub population	No target set	NWIS
Proton pump inhibitors	Primary care	PPI DDDs per 1,000 PUs	Maintain performance levels within the lower quartile, or show a reduction towards the quartile below	NWSSP
Hypnotics and anxiolytics	Primary care	Hypnotic and anxiolytic ADQs per 1,000 STAR-PUs	Maintain performance levels within the lower quartile, or show a reduction towards the quartile below	NWSSP
Analgesics	Primary care	Opioid burden UDG ADQs per 1,000 patients	Maintain performance levels within the lower quartile, or show a reduction towards the quartile below	NWSSP
		Tramadol DDDs per 1,000 patients	Maintain performance levels within the lower quartile, or show a reduction towards the quartile below	NWSSP
		Gabapentin and pregabalin DDDs per 1,000 patients	Maintain performance levels within the lower quartile, or show a reduction towards the quartile below	NWSSP
Yellow Card Reporting	Primary care	Number of Yellow Cards submitted	One Yellow Card per 2,000 GP practice population	MHRA
	Health board		One Yellow Card per 2,000 health board population	
			20% or greater increase from baseline (2018-2019) for Yellow Cards submitted by secondary care	
			50% or greater increase from baseline (2018-2019) for Yellow Cards submitted by members of the public	
Community pharmacy	No target set. Reported as the number of Yellow Cards submitted by health board.			
Stewardship				
Antimicrobial stewardship	Primary care	Total antibacterial items per 1,000 STAR-PUs	Health board target: a reduction of 5% against a baseline of April 2017–March 2018	NWSSP
	Primary care	Number of 4C antimicrobial (co-amoxiclav, cephalosporins, fluoroquinolones and clindamycin) items per 1,000 patients	A quarterly reduction of 10% against a baseline of April 2017–March 2018	NWSSP

## Welsh Analytical Prescribing Support Unit

Efficiency				
<b>Biosimilars</b>	Primary + secondary care	Quantity of biosimilar medicines prescribed as a percentage of total 'reference' product plus biosimilar	Increase the appropriate use of cost-effective biological medicines, including biosimilar medicines.	NWSSP Medusa
<b>Long-acting insulin analogues</b>	Primary + secondary care	Items/number of long-acting insulin analogues expressed as a percentage of total long- and intermediate-acting insulin prescribed	Reduce prescribing of long-acting insulin analogues and achieve prescribing levels below the Welsh average	NWSSP Medusa

## APPENDIX 2. PRIMARY CARE NPI PRESCRIBING BY GP CLUSTER

Figure 1. Proton Pump Inhibitor prescribing – Quarter ending December 2019 versus quarter ending December 2018

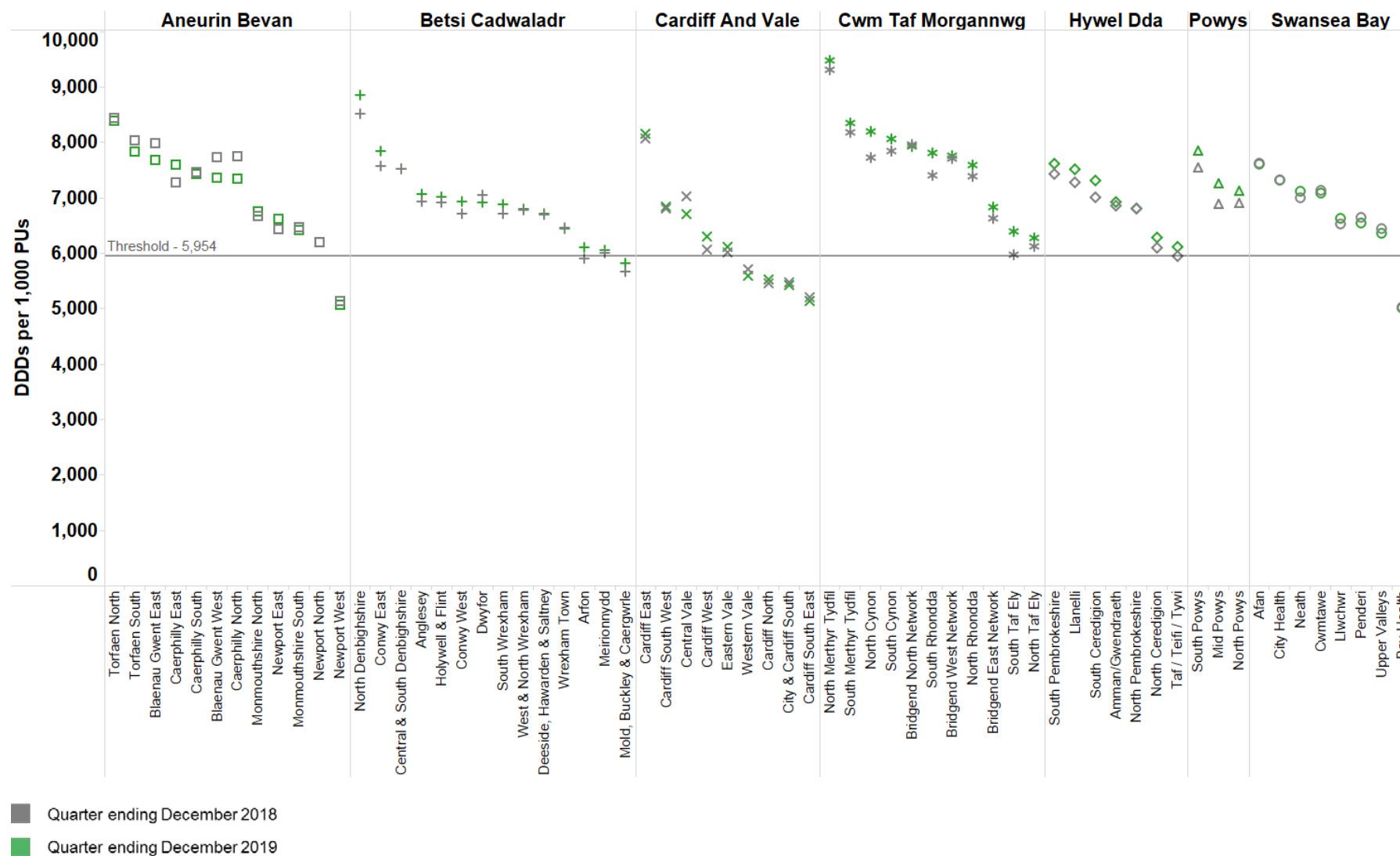
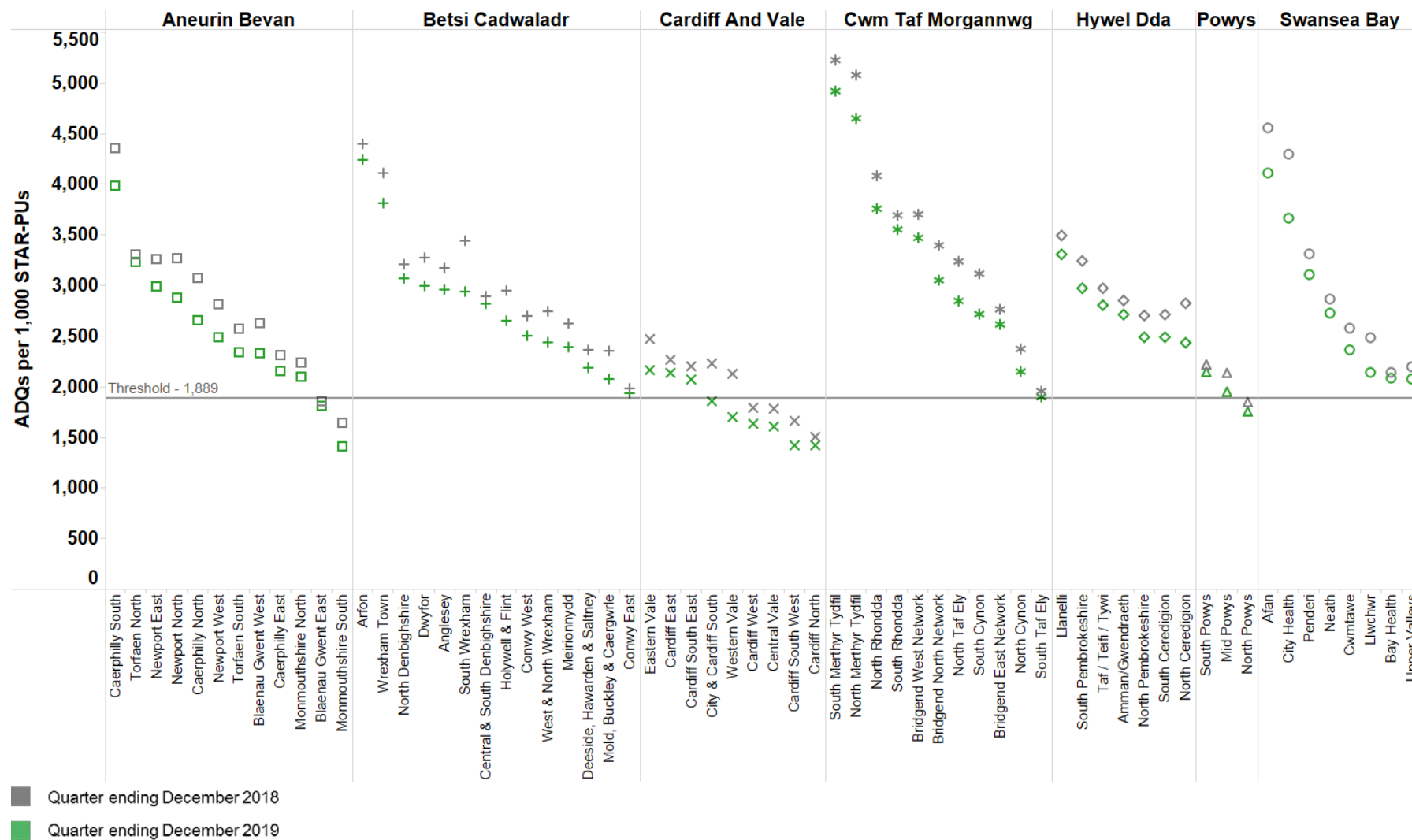


Figure 2. Hypnotic and anxiolytic prescribing – Quarter ending December 2019 versus quarter ending December 2018



**Figure 3. Opioid burden prescribing – Quarter ending December 2019 versus quarter ending December 2018**

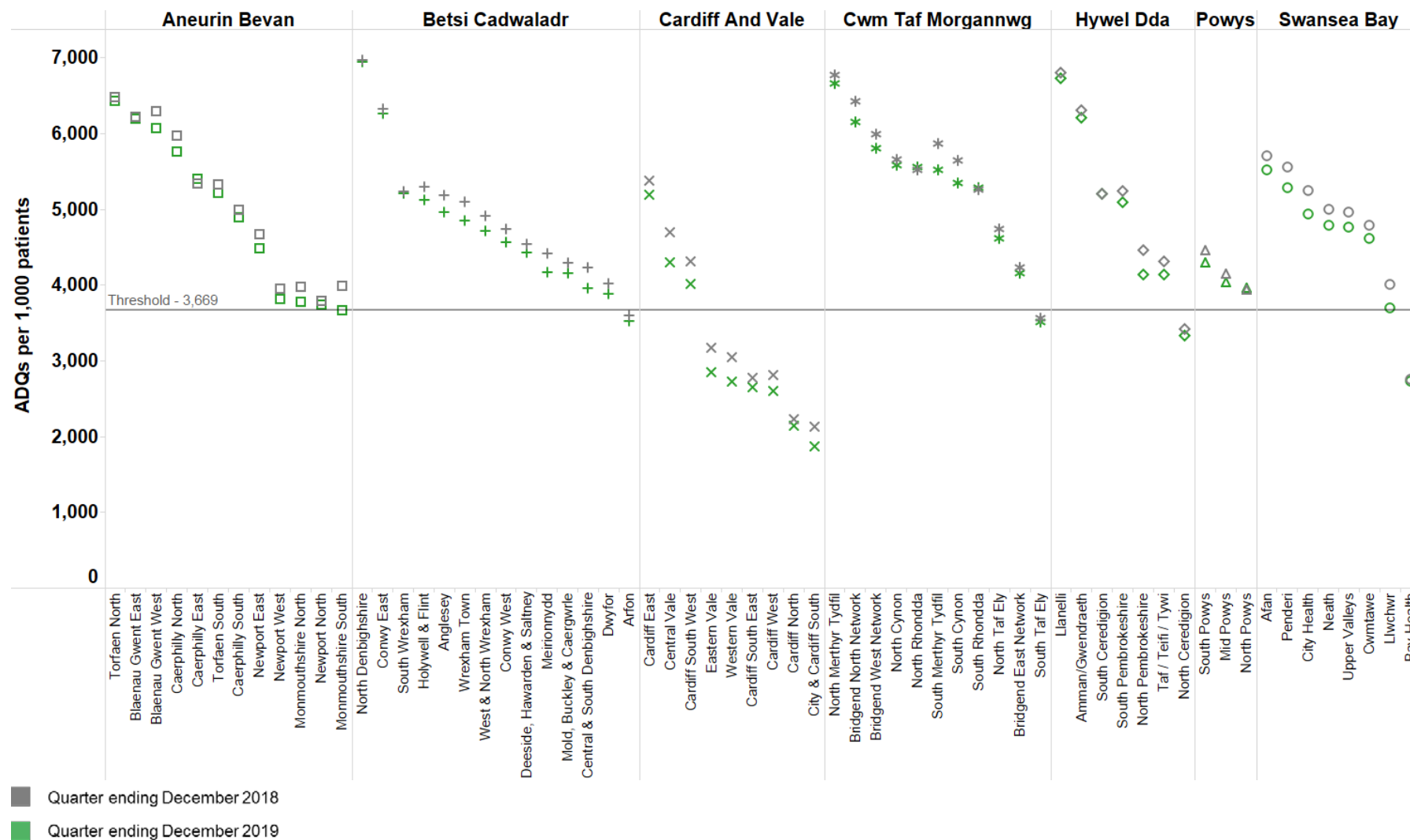


Figure 4. Tramadol prescribing – Quarter ending December 2019 versus quarter ending December 2018

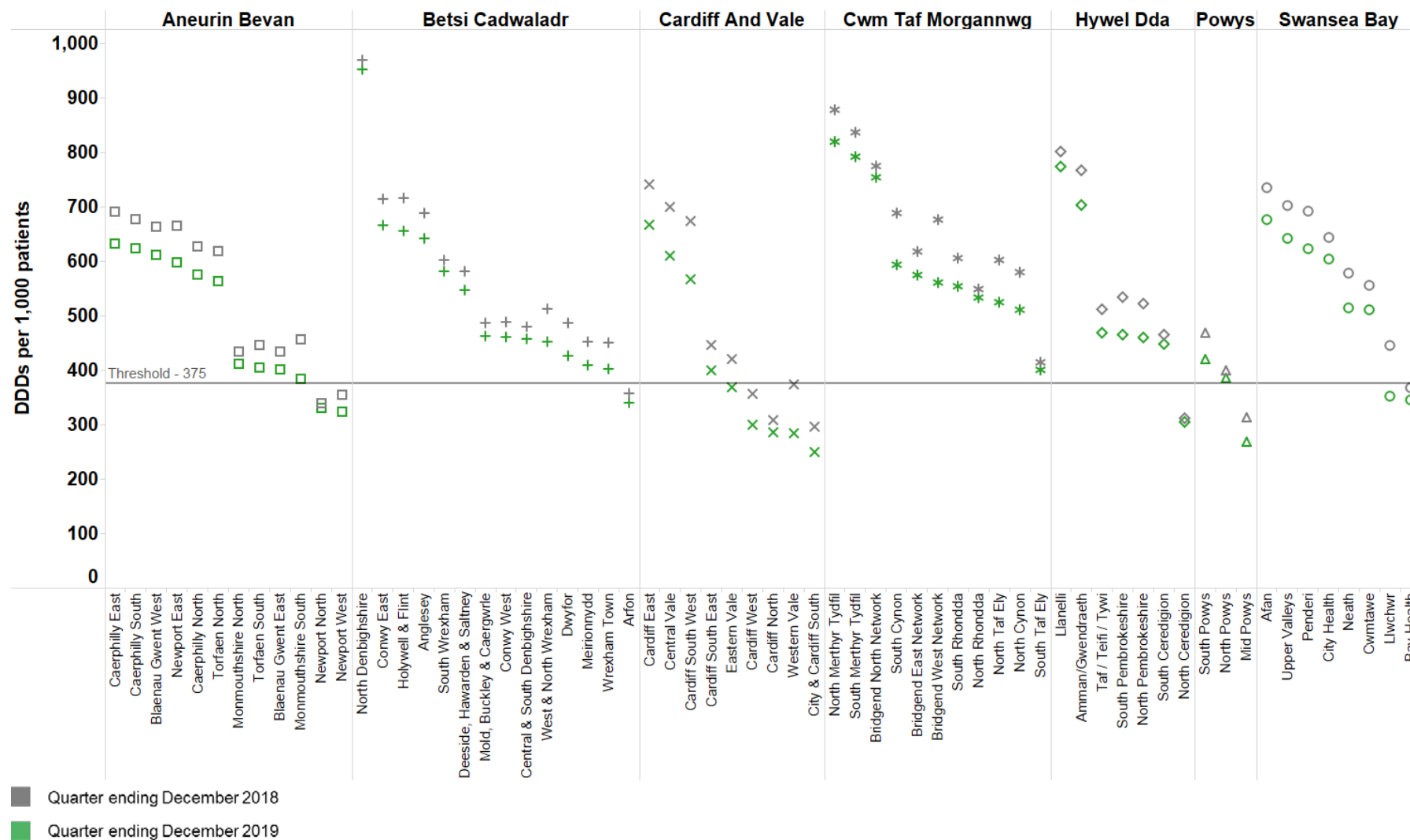


Figure 5. Gabapentin and pregabalin prescribing – Quarter ending December 2019 versus quarter ending December 2018

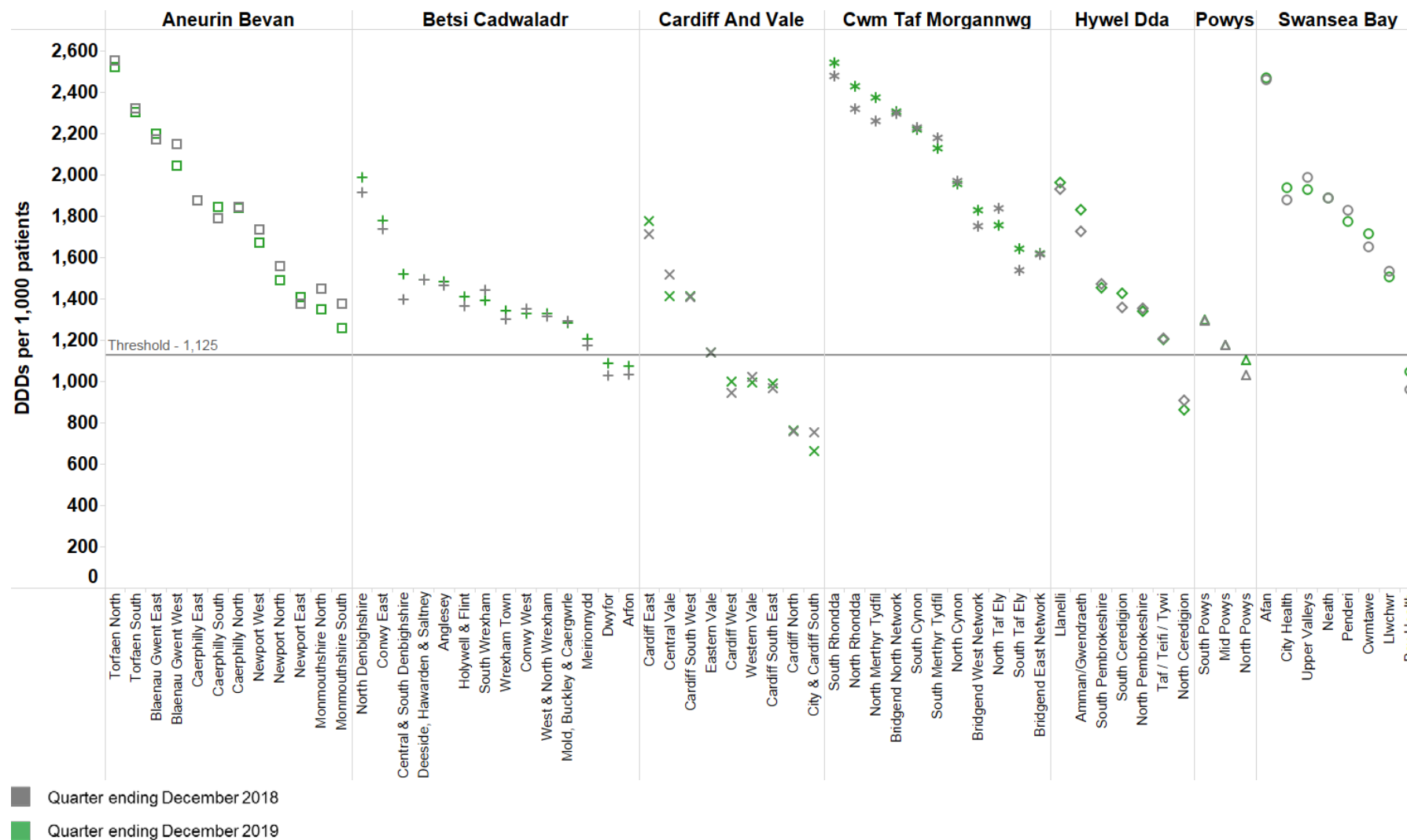


Figure 6. Antimicrobial prescribing – Quarter ending December 2019 versus quarter ending December 2017

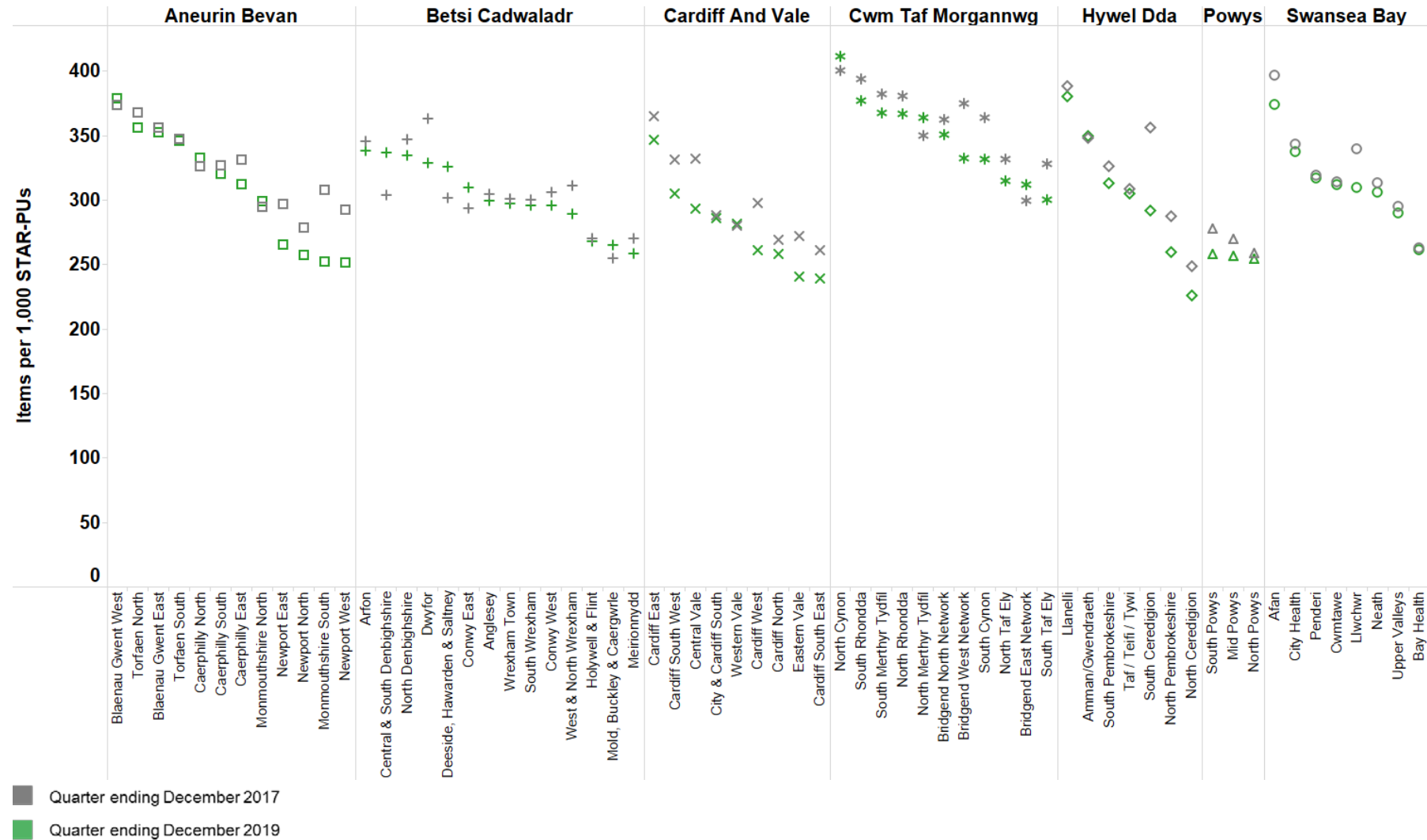


Figure 7. 4C prescribing – Quarter ending December 2019 versus quarter ending December 2017

