

# ***Choose Pharmacy* pathfinder sites. Analysis of impact on purchased over the counter treatments.**

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# 1 Introduction

In October 2013, the Welsh Government started its phased roll out of the national common ailments service *Choose Pharmacy* at two pathfinder sites in Cwm Taf University (CTU) and Betsi Cadwaladr University (BCU) Local Health Board (LHB) areas. Utilising an agreed list of medicines covering a range of common ailments, 13 community pharmacies in the Cynon Valley (CTU-CV) and 19 across Gwynedd (BCU-Gwyn), are able to assess, select and supply appropriate medicine treatments for patients. Such treatment is supplied free of charge, thus removing the need for patients to visit their GP in order to obtain NHS treatment for these minor ailments.

Welsh Government's interim and final evaluation of the *Choose Pharmacy* have been [published](#) and whilst the majority of patients using the *Choose Pharmacy* service have been referred by GP practice, there was the potential for patients who normally purchase OTC treatments to convert to *Choose Pharmacy*. By capturing data for 2012 (before *Choose Pharmacy* started) and 2014 (first full calendar year of *Choose Pharmacy*), this new report assesses and analyses the impact that the *Choose Pharmacy* pathfinder sites have had on purchased OTC medicines treatment at the two pathfinder sites and also at two matched comparator groups of community pharmacies across Wales.

Data on the sale of medicines from community pharmacies across Wales are not routinely available to the NHS but IMS Health, a commercial data company, captures invoice records for the majority of community pharmacies. The data captured represents market sell-in i.e. transactions between wholesalers and pharmacies, and thus provides the most comprehensive data set available for OTC sales. The IMS database is used as a proxy to obtain a measure for sales of OTC medicines from community pharmacy and by providing such data for 2012 and 2014,

facilitates comparison and analysis of pathfinder and matched comparator groups.

## 2 Data analysis

Using IMS Health data for community pharmacy OTC supplies, this report contains the following data analyses:

- **Analysis 1. Choose Pharmacy formulary medicines purchased at pathfinder sites for calendar years 2012 and 2014**
- **Analysis 2. Choose Pharmacy formulary medicines purchased at group comparator sites for calendar years 2012 and 2014.**

Since this work was started, there have been a couple of changes in classification to the monitored core data sets utilised in their production:

- Domperidone was reclassified a prescription only medicine (POM) in September 2014 and esomeprazole was classified as general sales list (GSL) in January 2015.
- These OTC data were analysed in calendar year format and designated with the corresponding year i.e. 2012 and 2014.

## 3 Product selection

This report analyses the sale from community pharmacies of a basket of *Choose Pharmacy* formulary medicines (**Appendix 1**) that were selected according to the inclusion criteria:

- Pharmacy only (P) medicines.
- GSL medicines with a pharmacy-only distribution
- POM medicines supplied via a patient group direction (PGD)

As reasonably practicable, generic versions of products that may have been used for dispensing against prescription were not included in the analysis as they would skew the results. Similarly, mainstream supplied

GSL medicines were excluded as they could also have been supplied to non-pharmacy outlets.

The listed products in Appendix 1 were also selected for monitoring because they have unique, identifiable product packs that could be readily identified in the IMS Health database.

Relevant OTC products were also combined together within a 'therapy indication' group, to facilitate active comparison with the twelve more frequently used *Choose Pharmacy* indication groups (see **Appendix 2**). Detail of the top 5 listed products are also summarised in **Appendix 3**.

## 4 Pathfinder and comparator areas

Data were produced for the calendar years 2012, 2014 and follows on from previous reports' methodology to compare group data. As well as quantifying supply of products by pure numbers, crude population rates were considered but as each group of pharmacies was only going to be compared against itself over the two years, it was deemed just as useful to compare the numbers. It may be reasonable to aggregate the pharmacies and use the estimates health board population as a denominator but pharmacy catchments are essentially unknown and may change for different reasons over time.

The two pathfinder sites in Cynon Valley (CTU-CV) and Gwynedd (BCU-Gwyn) were matched to two comparator sites in Merthyr Tydfil (CTU-MT) and Pembrokeshire (HDU-Pembs) respectively. Each comparator site was matched as closely as possible using the following criteria:

- By similar population size and locality/boundary
- By similar deprivation range across the Welsh Index of Multiple Deprivation (WIMD) quintiles
- By similar number of pharmacies

- Expertise gained from previous work on deprivation/pharmacy and
- Detailed selection analysis accorded by the interim evaluation, which took into account age, drivetime, rural/urban and burden of disease.

This provided the impact analysis with four distinct groups of pharmacies which are shown in the location maps in **Appendix 4** and also summarised in Table 1:

**Table 1** *Community pharmacy listings by location*

	<i>Choose Pharmacy Pathfinder site</i>	Matched comparator site	<i>Choose Pharmacy Pathfinder site</i>	Matched comparator site
	Cynon Valley (CTU - CV)	Merthyr Tydfil (CTU-MT)	Gwynedd (BCU – Gwyn)	Pembrokeshire (HDU - Pembs)
No. of pharmacies	13	13	19	30

In addition, comparison of community pharmacy location by WIMD gradient supports good match data (see Table 2):

**Table 2** *Numbers (%age) of pathfinder and comparator pharmacies in each national deprivation fifth location in Betsi Cadwaladr UHB, Hywel Dda UHB and Cwm Taf UHB, 2014*

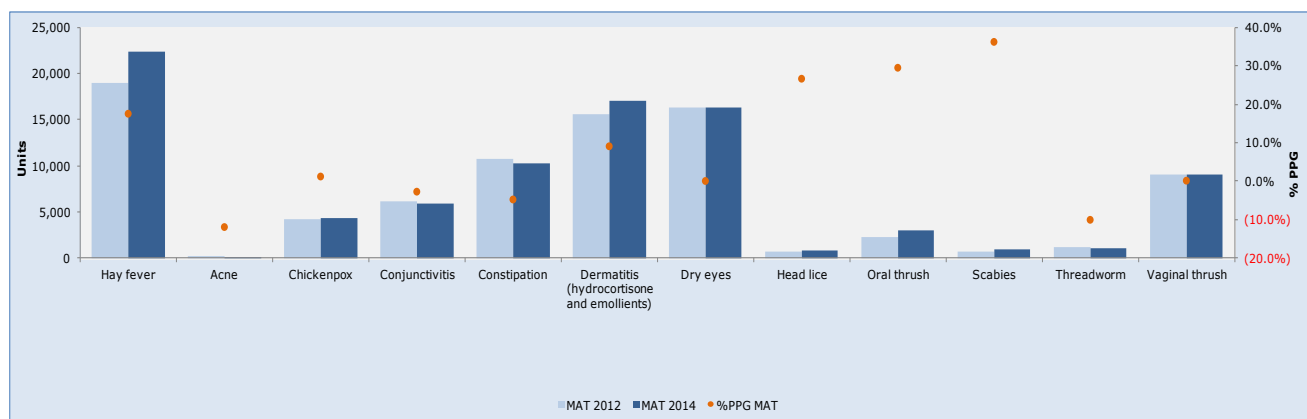
<b>Betsi Cadwaladr UHB</b>	<b>Total count</b>	<b>Least deprived</b>	<b>Next least deprived</b>	<b>Middle</b>	<b>Next most deprived</b>	<b>Most deprived</b>
Pathfinder pharmacies	19	1(5)	6(32)	8(42)	4(21)	0(0)
<b>Hywel Dda UHB</b>						
Comparator pharmacies	30	1(3)	8(27)	10(33)	8(27)	3(10)
<b>Cwm Taf UHB</b>						
Pathfinder pharmacies	13	0(0)	1(8)	0(0)	7(54)	5(38)
Comparator pharmacies	13	0(0)	1(8)	2(15)	3(23)	7(54)

Produced by Public Health Wales Observatory, using WIMD (WG)

## 5 Results

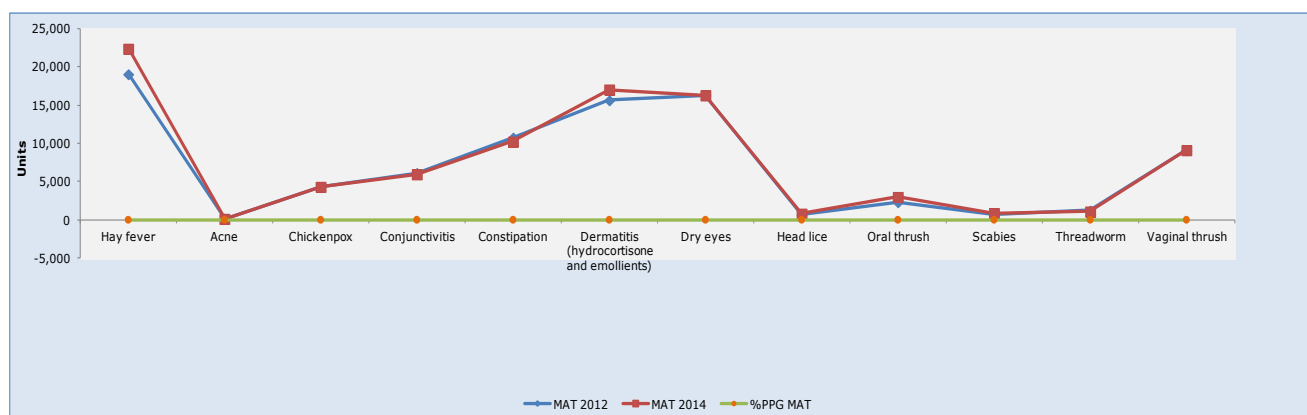
### 5.1 IMS products OTC by *Choose Pharmacy* Indication/Therapeutic group

Chart 1 Therapy level data for BCU-Gwyn pathfinder pharmacies

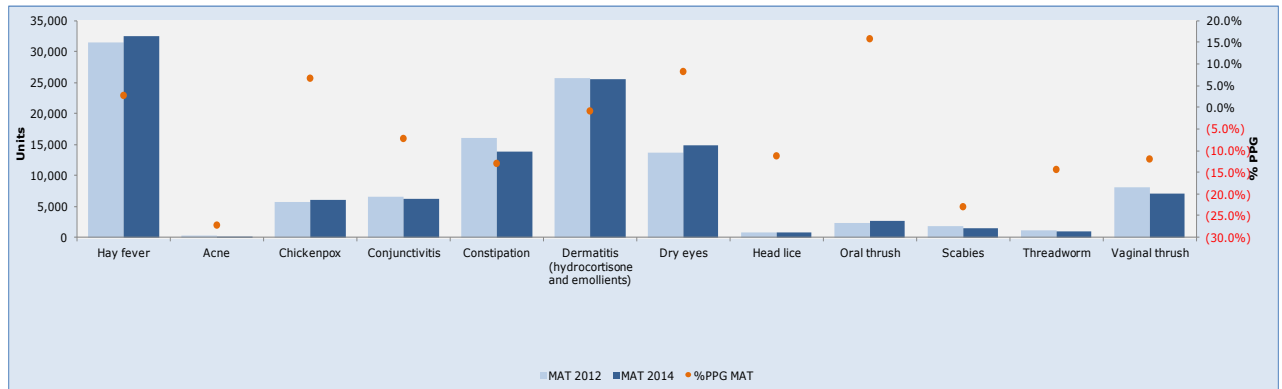
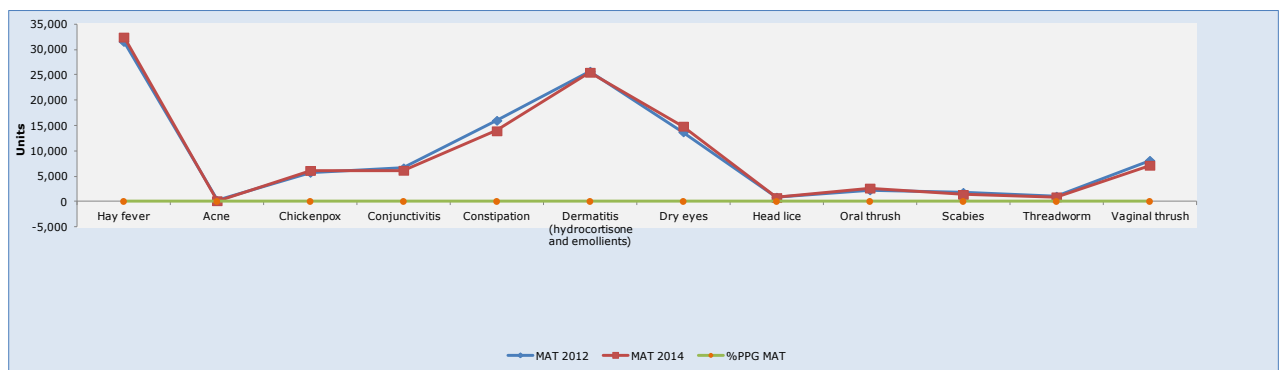
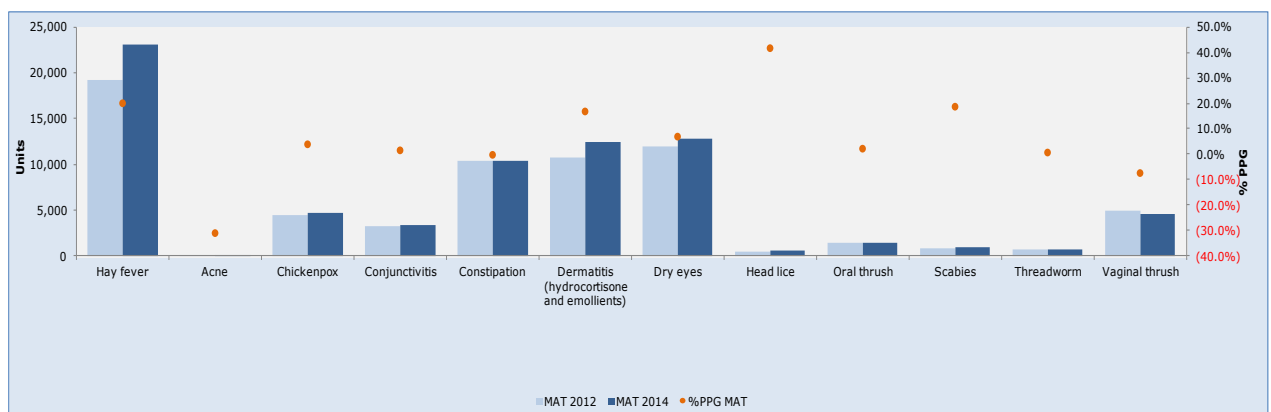


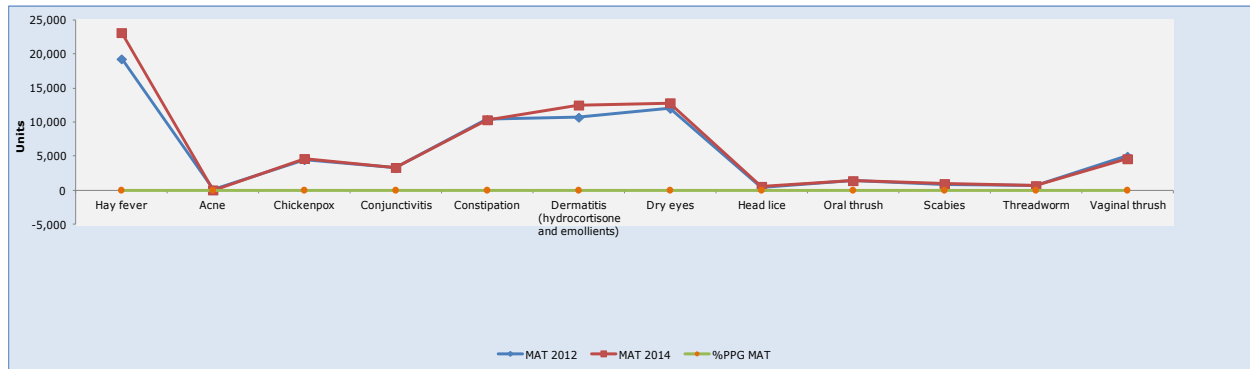
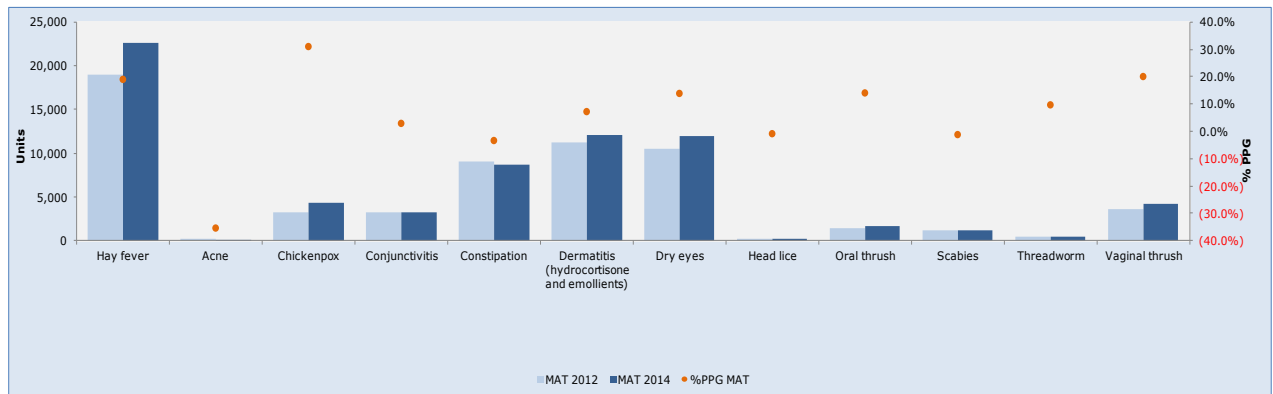
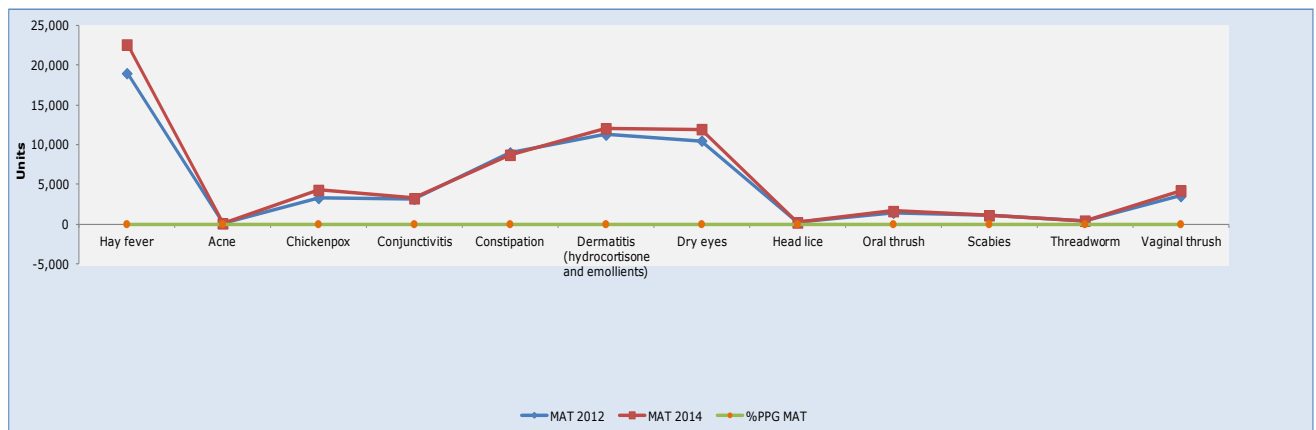
**Chart abbreviations:** PPG—previous period growth, MAT—moving annual total (year)

Chart 2 Therapy level data (tracked by year) for BCU-Gwyn pathfinder pharmacies





**Chart 3 Therapy level data for HDU-Pembs comparator pharmacies****Chart 4 Therapy level data (tracked by year) for HDU-Pembs comparator pharmacies****Chart 5 Therapy level data for CTU-CV pathfinder pharmacies**

**Chart 6 Therapy level data (tracked by year) for CTU-CV pathfinder pharmacies****Chart 7 Therapy level data for CTU-MT comparator pharmacies****Chart 8 Therapy level data (tracked by year) for CTU-MT comparator pharmacies**

## 5.2 IMS Choose Pharmacy formulary products (by molecule) for 2012 and 2014

Chart 9 Molecule level data for BCU-Gwyn pathfinder pharmacies

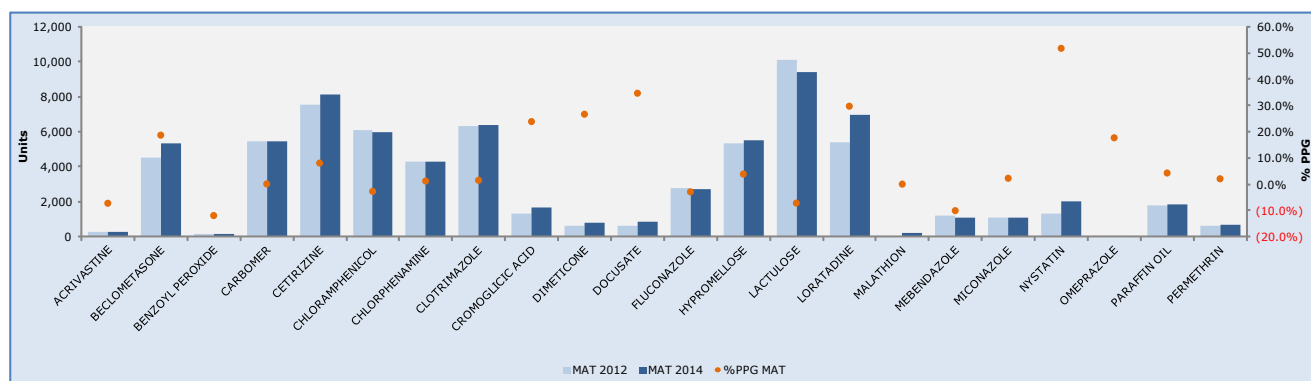


Chart 10 Molecule level data for HDU-Pembs comparator pharmacies

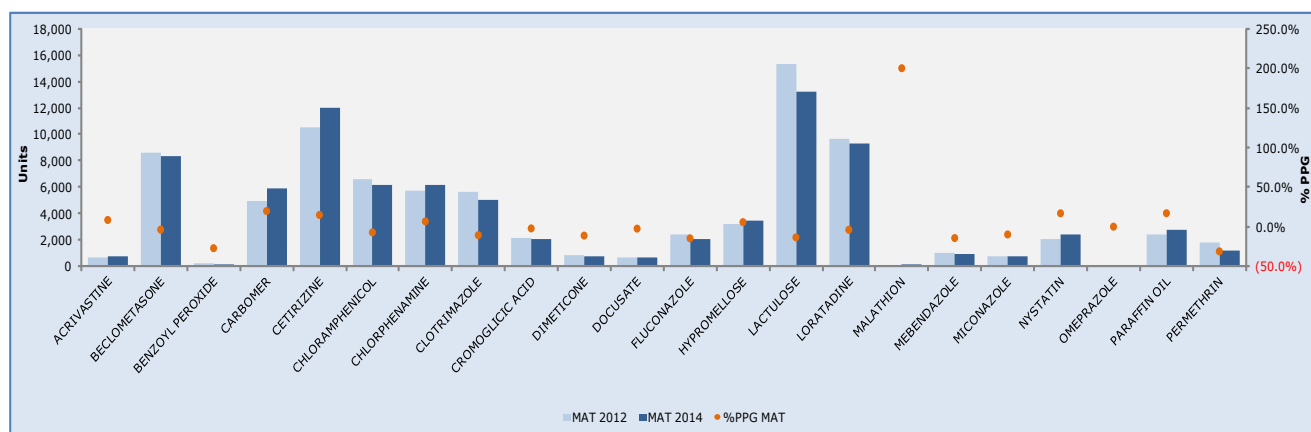
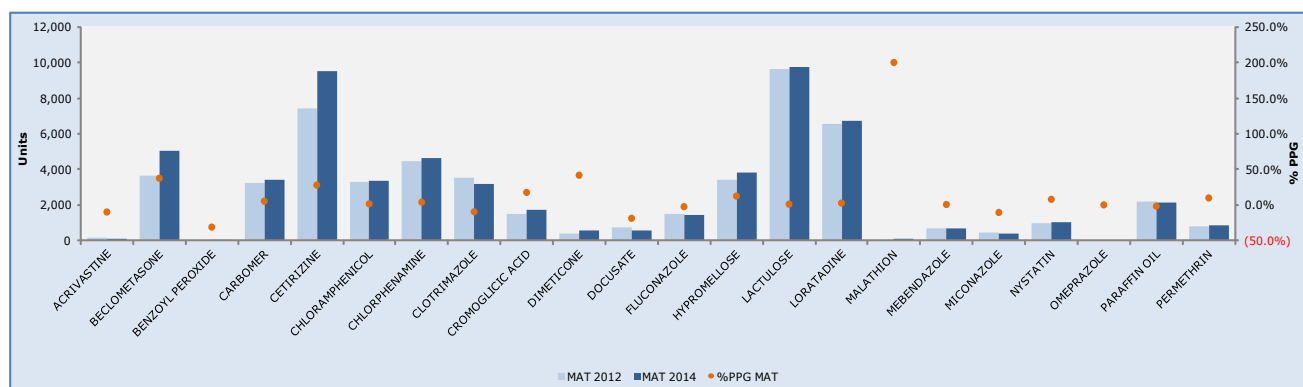
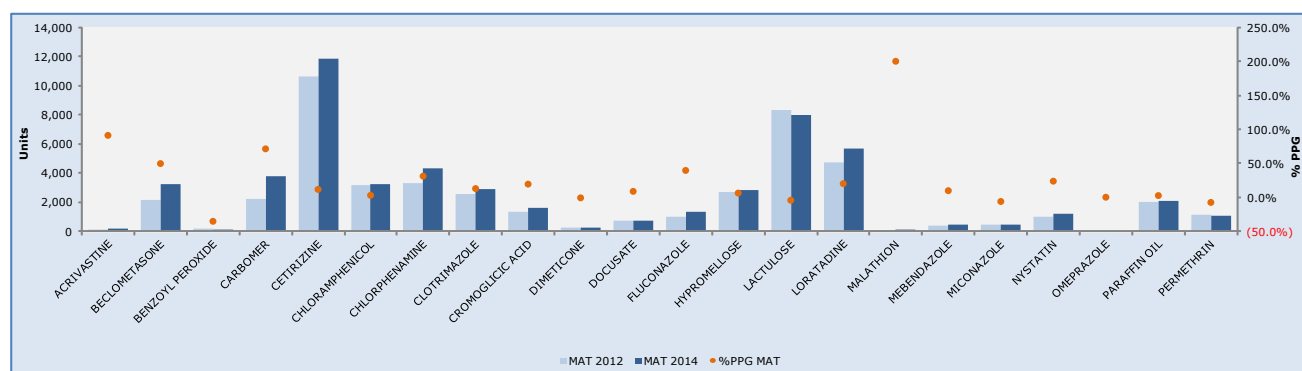


Chart 11 Molecule level data for CTU-CV pathfinder pharmacies



**Chart 12 Molecule level data for CTU-MT comparator pharmacies**

## 6 Data interpretation and limitations

Internal checks to validate the accuracy and completeness of the IMS Health database have been undertaken but the data supply agreements between IMS Health and the data suppliers precluded validation at individual outlet level.

Although the same medicinal product at the same strength can be both sold and prescribed, there may be different indications and dose regimens for use depending on whether prescribed or sold from a pharmacy in a general sale list (GSL) pack or pharmacy only (P) pack. In this report there has been no attempt to differentiate use according to the various indications, regimens or packs.

General sales list products can be sold from any retail outlet e.g. shop, garage etc. The GSL data presented in this report were for relevant products sold from a community pharmacy. Data for medicine sales over the internet were not included.

There may be a poor temporal relationship between sell-in data and the date a given product was supplied to a patient. Given community pharmacy businesses operate on maximum stock turn, it is anticipated this should not have presented a significant confounder to the interpretation of data.

Large independent pharmacy chains such as Boots may have their own label brand of a particular product. Where this occurred e.g. chloramphenicol eye drops, data for the own brand from the multiple was not included.

## 7 Key points summary

These data compare total aggregated supplies from each of the four areas for the calendar years 2012 (before pilot) and 2014 (first full year during pilot), to include:

- Total supplies by therapy/indication area (Charts 1 to 8)
- Total supplies across formulary by molecule (Charts 9 to 12)
- The top five reported OTC medicine items (see Appendix 3) – Beclometasone, Cetirizine, Chloramphenicol (eye), Lactulose and Loratadine.

There is much variation in numbers of units supplied across these data, with no discernible impact or change on supplies within the *Choose Pharmacy* pathfinder sites as compared to the matched pharmacy groups. This is shown visually in charts 2, 4, 6 and 8, where the line graphs for 2012 and 2014 almost completely overlap each other.

The most common presented condition in the *Choose Pharmacy* pilot areas was hay fever. Data from charts 1, 3, 5 and 7 show increases of 20% and 17.5% respectively in supplies of OTC hay fever products to pathfinder sites in CTU-CV and BCU compared to smaller increase of 2.7% in HDU comparator but similar increase of 20% in the CTU-MT comparator area. OTC products for constipation show decreases between 2012 and 2014 across all 4 locations (-4.8% and -0.3% in BCU and CTU-CV pathfinder areas, with -12.9% and -3.4% in HDU and CTU-MT comparators) with the greater decreases in the pathfinder areas. Dermatitis OTC products show greater increases in the pathfinder areas (BCU +9%, CV +16.8% compared to -0.8% and +7.2% in HDU and MT comparator sites

respectively). This variance in data would suggest that there has been little effect or impact on purchased OTC across pathfinder areas. In ten of the top twelve therapy areas reviewed, the pathfinder area in BCU showed greater increases than the HDU comparator between 2012 and 2014, whilst the pathfinder area in CTU-CV showed greater increases in eight of the therapy areas compared to its comparator in CTU-MT.

Trends show similar variation when review supply by molecule (charts 9, 10, 11 and 12) where there is again very little difference between the two years across the four localities. When consider overall total supply (by molecule), the greatest increase is of +14.6% in CTU-MT (a comparator area) compared to +8.4 in CTU-CV (pathfinder), whereas BCU (pathfinder) is +5.9% compared to -1.3% in HDU (comparator). Whilst hay fever was *Choose Pharmacy's* top presented condition, chloramphenicol was one of its' two most frequently supplied items. Data from IMS show OTC decreases of -2.8% in BCU pathfinder with -7.2% in HDU comparator and +1.5% in CTU-CV pathfinder with +2.9% in CTU-MT comparator.

Similarly there is wide variability when consider the top supplied OTC items, a couple to note:

- **Beclometasone.** Smaller increase in CTU-CV pathfinder (+37.4%) than CTU-MT comparator (+49.5%) but greater increase in BCU pathfinder (+18.6%) than HDU comparator (-3.7%)
- **Cetirizine.** Much less increase in BCU pathfinder (+8%) than HDU comparator (+14.9%) but much greater increase in CTU-CV pathfinder (+27.9%) than CTU-MT comparator (+11.6%)

Whilst there is always the potential for patients who normally purchase OTC to convert to *Choose Pharmacy*, this new report finds no data to support this. All data sourced, retrieved and analysed show wide variation across all pathfinder/comparator areas and this report finds no evidence of any negative impact towards purchased OTC medicines treatment.

## Appendix 1 OTC medicines (by molecule)

### IMS basket of *Choose Pharmacy* OTC medicines (by molecule)

Acrivastine	Beclometasone	Benzoyl peroxide
Carbomer	Cetirizine	Chloramphenicol
Chlorphenamine	Clotrimazole	Cromoglycic acid
Dimeticone	Docusate	Fluconazole
Hypromellose	Lactulose	Loratadine
Malathion	Mebendazole	Miconazole
Nystatin	Emollients	Paraffin oil
Permethrin		

## Appendix 2 OTC medicines (by indication)

### IMS basket of *Choose Pharmacy* OTC medicines (by top 12 indication)

Indication	IMS molecule
Hay fever	Acrivastine, Beclometasone, Cetirizine, Chlorphenamine, Cromoglycic acid and Loratadine,
Conjunctivitis (bacterial)	Chloramphenicol Eye preparations
Headlice	Dimeticone
Dermatitis	Paraffin oil, emollients
Vaginal thrush	Clotrimazole, Fluconazole
Threadworm	Mebendazole
Scabies	Malathion, Permethrin
Chickenpox	Chlorphenamine (dual listed hay fever)
Oral thrush	Miconazole, Nystatin
Constipation	Docusate, Lactulose
Acne	Benzoyl peroxide
Dry eyes	Hypromellose, Carbomer

## Appendix 3 Top 5 pharmacy OTC supplied items

LOCALITY	OTC MOLECULE	2012	2014	+/- (%)
<b>Combined</b>	<b>Lactulose</b>	<b>43,386</b>	<b>40,338</b>	<b>-7.0</b>
CTU –CV		9,652	9,754	+1.1
CTU-MT		8,330	7,963	-4.4
BCU-Gwyn		10,106	9,376	-7.2
HDU- Pembs		15,298	13,245	-13.4%
<b>Combined</b>	<b>Cetirizine</b>	<b>36,042</b>	<b>41,496</b>	<b>+15.1</b>
CTU –CV		7,427	9,496	+27.9
CTU-MT		10,613	11,839	+11.6
BCU-Gwyn		7,524	8,127	+8.0
HDU- Pembs		10,478	12,034	+14.9
<b>Combined</b>	<b>Loratadine</b>	<b>26,307</b>	<b>28,628</b>	<b>+8.8</b>
CTU –CV		6,556	6,722	+2.5
CTU-MT		4,735	5,680	+20.0
BCU-Gwyn		5,357	6,946	+29.7
HDU- Pembs		9,659	9,280	-3.9
<b>Combined</b>	<b>Beclometasone</b>	<b>18,960</b>	<b>21,918</b>	<b>+15.6</b>
CTU –CV		3,665	5,037	+37.4
CTU-MT		2,154	3,221	+49.5
BCU-Gwyn		4,511	5,352	+18.6
HDU- Pembs		8,630	8,308	-3.7
<b>Combined</b>	<b>Chloramphenicol</b>	<b>19,176</b>	<b>18,670</b>	<b>-2.6</b>
CTU –CV		3,280	3,328	+1.5
CTU-MT		3,167	3,258	+2.9
BCU-Gwyn		6,109	5,940	-2.8
HDU- Pembs		6,620	6,144	-7.2



## Appendix 4 Pharmacy locality maps (by HB)

### Welsh Index of Multiple Deprivation with pathfinder, comparator and standard pharmacies, Cwm Taf University Health Board, 2014

Lower Super Output Area, WIMD 2014

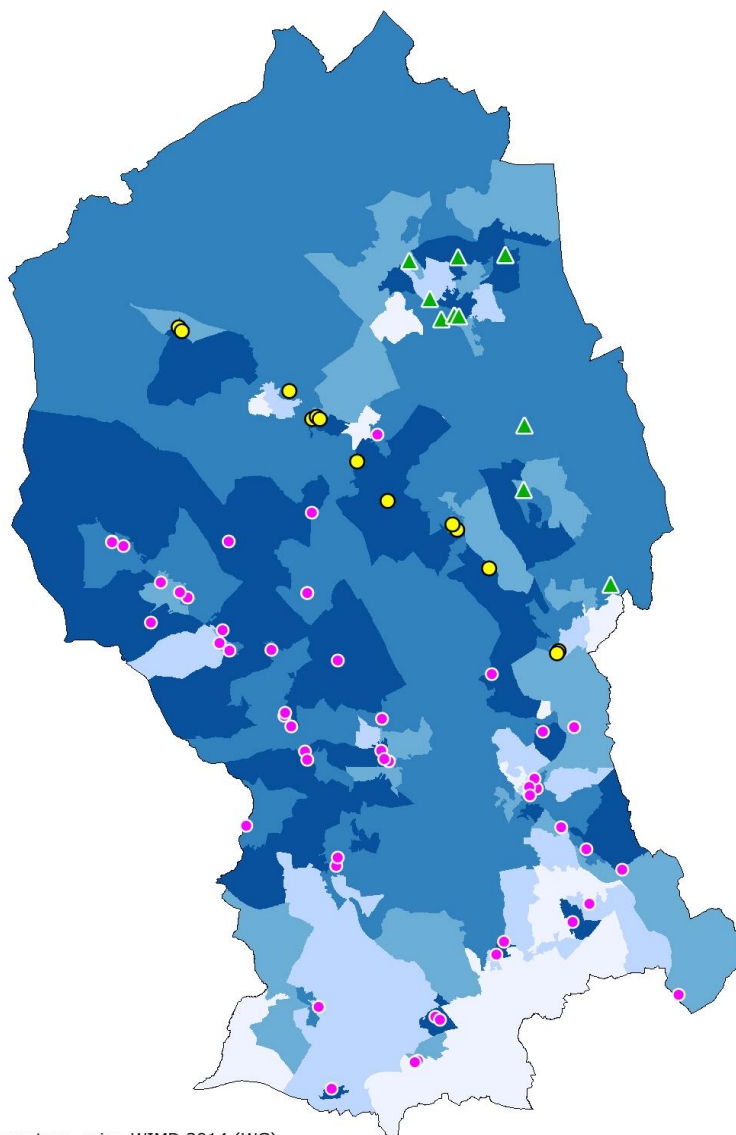
- Most deprived (59)
- Next most deprived (64)
- Middle (29)
- Next least deprived (18)
- Least deprived (20)

● Standard pharmacy

● Pathfinder pharmacy

▲ Comparator pharmacy

□ Health board boundary



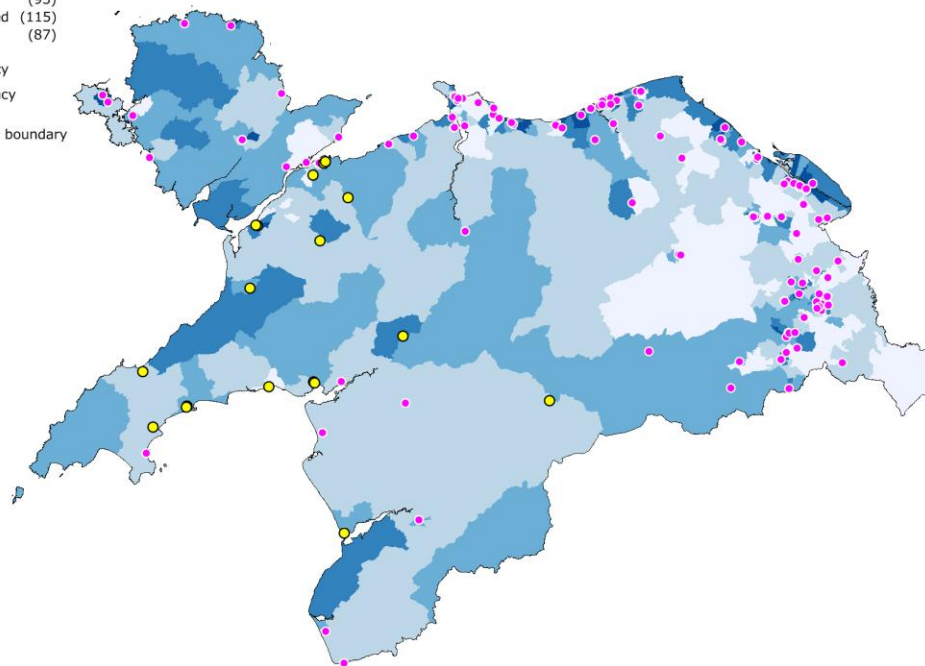
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**Welsh Index of Multiple Deprivation with pathfinder and standard pharmacies, Betsi Cadwaladr University Health Board, 2014**

Lower Super Output Area, WIMD 2014

- Most deprived (51)
- Next most deprived (75)
- Middle (95)
- Next least deprived (115)
- Least deprived (87)

- Standard pharmacy
- Pathfinder pharmacy
- Health board boundary

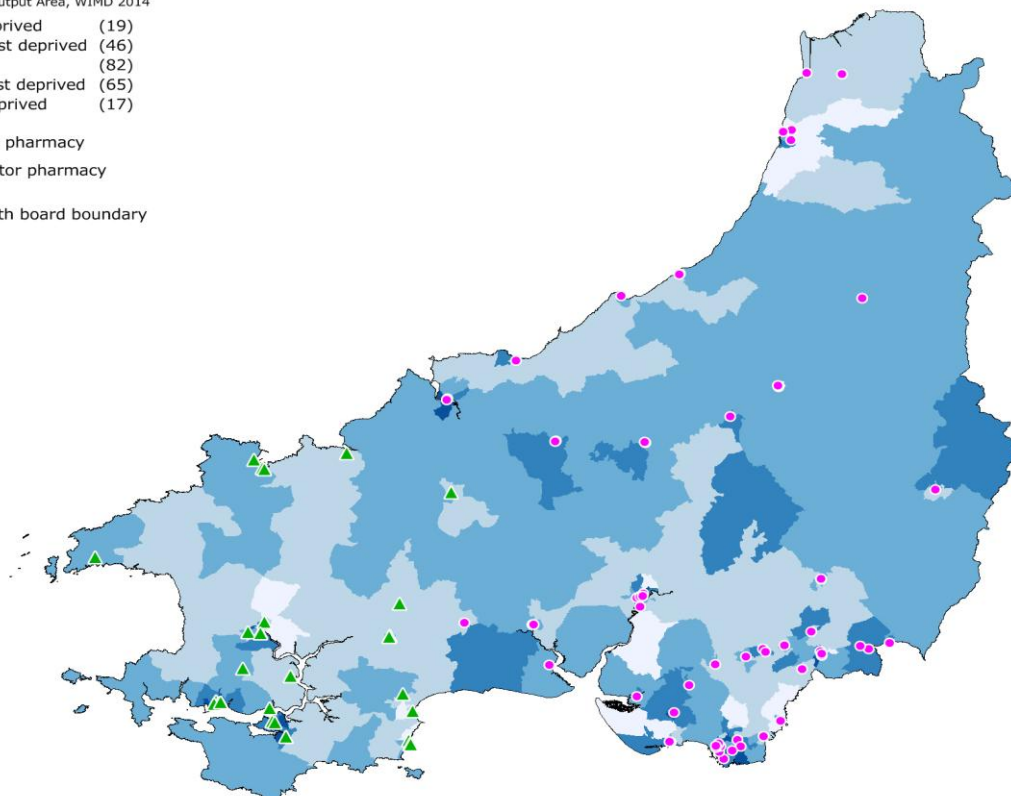

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**Welsh Index of Multiple Deprivation with comparator and standard pharmacies, Hywel Dda University Health Board, 2014**

Lower Super Output Area, WIMD 2014

- Most deprived (19)
- Next most deprived (46)
- Middle (82)
- Next least deprived (65)
- Least deprived (17)

- Standard pharmacy
- Comparator pharmacy
- Health board boundary


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