



AWTTC

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

National Prescribing Indicators 2019–2020

Analysis of Prescribing Data to September 2019

Data within Section 5 – Yellow Card Reporting (pages 16 and 17) was amended on 30 January 2020





All Wales Therapeutics and Toxicology Centre

Canolfan Therapiwteg a
Thocsicoleg Cymru Gyfan

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

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EXECUTIVE SUMMARY

The All Wales Medicines Strategy Group (AWMSG) has endorsed the National Prescribing Indicators (NPIs) as a means of promoting safe and cost-effective prescribing since 2003. NPIs 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 second 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 is 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 1.00% 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 6.03% 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 0.37% 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 7.21% 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 3.24% 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 17% decrease in reporting by GP practices across Wales, compared with the equivalent quarter of the previous year.
 - A 23% decrease in secondary care reporting across Wales, compared with the equivalent quarter of the previous year.
 - A 15% decrease in reporting by health boards across Wales, compared with the equivalent quarter of the previous year.
 - An 8% 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 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 8.85% compared with the quarter ending September 2017. All seven health boards achieved the target of a 5% reduction against the baseline of quarter 2 2017–2018.
- 4C (co-amoxiclav, cephalosporins, fluoroquinolones and clindamycin) items per 1,000 patients decreased across Wales by 21.9%, compared with the baseline of quarter 2 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. There was a slight increase in prescribing 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 four of the five biosimilar medicines being monitored (adalimumab, infliximab, etanercept and trastuzumab) 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 rituximab biosimilar compared with the equivalent quarter of the previous year, contrary to the aim of the indicator.

The 2019–2020 NPI report for quarter ending December 2019 will be available on 24th April 2020.

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 September 2019. January 2020.

Data presented within this report is also accessible via the Server for Prescribing Information Reporting and Analysis (SPIRA) at 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 is by health board, therefore the tick or cross demonstrates achievement.

Health boards/practices achieving the indicator targets/thresholds – Quarter ending September 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	18 24%	27 26%	33 53%	9 17%	10 21%	2 13%	15 31%
Hypnotics and anxiolytics ADQs per 1,000 STAR-PU	20 26%	25 24%	38 61%	12 22%	7 15%	9 56%	13 27%
Opioid burden (UDG) ADQs per 1,000 Patients	14 18%	24 23%	44 71%	6 11%	11 23%	7 44%	10 20%
Tramadol DDDs per 1,000 patients	27 36%	29 28%	32 52%	6 11%	15 31%	7 44%	11 22%
Gabapentin and pregabalin DDDs per 1,000 patients	10 13%	26 25%	37 60%	1 2%	16 33%	9 56%	7 14%
Antibacterial items per 1,000 STAR-PU	✓	✓	✓	✓	✓	✓	✓
4C antibacterial items per 1,000 patients	52 68%	67 64%	48 77%	29 54%	39 81%	8 50%	44 90%

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 H₂ 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.

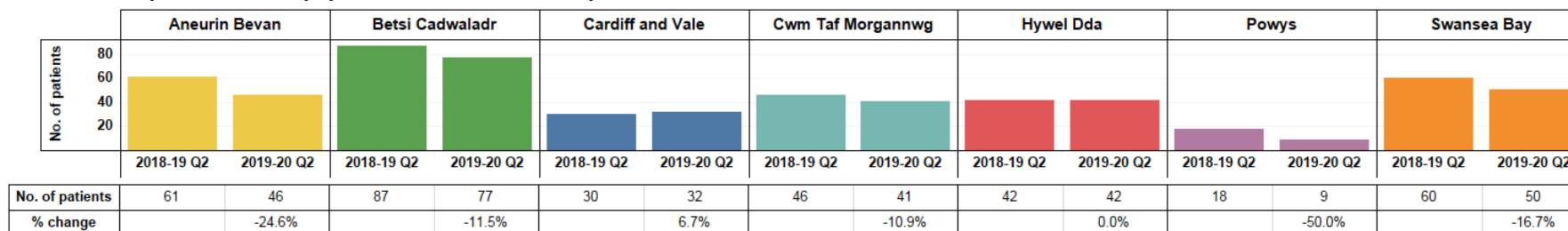
Aim: To review patients identified as being at high risk of ADRs and reduce inappropriate prescribing.

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.

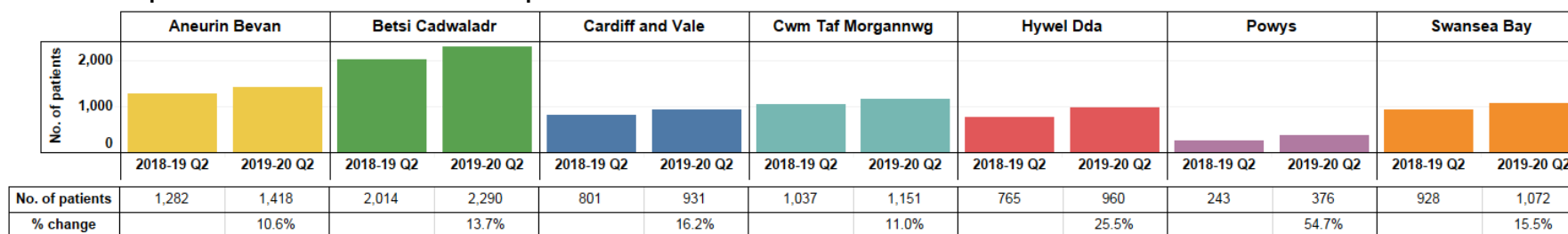
In the UK, it is estimated that around 6.5% of hospital admissions are related to adverse drug reactions (ADRs). ADRs can often be predictable making it possible to identify potential causes and address them before actual patient harm occurs. This NPI provides a process of identifying patients electronically,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

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

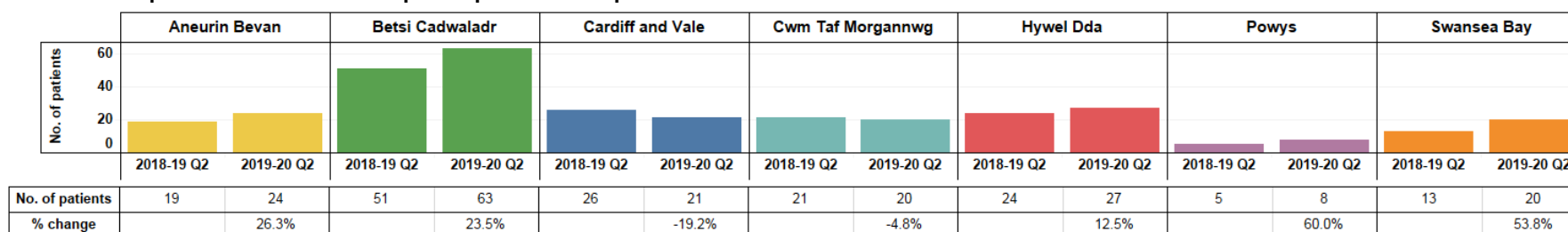
01. Number of patients with a peptic ulcer who have been prescribed NSAIDs without a PPI.



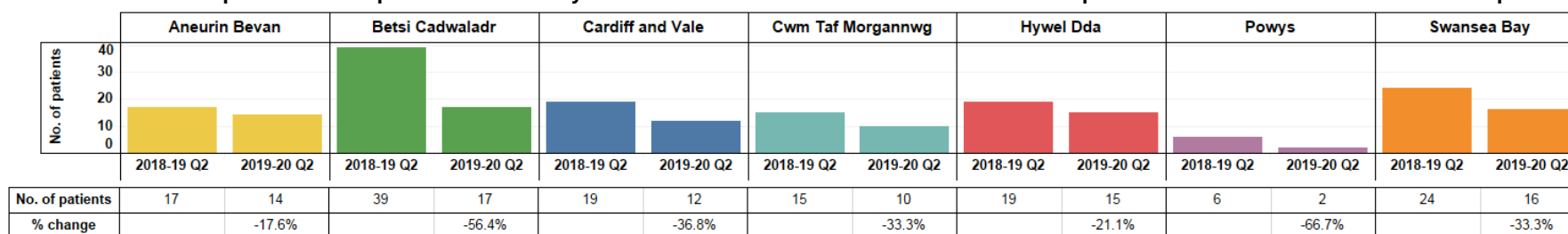
02. Number of patients with asthma who have been prescribed a beta-blocker.



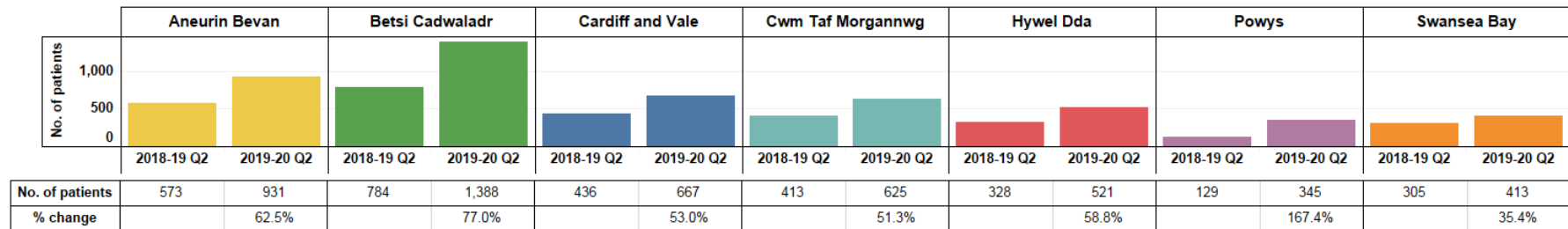
03. Number of patients with concurrent prescriptions of verapamil and a beta-blocker.



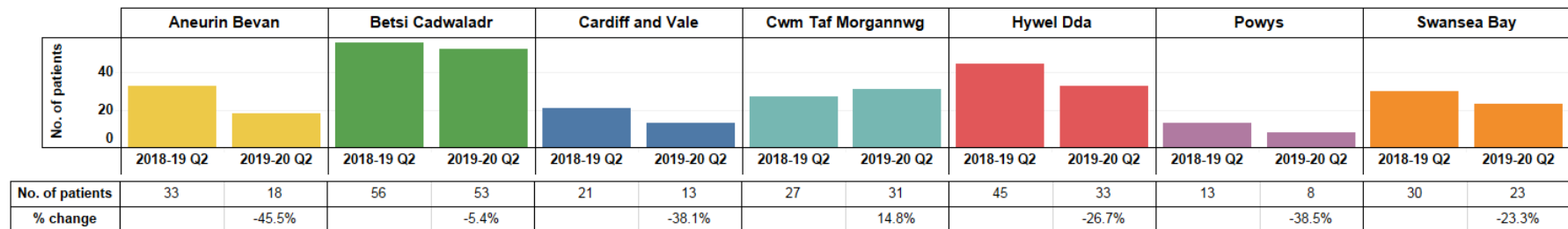
04. Number of female patients with a past medical history of venous or arterial thrombosis who have been prescribed combined hormonal contraceptives.



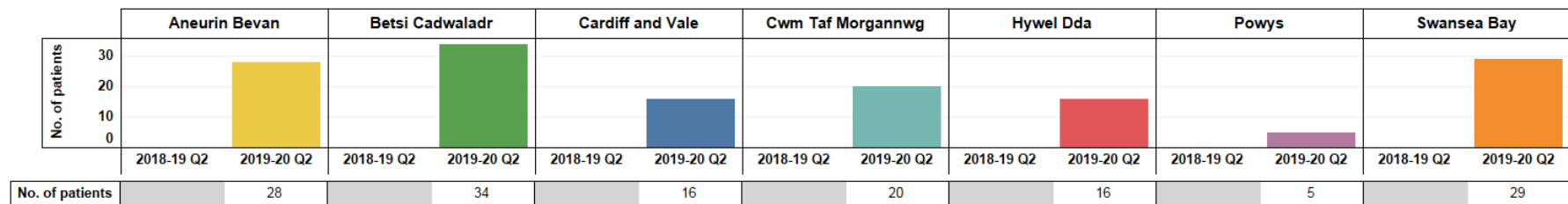
05. Number of female patients with a current prescription of oestrogen-only hormone replacement therapy without any hysterectomy READ/SNOMED codes.



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

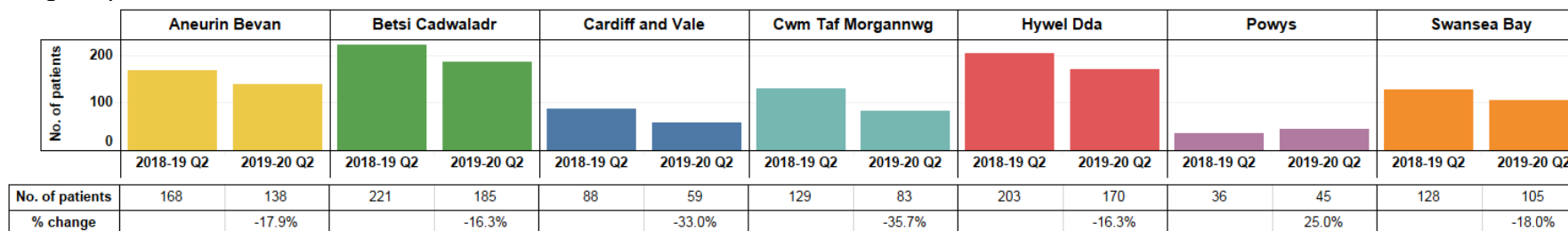


07. Number of patients aged under 16 years with a current prescription of aspirin*.

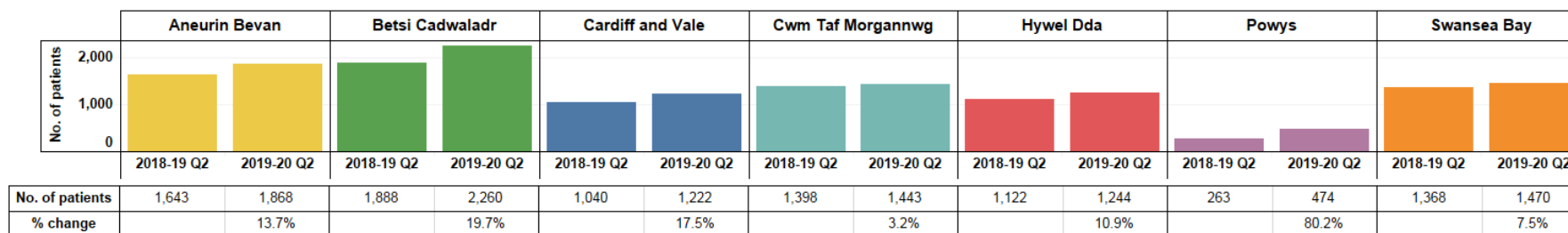


* This prescribing safety indicator is new for 2019–2020, replacing the previous prescribing safety indicator monitoring the number of patients under the age of 12 years. Therefore, there is no comparative data for 2018–2019.

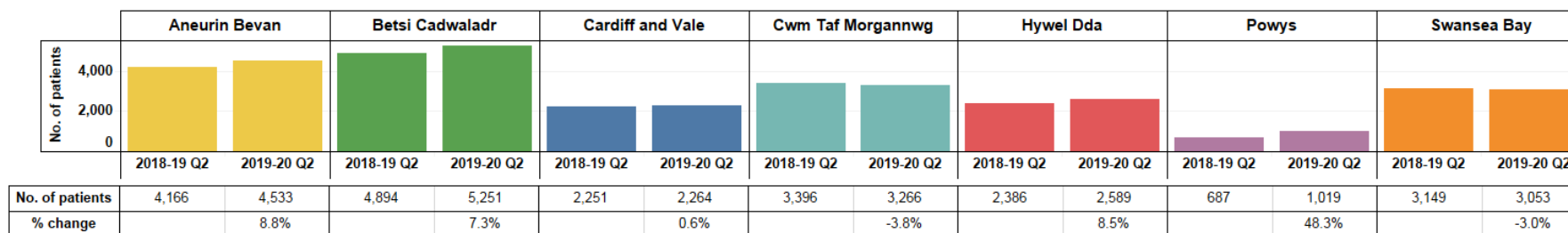
08. Number of patients aged 65 years or over prescribed an NSAID plus aspirin and/or clopidogrel but without gastroprotection (PPI or H₂ receptor antagonist).



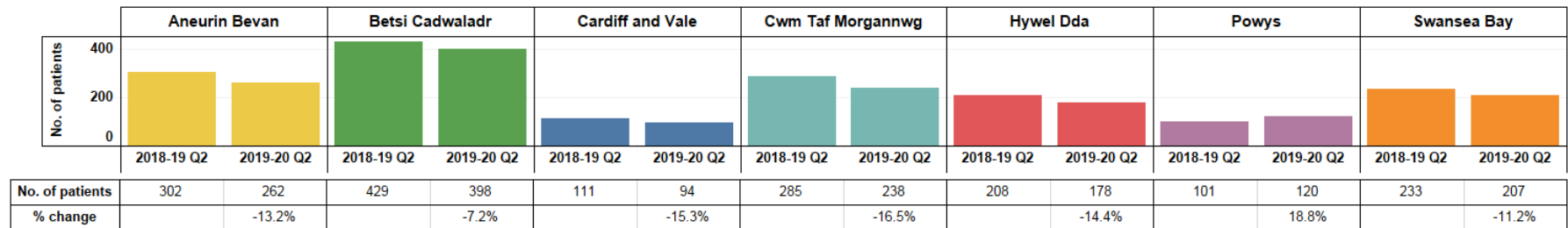
09. Number of patients aged 65 years or over prescribed an antipsychotic.



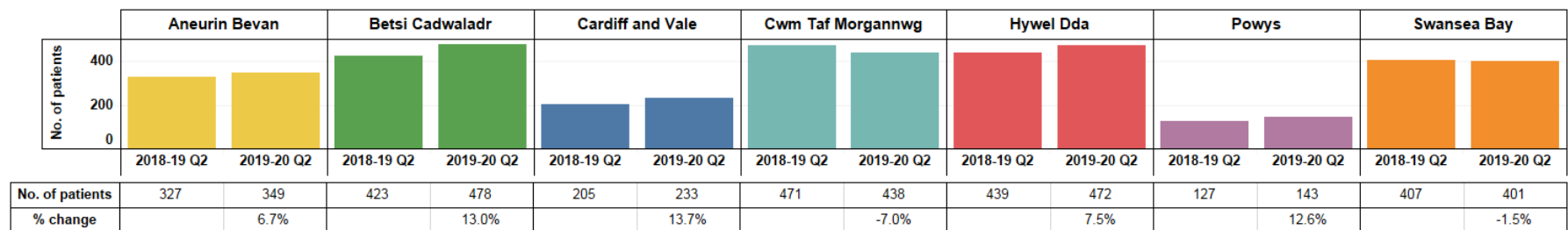
10. Number of patients aged 75 and over with an Anticholinergic Effect on Cognition (AEC) score of 3 or more for items on active repeat.



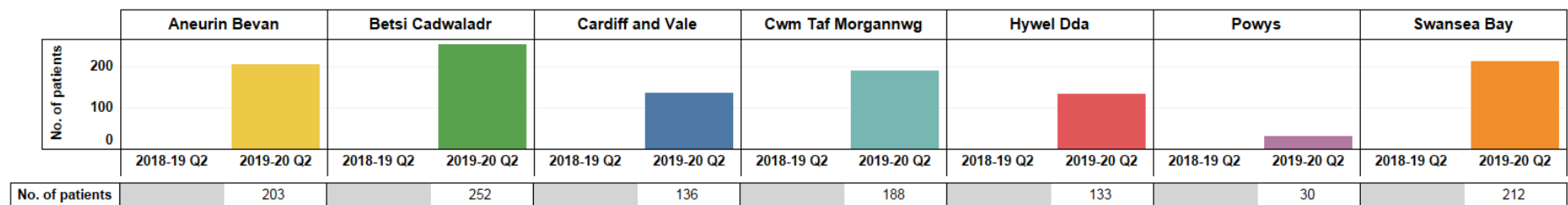
11. Number of patients on the CKD register (CKD stage 3–5) who have received a repeat prescription for an NSAID within the last 3 months.



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 is 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

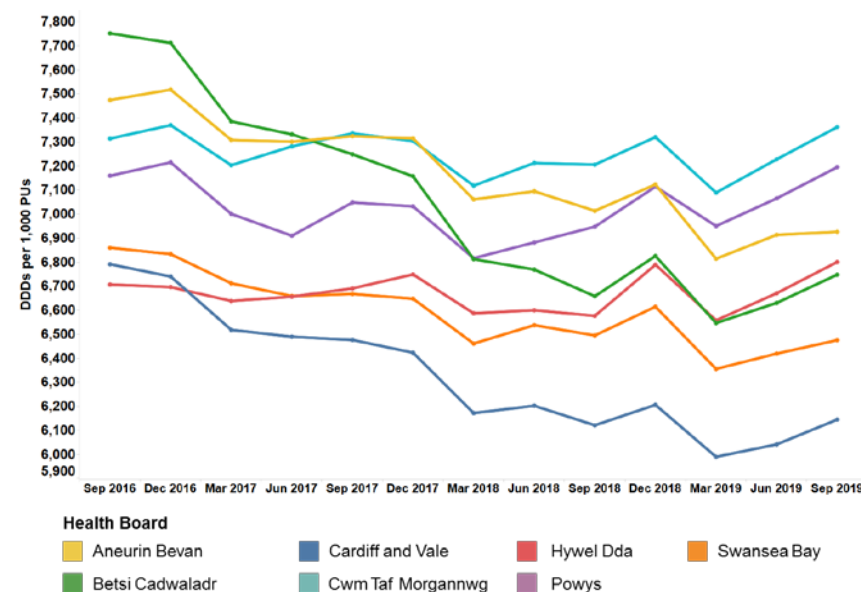
Although PPIs are generally well tolerated, there is emerging evidence that serious adverse effects may be linked with long-term PPI use. These include fractures of the hip, wrist and spine, *Clostridioides difficile* infection, and hypomagnesaemia. Prescribers are therefore encouraged to review and reduce where possible.

- Across Wales, for the quarter ending September 2019, PPI DDDs per 1,000 PUs increased by 1.00%, compared with the quarter ending September 2018, despite the aim of the indicator being to decrease prescribing.
- For the quarter ending September 2019, PPI usage ranged from 6,145 to 7,362 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.

Table 1. PPI DDDs per 1,000 PUs

	2018–2019 Qtr 2	2019–2020 Qtr 2	% Change
Aneurin Bevan	7,014	6,926	-1.25%
Swansea Bay	6,495	6,476	-0.30%
Cardiff And Vale	6,121	6,145	0.39%
Betsi Cadwaladr	6,658	6,748	1.35%
Cwm Taf Morgannwg	7,206	7,362	2.17%
Hywel Dda	6,577	6,801	3.41%
Powys	6,948	7,196	3.57%
Wales	6,707	6,774	1.00%

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

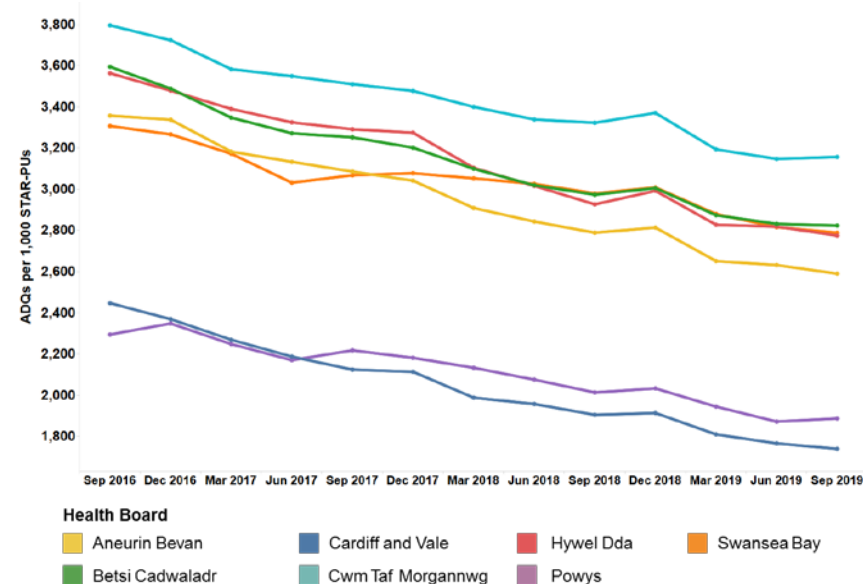
There has been ongoing concern with regard to the high level of hypnotic and anxiolytic prescribing within NHS Wales. Some prescribing may be inappropriate and contribute to the problem of physical and psychological dependence, and/or may be responsible for masking underlying depression.

- Across Wales, the prescribing of hypnotics and anxiolytics decreased by 6.03% for the quarter ending September 2019 compared with the equivalent quarter of the previous year, in line with the aim of this indicator.
- For the quarter ending September 2019, hypnotic and anxiolytic prescribing ranged from 1,740 to 3,157 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 Cwm Taf Morgannwg UHB.

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

	2018–2019 Qtr 2	2019–2020 Qtr 2	% Change
Cardiff And Vale	1,905	1,740	-8.66%
Aneurin Bevan	2,789	2,590	-7.13%
Swansea Bay	2,980	2,789	-6.41%
Powys	2,014	1,887	-6.27%
Hywel Dda	2,927	2,775	-5.18%
Betsi Cadwaladr	2,974	2,824	-5.04%
Cwm Taf Morgannwg	3,323	3,157	-4.99%
Wales	2,789	2,621	-6.03%

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 2018–2019:

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

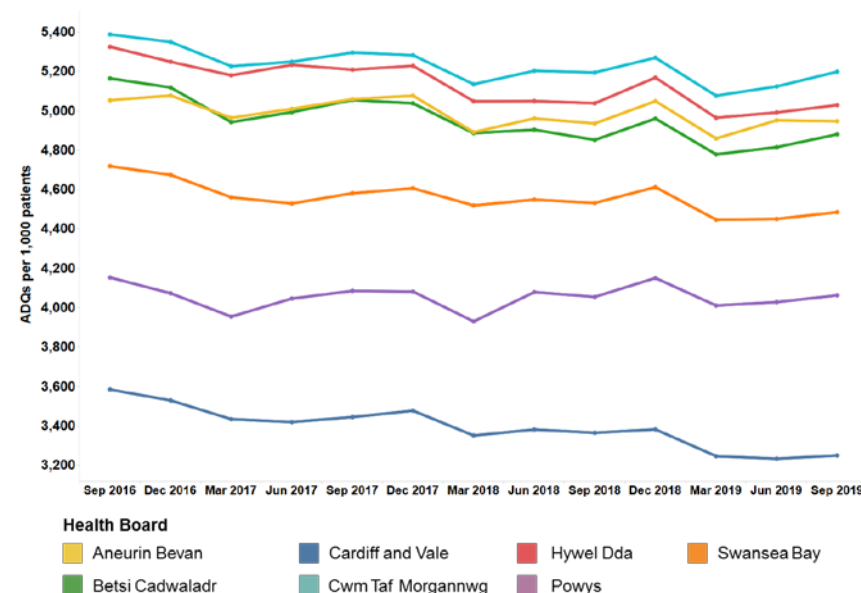
There is a lack of good quality evidence to support strong clinical recommendation for the long term use of opioid for patients with chronic non-cancer pain. Opioid analgesics have well established side effects and repeated administration may cause tolerance and dependence. This NPI is new for 2019–2020 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 0.37% in the quarter ending September 2019 compared with the equivalent quarter of the previous year. This is in line with the aim of the indicator.
- For the quarter ending September 2019, opioid burden prescribing ranged from 3,251 to 5,198 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.
- Three out of the 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. The largest percentage increase was seen in Betsi Cadwaladr UHB.

Table 3. Opioid burden ADQs per 1,000 patients

	2018–2019 Qtr 2	2019–2020 Qtr 2	% Change
Cardiff And Vale	3,366	3,251	-3.42%
Swansea Bay	4,532	4,486	-1.03%
Hywel Dda	5,038	5,029	-0.18%
Cwm Taf Morgannwg	5,194	5,198	0.07%
Powys	4,055	4,063	0.19%
Aneurin Bevan	4,936	4,947	0.23%
Betsi Cadwaladr	4,852	4,880	0.59%
Wales	4,630	4,613	-0.37%

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

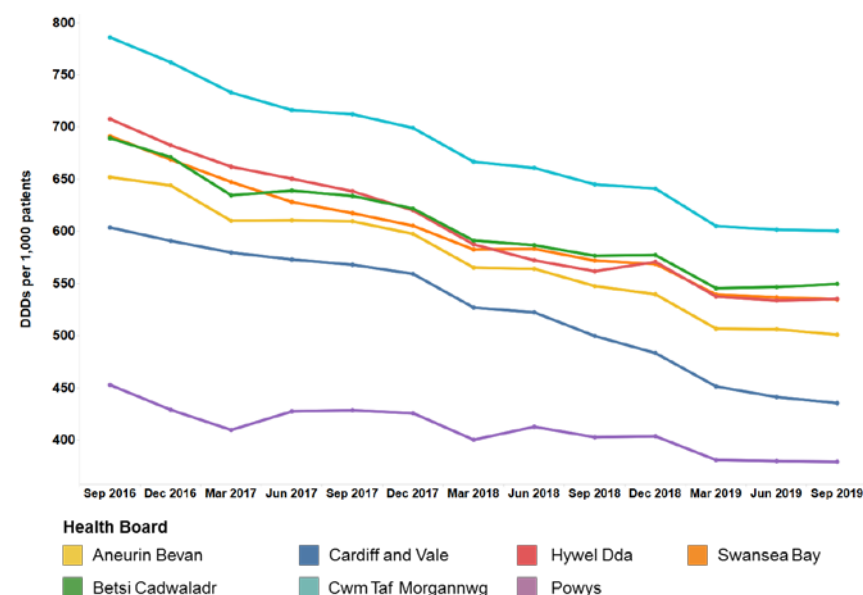
Whilst there is a recognised place in pain management for tramadol, there are concerns regarding the risks associated with dependence, diversion, misuse and ADRs. This NPI promotes a prudent approach to prescribing tramadol, taking into account the risks and benefits, and encouraging timely review.

- Across Wales, prescribing of tramadol was 7.21% lower in the quarter ending September 2019, than in the equivalent quarter of the previous year. This is in line with the aim of the indicator.
- For the quarter ending September 2019, tramadol prescribing ranged from 379 to 600 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 2	2019–2020 Qtr 2	% Change
Cardiff And Vale	500	435	-12.9%
Aneurin Bevan	547	501	-8.51%
Cwm Taf Morgannwg	645	600	-6.90%
Swansea Bay	572	535	-6.49%
Powys	403	379	-5.83%
Hywel Dda	562	535	-4.72%
Betsi Cadwaladr	577	550	-4.68%
Wales	559	518	-7.21%

Figure 5. Trend in tramadol prescribing
DDD 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

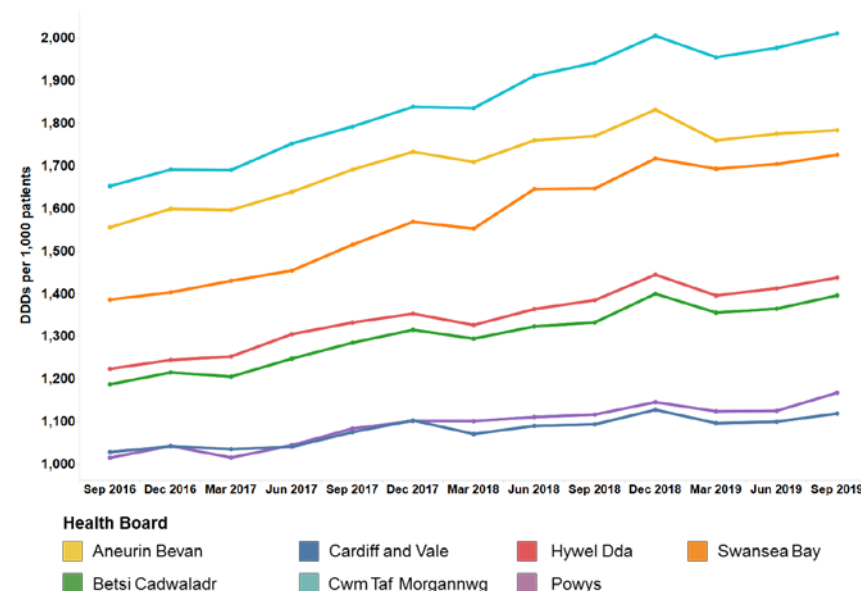
Gabapentin and pregabalin have a well-defined role in the management of a number of conditions including epilepsy and neuropathic pain, and pregabalin also has a role in treatment of generalised anxiety disorder. Both gabapentin and pregabalin have known psychiatric side effects and there is a potential 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 September 2019, prescribing of gabapentin and pregabalin increased by 3.24% compared with the equivalent quarter of the previous year.
- For the quarter ending September 2019, gabapentin and pregabalin prescribing ranged from 1,119 to 2,011 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 increased, compared with the equivalent quarter of the previous year, in all of the health boards.
- The smallest percentage increase was seen in Aneurin Bevan UHB and the largest percentage increase was seen in Swansea Bay UHB.

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

	2018–2019 Qtr 2	2019–2020 Qtr 2	% Change
Aneurin Bevan	1,770	1,783	0.77%
Cardiff And Vale	1,094	1,119	2.32%
Cwm Taf Morgannwg	1,942	2,011	3.55%
Hywel Dda	1,385	1,438	3.81%
Powys	1,117	1,168	4.59%
Betsi Cadwaladr	1,333	1,396	4.75%
Swansea Bay	1,647	1,726	4.80%
Wales	1,501	1,549	3.24%

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.

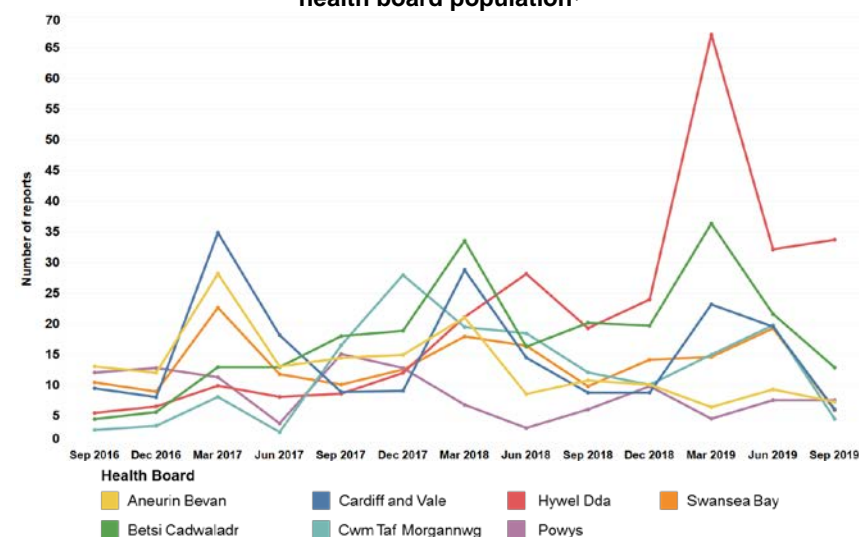
GP practices

- The number of Yellow Cards submitted by GP practices in Wales decreased by 17% 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 Cwm Taf Morgannwg UHB.

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

	2018-2019 Qtr 2	2019-2020 Qtr 2	% Change
Hywel Dda	74	130	76%
Powys	8	10	25%
Cardiff and Vale	43	30	-30%
Aneurin Bevan	63	43	-32%
Swansea Bay	35	23	-34%
Betsi Cadwaladr	140	90	-36%
Cwm Taf Morgannwg	53	20	-62%
Wales	416	346	-17%

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



* **Correction made on 30 January 2020** – a single Yellow Card report had been incorrectly assigned to Cardiff and Vale. This has now been rectified and re-assigned to Aneurin Bevan.

† 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. **Correction made on 30 January 2020** – data displayed for Sep 2019 has been corrected for all health boards.

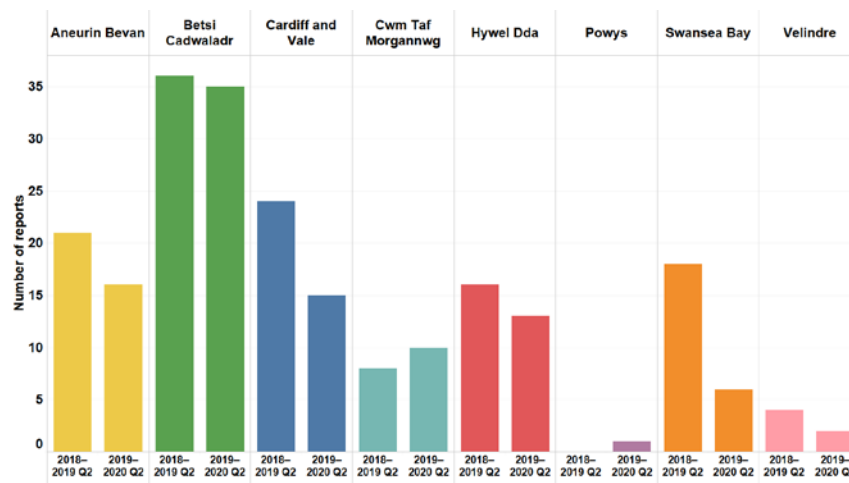
Secondary care

- The number of Yellow Cards submitted by secondary care decreased by 23% compared with the equivalent quarter of the previous year.
- The largest percentage increase in secondary care reporting was seen in Cwm Taf Morgannwg UHB. The largest percentage decrease was seen in Swansea Bay UHB.

Table 7. Number of Yellow Cards submitted by secondary care

	2018–2019 Qtr 2	2019–2020 Qtr 2	% Change
Cwm Taf Morgannwg	8	10	25%
Betsi Cadwaladr	36	35	-3%
Hywel Dda	16	13	-19%
Aneurin Bevan	21	16	-24%
Cardiff and Vale	24	15	-38%
Velindre	4	2	-50%
Swansea Bay	18	6	-67%
Powys	0	1	N/A
Wales	127	98	-23%

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



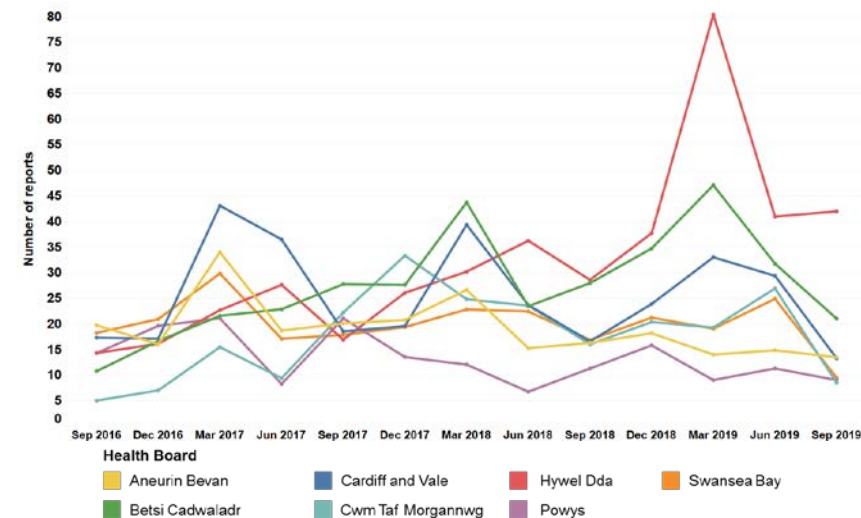
Health boards

- The number of Yellow Cards submitted by health boards decreased by 15% compared with the equivalent quarter of the previous year.
- The largest percentage increase in health board reporting was seen in Hywel Dda UHB. Velindre NHS Trust demonstrated the largest percentage decrease.

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

	2018–2019 Qtr 2	2019–2020 Qtr 2	% Change
Hywel Dda	110	162	47%
Aneurin Bevan	96	80	-17%
Cardiff and Vale	82	66	-20%
Powys	15	12	-20%
Betsi Cadwaladr	195	147	-25%
Swansea Bay	65	37	-43%
Cwm Taf Morgannwg	73	38	-48%
Velindre	4	2	-50%
Wales	640	544	-15%

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



* Correction made on 30 January 2020 – a single Yellow Card report had been incorrectly assigned to Cardiff and Vale. This has now been rectified and re-assigned to Aneurin Bevan.

† 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. Correction made on 30 January 2020 – data displayed for Sep 2019 has been corrected for all health boards.

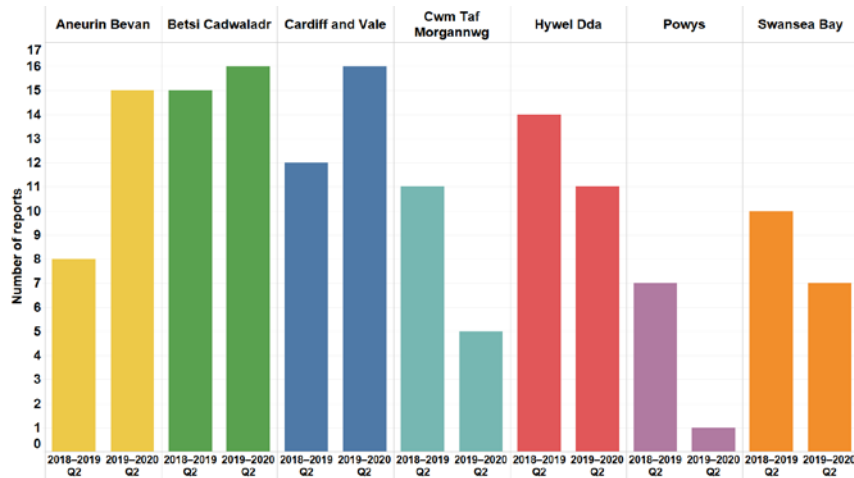
Members of the public

- The number of Yellow Cards submitted by members of the public decreased by 8% compared with the equivalent quarter of the previous year.
- The largest percentage increase in member of the public reporting was seen in Aneurin Bevan UHB. The largest percentage decrease was seen in Powys Teaching HB.

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

	2018–2019 Qtr 2	2019–2020 Qtr 2	% Change
Aneurin Bevan	8	15	88%
Cardiff and Vale	12	16	33%
Betsi Cadwaladr	15	16	7%
Hywel Dda	14	11	-21%
Swansea Bay	10	7	-30%
Cwm Taf Morgannwg	11	5	-55%
Powys	7	1	-86%
Wales	77	71	-8%

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



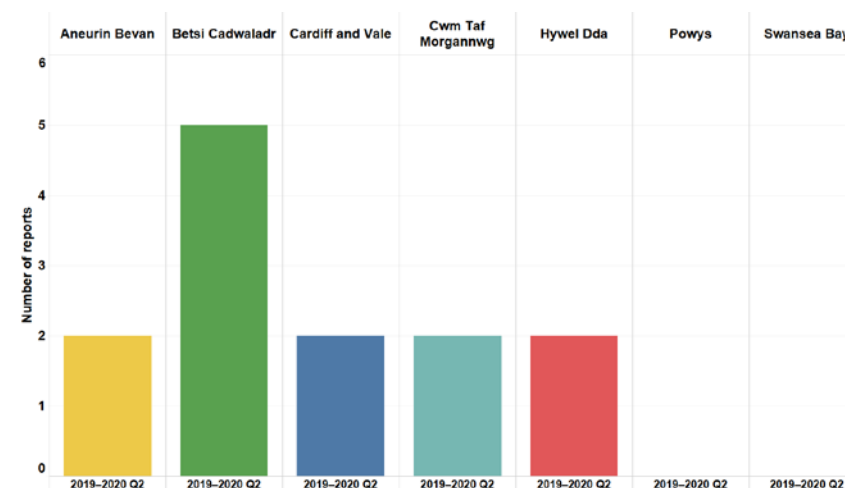
Community pharmacy

- Across Wales, a total of 13 Yellow Card reports were submitted by community pharmacies during the quarter ending September 2019.
- The number of Yellow Card reports submitted by community pharmacies ranged from 5 to 0.

Table 10. Number of Yellow Cards submitted by community pharmacies

	2019–2020 Qtr 2
Betsi Cadwaladr	5
Aneurin Bevan	2
Cardiff and Vale	2
Cwm Taf Morgannwg	2
Hywel Dda	2
Powys	0
Swansea Bay	0
Wales	13

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

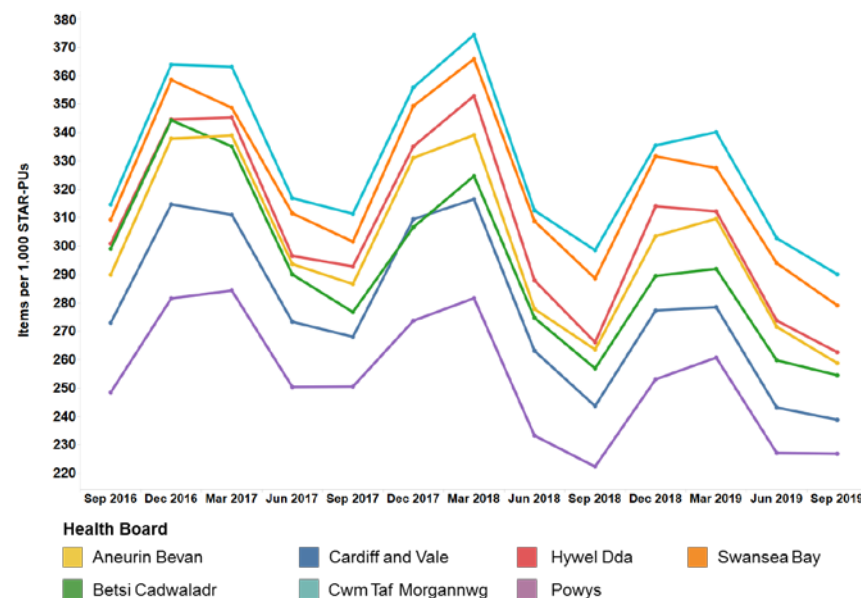
Aim: To reduce prescribing

- Across Wales, for the quarter ending September 2019, total antibacterial items per 1,000 STAR-PUs reduced by 8.85%, compared with the quarter ending September 2017. This is in line with the indicator target.
- For the quarter ending September 2019, the total number of antibacterial items per 1,000 STAR-PUs ranged from 227 to 290 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 September 2019, all seven health boards achieved the target of a 5% reduction against the baseline of quarter 2 2017–2018.
- Cardiff and Vale UHB demonstrated the greatest percentage reduction in prescribing, compared with September quarter 2017.
- Cwm Taf UHB demonstrated the smallest percentage reduction in prescribing, compared with September quarter 2017.

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

	2017–2018 Qtr 2	2019–2020 Qtr 2	% Change
Cardiff And Vale	268	239	-10.9%
Hywel Dda	293	263	-10.3%
Aneurin Bevan	287	259	-9.72%
Powys	251	227	-9.44%
Betsi Cadwaladr	277	255	-8.03%
Swansea Bay	302	279	-7.44%
Cwm Taf Morgannwg	311	290	-6.85%
Wales	286	261	-8.85%

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

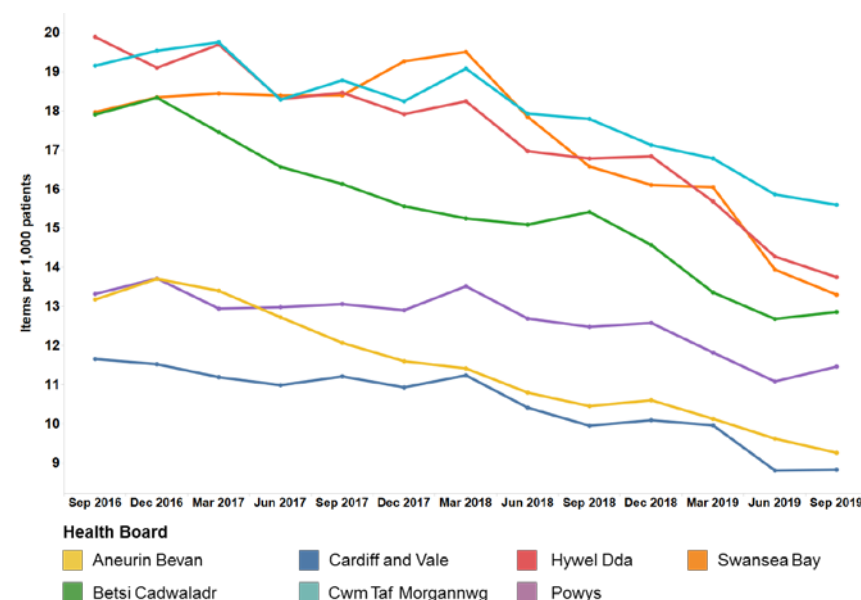
The use of simple generic antibiotics and the avoidance of these broad-spectrum antibiotics preserve them from resistance and reduce the risk of *C. difficile*, MRSA and resistant urinary tract infections.

- Across Wales, for the quarter ending September 2019, the number of 4C antimicrobial items per 1,000 patients decreased by 21.9%, compared with the quarter ending September 2017, in line with the aim of this indicator.
- For the quarter ending September 2019, 4C prescribing ranged from 8.83 to 15.6 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 quarter ending September 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 2	2019–2020 Qtr 2	% Change
Swansea Bay	18.4	13.3	-27.7%
Hywel Dda	18.5	13.7	-25.5%
Aneurin Bevan	12.1	9.26	-23.3%
Cardiff And Vale	11.2	8.83	-21.3%
Betsi Cadwaladr	16.1	12.9	-20.3%
Cwm Taf Morgannwg	18.8	15.6	-17.0%
Powys	13.1	11.5	-12.3%
Wales	15.4	12.0	-21.9%

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



EFFICIENCY INDICATORS

7.0 INSULIN

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.

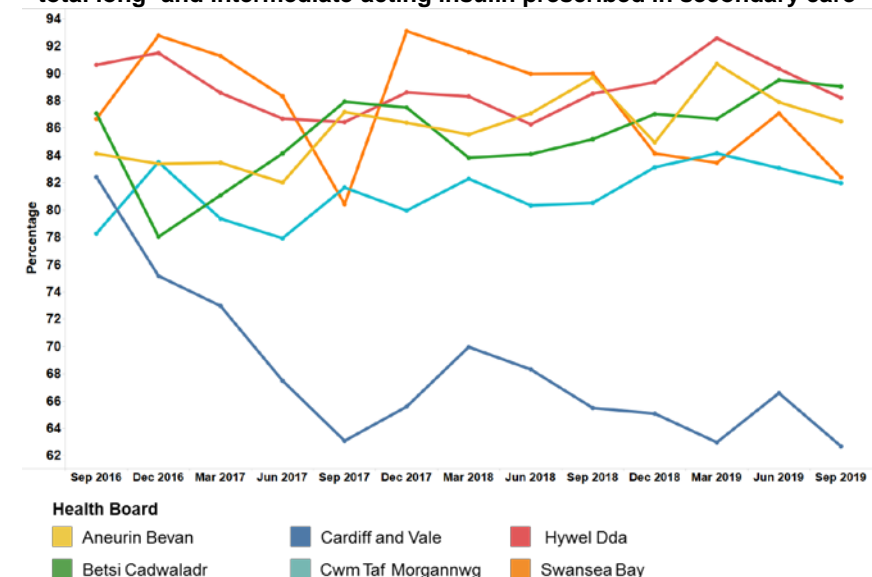
Secondary care prescribing

- Across Wales, secondary care use of long-acting insulin as a percentage of all long- and intermediate-acting insulin prescribing was 1.12% lower in the quarter ending September 2019 than in the equivalent quarter of the previous year.
- For the quarter ending September 2019, prescribing of long-acting insulin analogues as a percentage of total long- and intermediate-acting insulin ranged from 62.7% to 89.0%.
- 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 four of the six health boards which data is reported for, compared with the equivalent quarter of the previous year.
- Swansea Bay UHB showed the greatest percentage decrease.
- The health board/trust with the greatest percentage increase was Betsi Cadwaladr UHB.

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

	2018–2019 Qtr 2	2019–2020 Qtr 2	% Change
Swansea Bay	90.0	82.4	-8.45%
Cardiff and Vale	65.5	62.7	-4.28%
Aneurin Bevan	89.7	86.5	-3.58%
Hywel Dda	88.5	88.2	-0.35%
Cwm Taf Morgannwg	80.5	82.0	1.79%
Betsi Cadwaladr	85.2	89.0	4.53%
Wales	81.9	81.0	-1.12%

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

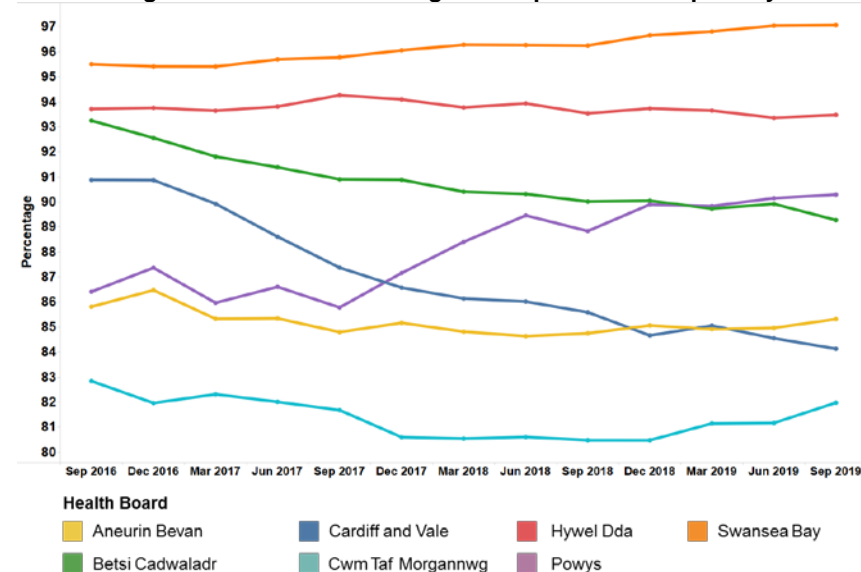


Primary care prescribing

- Across Wales, the prescribing of long-acting insulin analogues as a proportion of total long- and intermediate-acting insulin prescribing increased by 0.21% for the quarter ending in September 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 September 2019, long-acting insulin analogue prescribing ranged from 82.0% to 97.1% 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 four health boards and decreased in three health boards.
- The health board with the greatest percentage decrease was Cardiff and Vale 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 2	2019–2020 Qtr 2	% Change
Cardiff And Vale	85.6	84.1	-1.70%
Betsi Cadwaladr	90.0	89.3	-0.82%
Hywel Dda	93.5	93.5	-0.07%
Aneurin Bevan	84.7	85.3	0.67%
Swansea Bay	96.2	97.1	0.85%
Powys	88.8	90.3	1.64%
Cwm Taf Morgannwg	80.5	82.0	1.86%
Wales	87.9	88.1	0.21%

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

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.

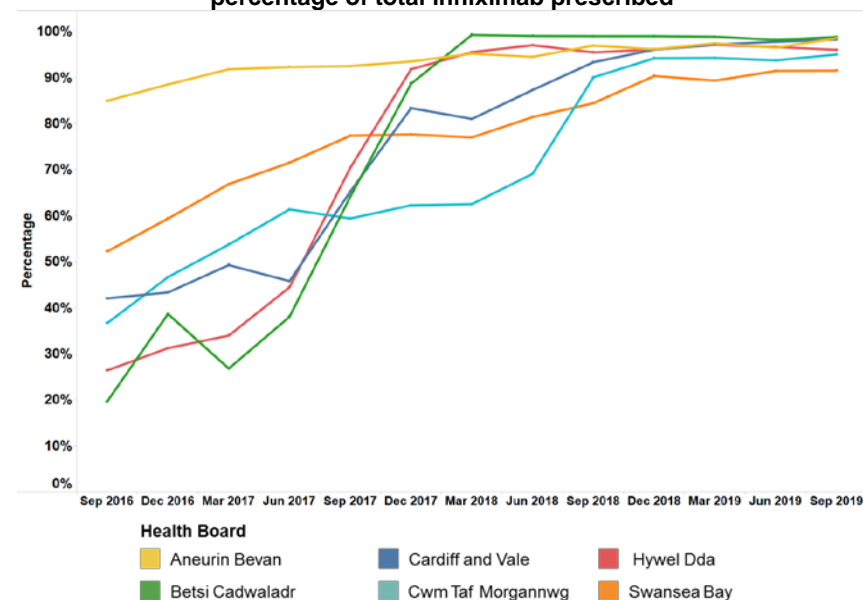
8.1 Infliximab

- Across Wales, for the quarter ending September 2019, infliximab biosimilar prescribing increased by 3.12%, compared with the equivalent quarter of the previous year. This is in line with the aim of this indicator
- For the quarter ending September 2019, infliximab biosimilar prescribing ranged from 91.5% to 98.8% 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.
- Swansea Bay UHB demonstrated the largest percentage increase.
- Betsi Cadwaladr UHB demonstrated a small percentage decrease.

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

	2018–2019 Qtr 2	2019–2020 Qtr 2	% Change
Swansea Bay	84.5	91.5	8.34%
Cwm Taf Morgannwg	90.1	95.0	5.50%
Cardiff and Vale	93.3	98.3	5.26%
Aneurin Bevan	97.0	98.5	1.62%
Hywel Dda	95.5	96.0	0.59%
Betsi Cadwaladr	99.0	98.8	-0.20%
Wales	93.6	96.6	3.12%

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



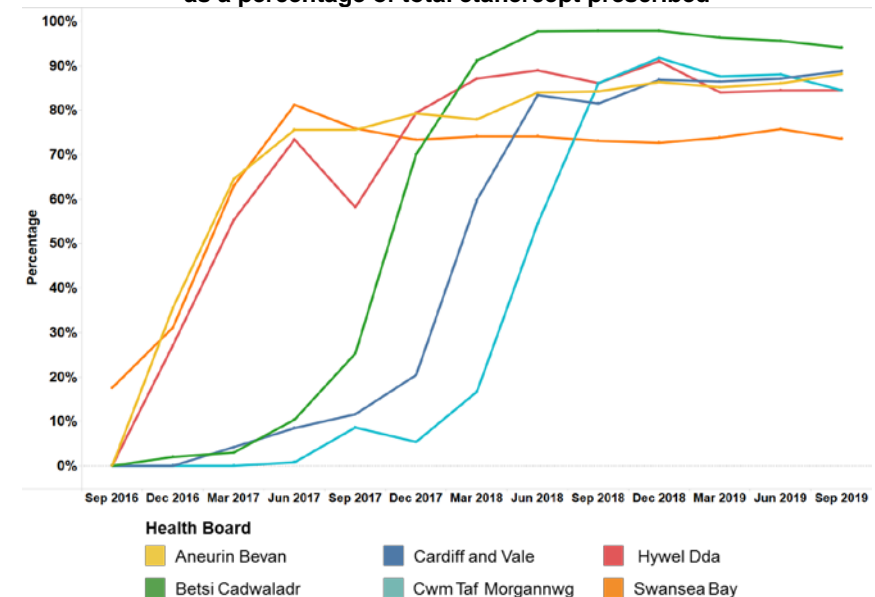
8.2 Etanercept

- Across Wales, for the quarter ending September 2019, etanercept biosimilar prescribing increased slightly by 0.08%, compared with the equivalent quarter of the previous year. This is in line with the aim of this indicator.
- For the quarter ending September 2019, etanercept biosimilar prescribing ranged from 73.6% to 94.1% 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.
- Three 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.
- Betsi Cadwaladr UHB demonstrated the largest percentage decrease.

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

	2018–2019 Qtr 2	2019–2020 Qtr 2	% Change
Cardiff and Vale	81.5	88.8	8.95%
Aneurin Bevan	84.2	88.2	4.67%
Swansea Bay	73.1	73.6	0.65%
Cwm Taf Morgannwg	86.1	84.5	-1.85%
Hywel Dda	86.1	84.5	-1.89%
Betsi Cadwaladr	97.9	94.1	-3.83%
Wales	83.7	83.8	0.08%

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



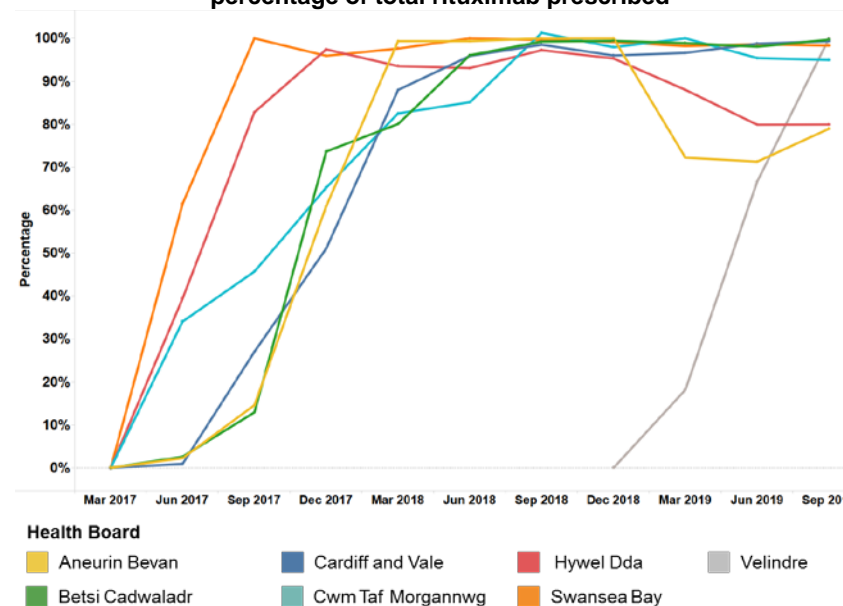
8.3 Rituximab

- Across Wales, for the quarter ending September 2019, rituximab biosimilar prescribing decreased by 5.16%, compared with the equivalent quarter of the previous year. This is not in line with the aim of this indicator
- For the quarter ending September 2019, rituximab biosimilar prescribing ranged from 79.0% to 100% across the health boards.
- The health board/trust with the highest percentage was Velindre NHS Trust whilst the lowest percentage was seen in Aneurin Bevan UHB
- Three 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.
- 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 2	2019–2020 Qtr 2	% Change
Velindre	0.0	100.0	N/A
Cardiff and Vale	98.5	99.3	0.83%
Betsi Cadwaladr	99.2	99.7	0.46%
Swansea Bay	99.6	98.3	-1.28%
Cwm Taf Morgannwg	100.0	95.0	-5.03%
Hywel Dda	97.2	79.9	-17.8%
Aneurin Bevan	100.0	79.0	-21.0%
Wales	99.0	93.9	-5.16%

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



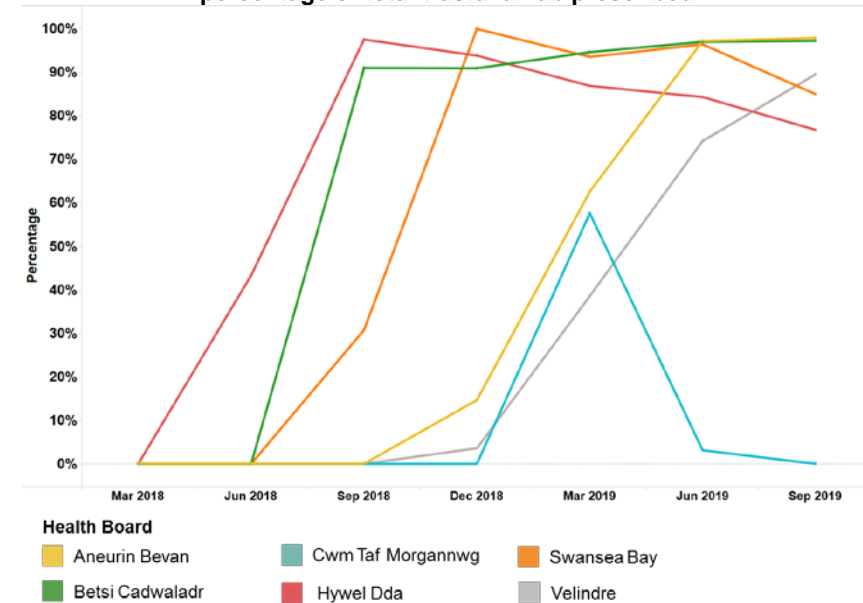
8.4 Trastuzumab

- Across Wales, trastuzumab biosimilar prescribing increased by 109.5% for the quarter ending September 2019 compared with the equivalent quarter of the previous year. This is in line with the aim of this indicator.
- For the quarter ending September 2019, trastuzumab biosimilar prescribing ranged from 0% to 97.9% across the health boards.
- The health board with the highest percentage was Aneurin Bevan UHB whilst the lowest percentage was seen in Cwm Taf Morgannwg 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.
- Aneurin Bevan UHB demonstrated the largest percentage increase.
- Cwm Taf Morgannwg UHB demonstrated no increase from zero percent.

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

	2018–2019 Qtr 2	2019–2020 Qtr 2	% Change
Aneurin Bevan	0.0	97.9	N/A
Velindre	0.0	89.5	N/A
Swansea Bay	30.8	85.0	176.3%
Betsi Cadwaladr	91.0	97.2	6.87%
Hywel Dda	97.6	76.8	-21.3%
Cwm Taf Morgannwg	0.0	0.0	N/A
Wales	42.3	88.6	109.5%

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



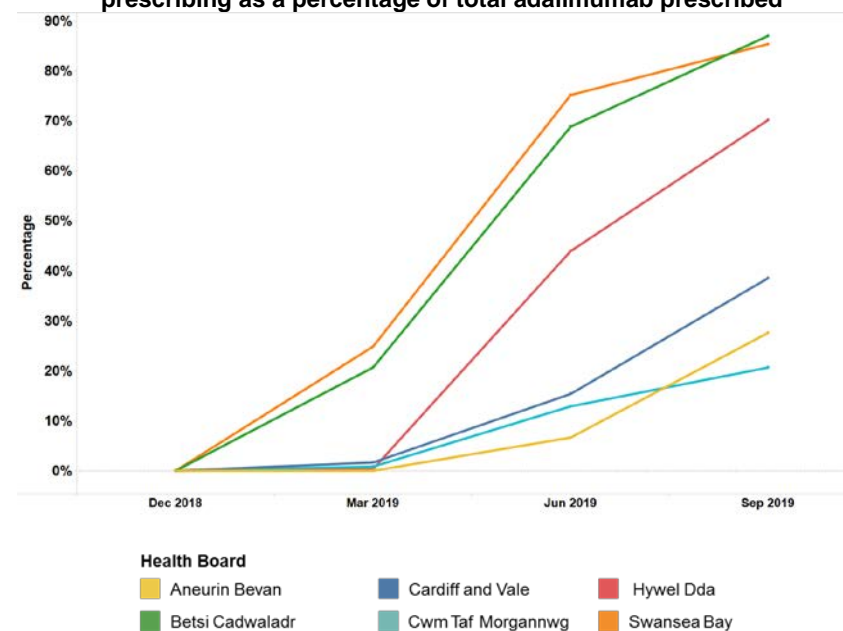
8.5 Adalimumab

- Across Wales, adalimumab biosimilar prescribing increased from 0% to 59.1%, for the quarter ending September 2019 compared with the equivalent quarter of the previous year. This is in line with the aim of this indicator
- For the quarter ending September 2019, adalimumab biosimilar prescribing ranged from 20.7% to 87.1% 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 2	2019–2020 Qtr 2	% Change
Betsi Cadwaladr	0.0	87.1	N/A
Swansea Bay	0.0	85.4	N/A
Hywel Dda	0.0	70.2	N/A
Cardiff and Vale	0.0	38.6	N/A
Aneurin Bevan	0.0	27.6	N/A
Cwm Taf Morgannwg	0.0	20.7	N/A
Wales	0.0	59.1	N/A

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 61% to 79% for the quarter ending September 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 September 2019

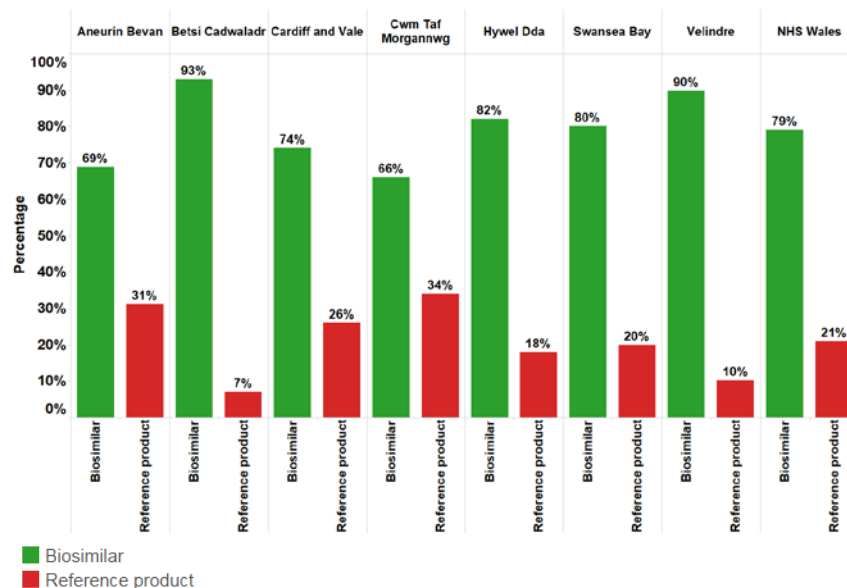
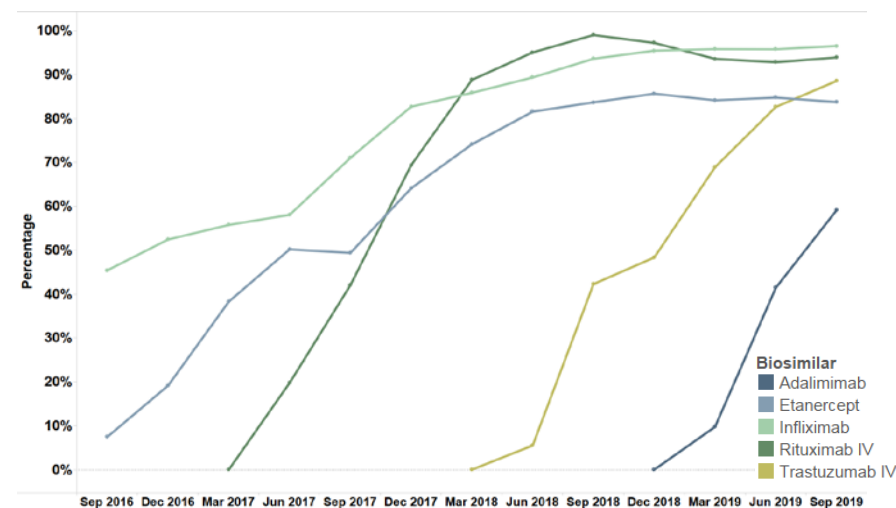


Figure 22. Trend in biosimilar percentage in Wales



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 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

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 2018–2019	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

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Efficiency				
Biosimilars	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
Long-acting insulin analogues	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 September 2019 versus quarter ending September 2018

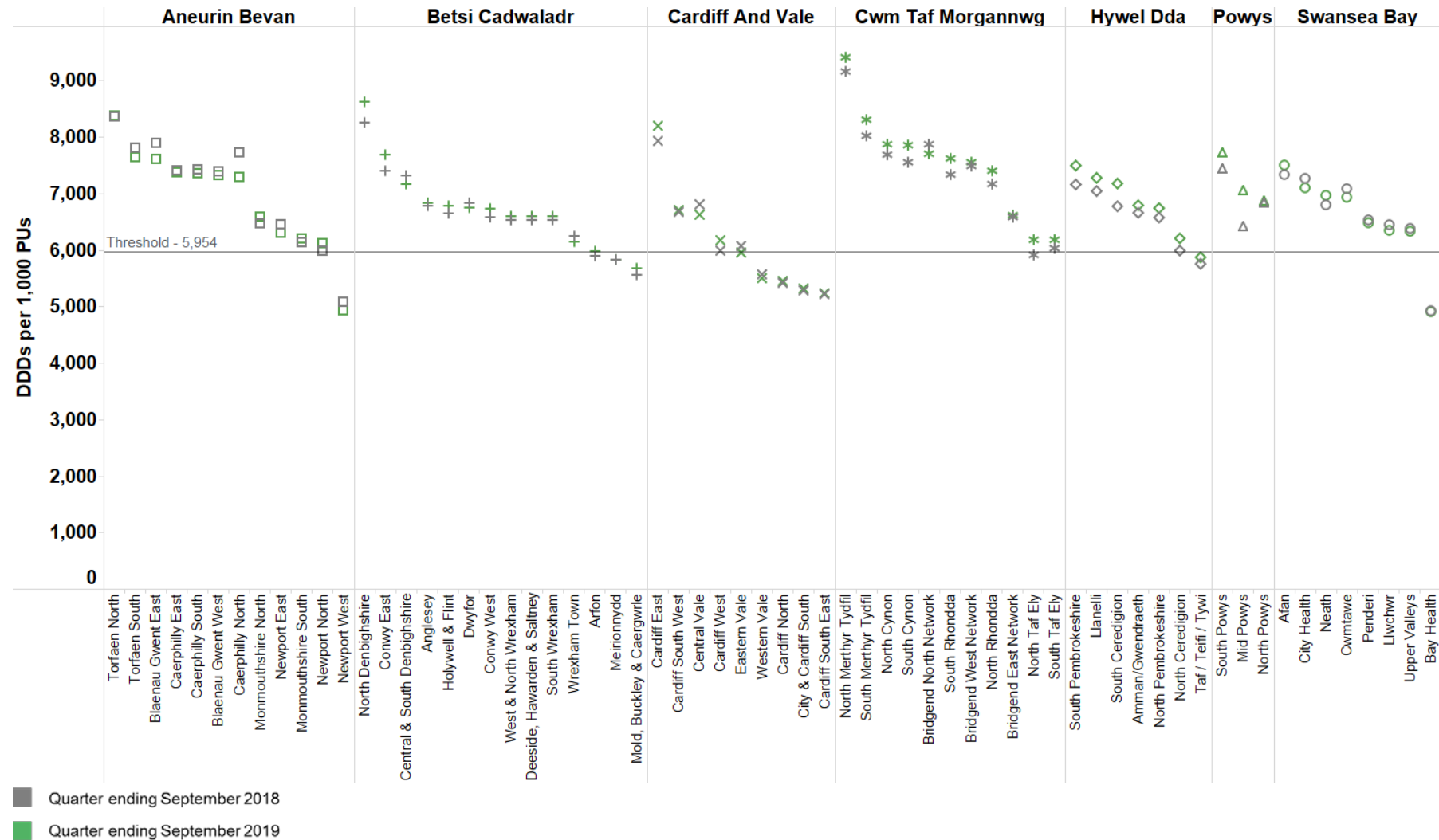


Figure 2. Hypnotic and anxiolytic prescribing – Quarter ending September 2019 versus quarter ending September 2018

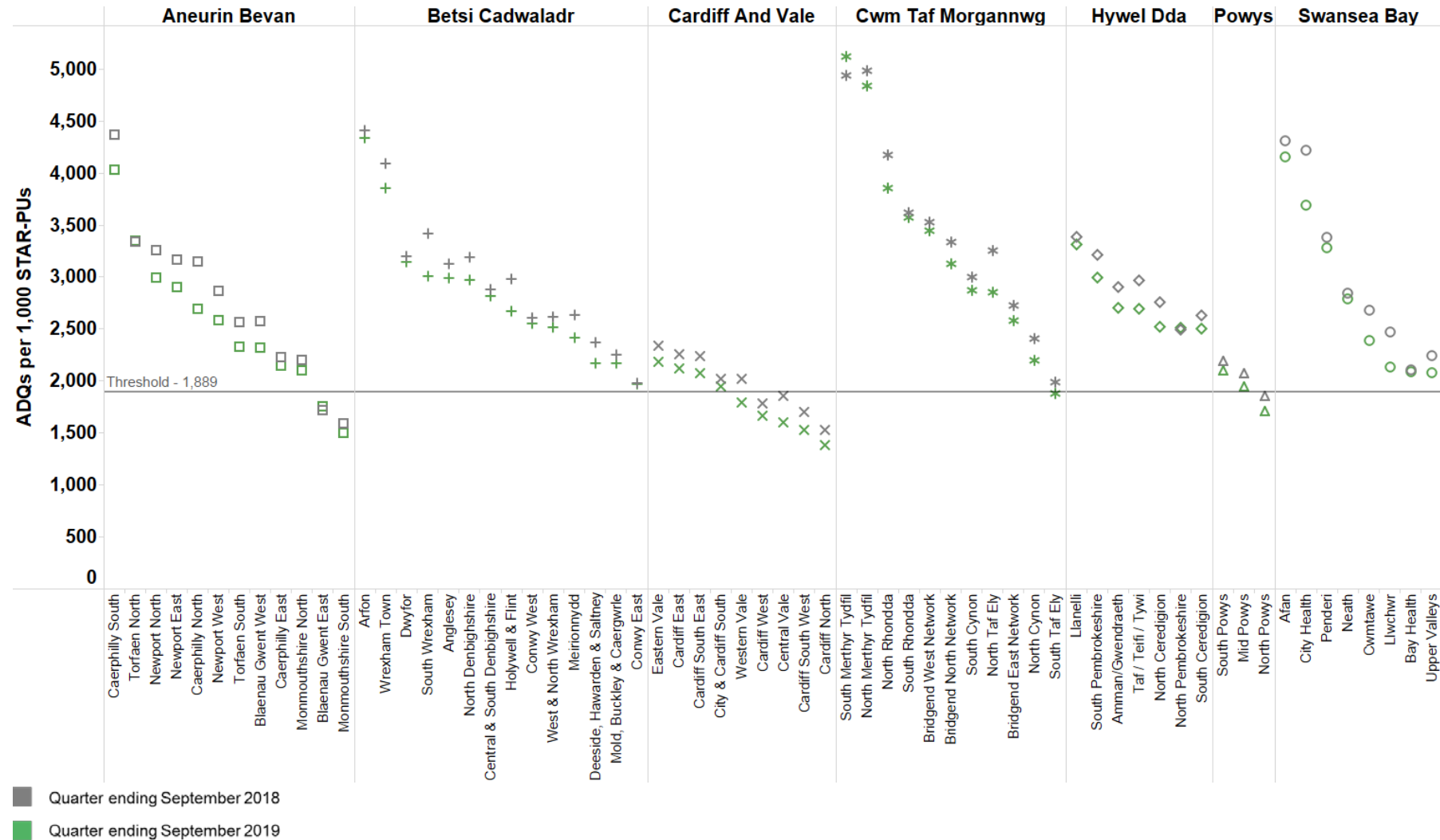


Figure 3. Opioid burden prescribing – Quarter ending September 2019 versus quarter ending September 2018

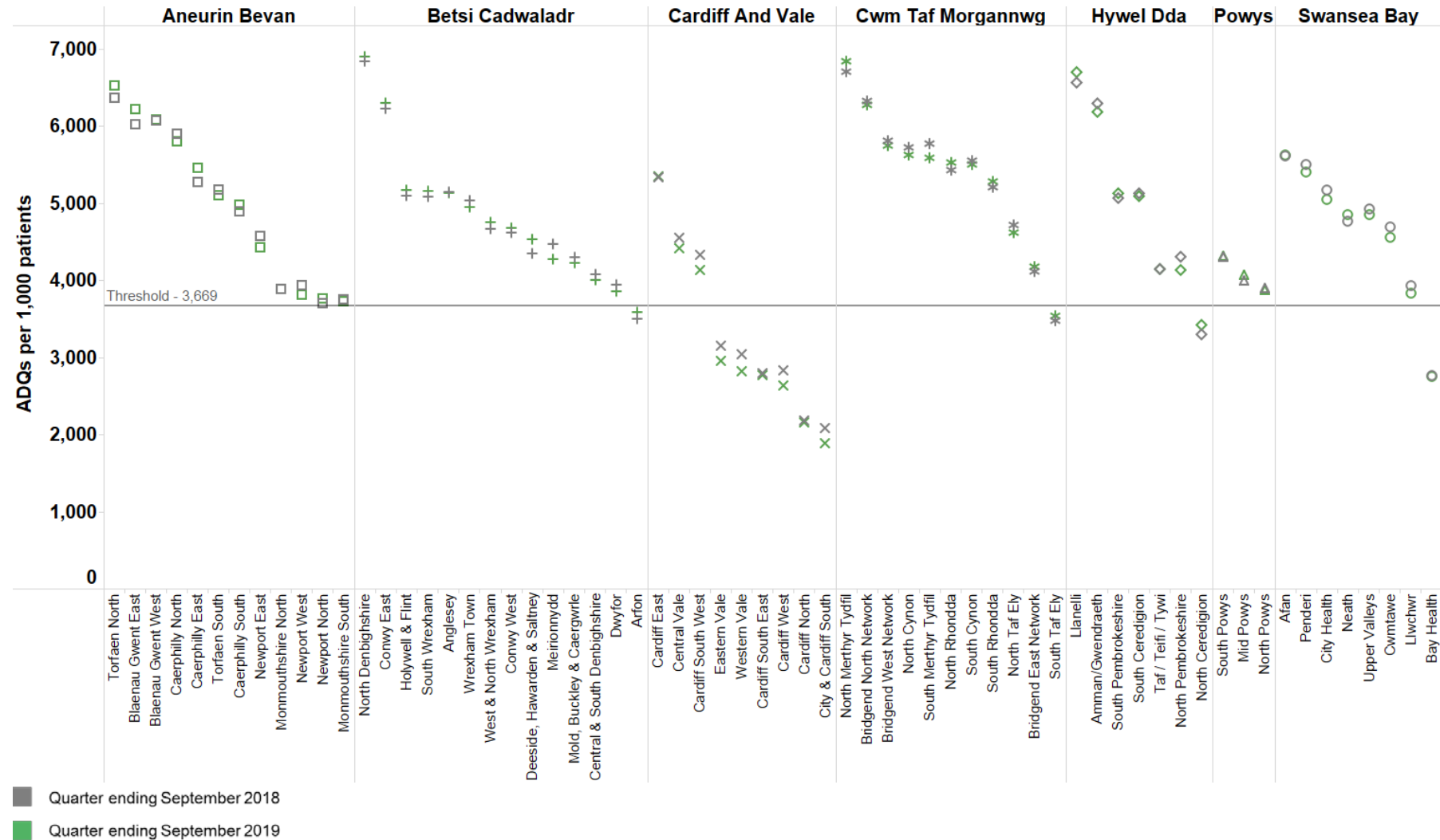


Figure 4. Tramadol prescribing – Quarter ending September 2019 versus quarter ending September 2018

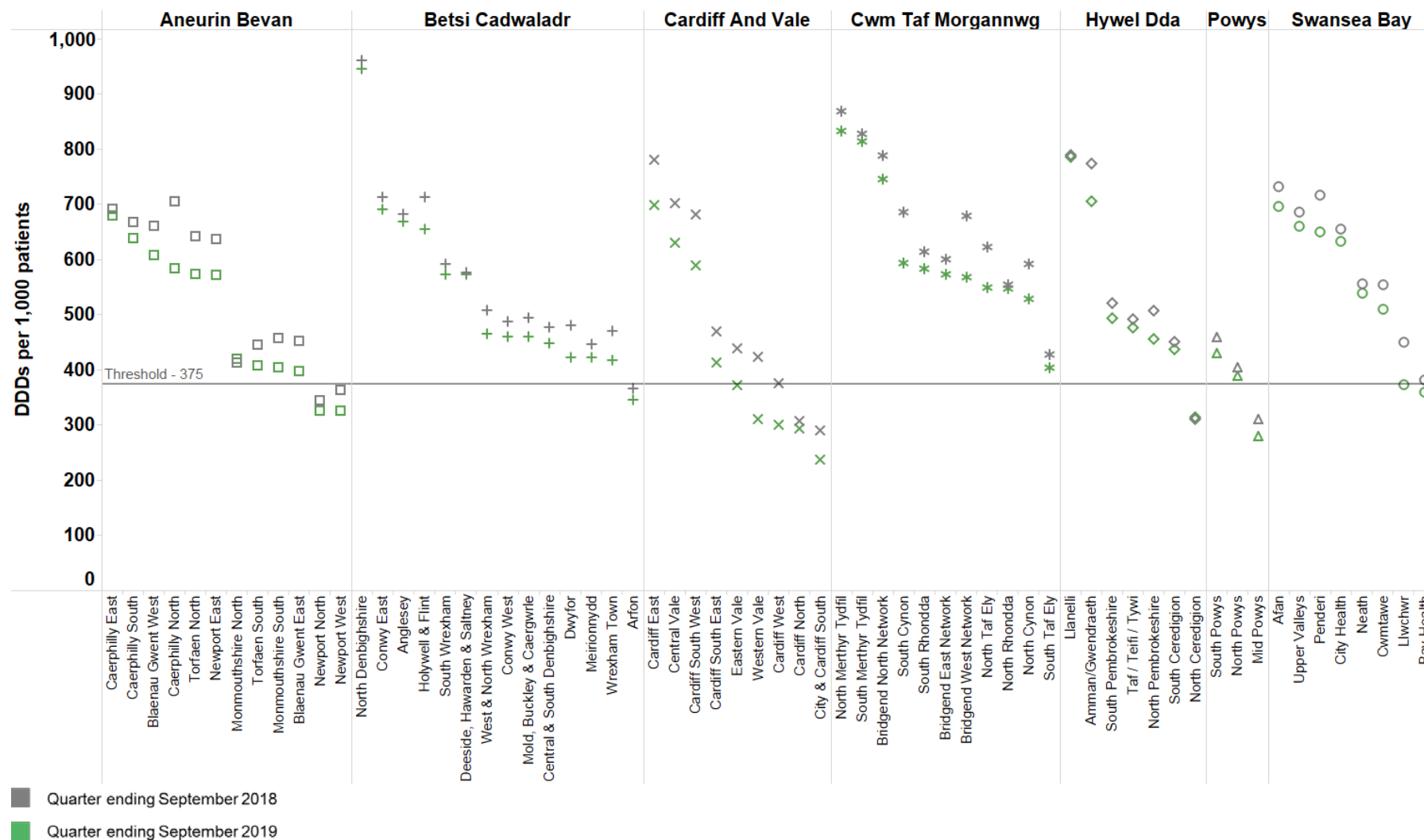


Figure 5. Gabapentin and pregabalin prescribing – Quarter ending September 2019 versus quarter ending September 2018

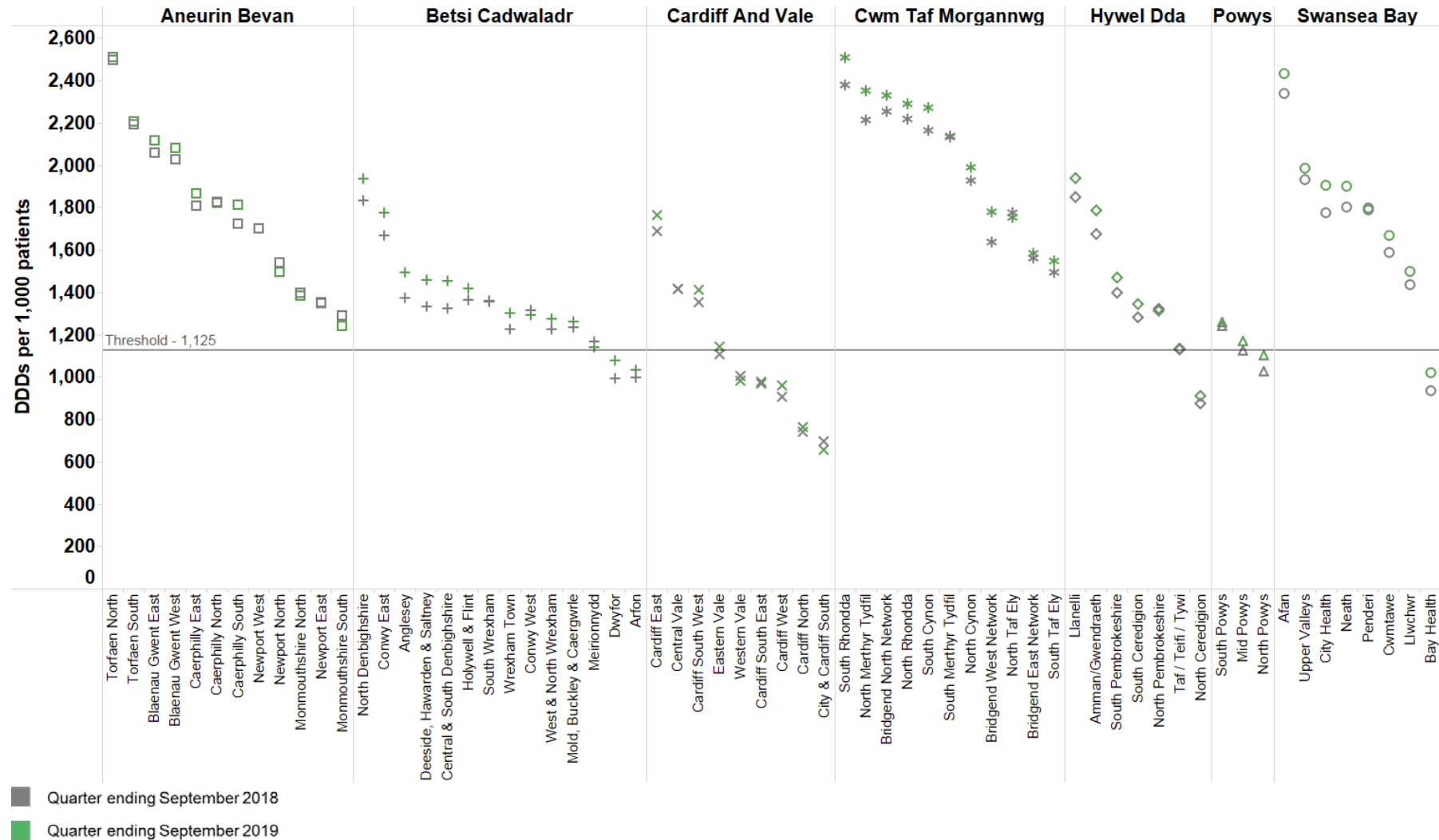


Figure 6. Antimicrobial prescribing – Quarter ending September 2019 versus quarter ending September 2017

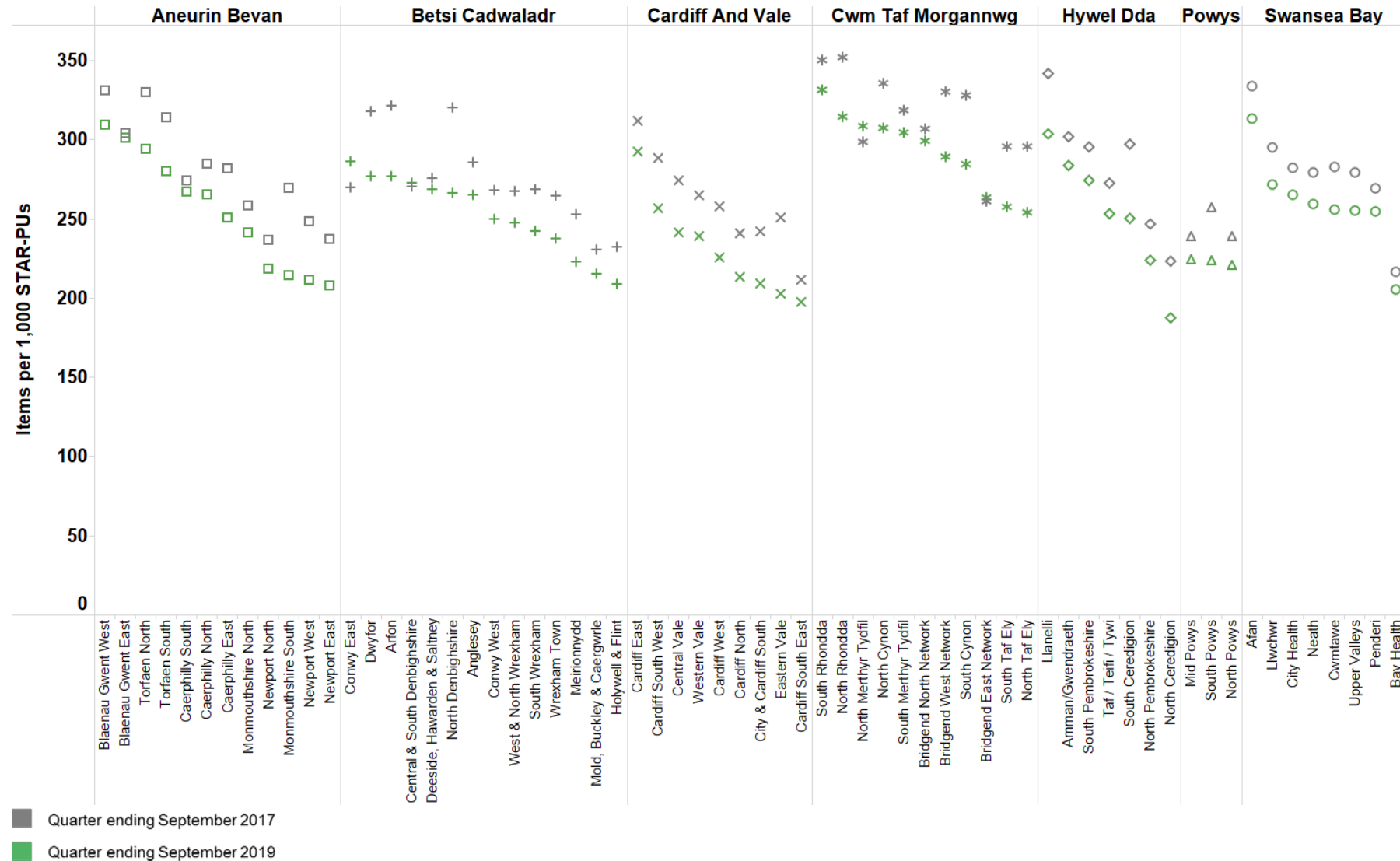


Figure 7. 4C prescribing – Quarter ending September 2019 versus quarter ending September 2017

