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Public Health Wales Observatory

Chronic obstructive pulmonary disease in the Abertawe Bro Morgannwg area report IIa: **Flu vaccination and GP cluster**




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TABLE OF CONTENTS

1 Background

In 2011 the Public Health Wales Observatory produced a report entitled '*Chronic obstructive pulmonary disease in the Abertawe Bro Morgannwg area: report 1'*. The report was produced to support the activities of community networks within Abertawe Bro Morgannwg University Health Board (ABM UHB) and described the pattern of chronic obstructive pulmonary disease (COPD) among patients registered with community network GP practices in the ABM UHB area.

The following are included in the original report:

- Map of GP community networks in the Abertawe Bro Morgannwg University Health Board area
- Description of 'what is COPD?'
- COPD risk factors
- Information on the different datasets, statistics and methods used
- Estimated prevalence of COPD by GP community network
- Admissions for COPD by GP community network
- Deaths due to COPD by GP community network

The report can be accessed on the Public Health Wales Observatory website: http://www.wales.nhs.uk/sitesplus/922/news/20113.

1.1 Purpose of this paper

This paper is the first in a series of briefing papers being produced to build on the original report and to support ABM UHB and its community networks.

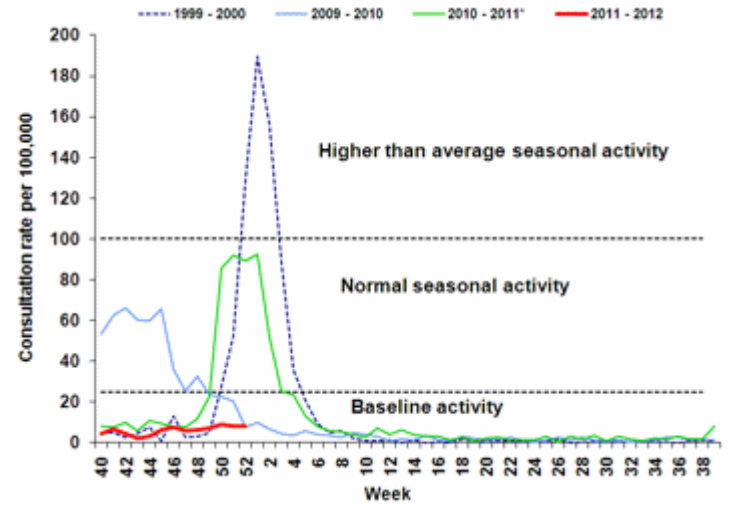
The focus of this briefing paper is influenza vaccinations. This examines flu vaccination data as available via GP practices submitting data to the SAIL databank.

This work is exploratory in nature and seeks to support the ABM UHB community network in delivering care at a local level. It is intended that further linkage work will be developed from this.

2 Influenza

Influenza is a seasonal illness with the large majority of flu activity usually occurring in the winter months. However, there has been a recent exception to this i.e. during the H1N1 outbreak of 2009. Public Health Wales Communicable Disease Surveillance Centre (CDSC) conducts surveillance of diagnosis of influenza in the community and publishes consultation rates for influenza on a weekly basis. The chart below shows flu activity for the 2011-12 season (up to January 4th), compared to the previous two years and the 1999-2000 season.

Clinical consultation rate per 100,000 practice population
Chart and data provided by Public Health CDSC Wales,
from the GP sentinel surveillance of infections in Wales (as of 04/01/12)



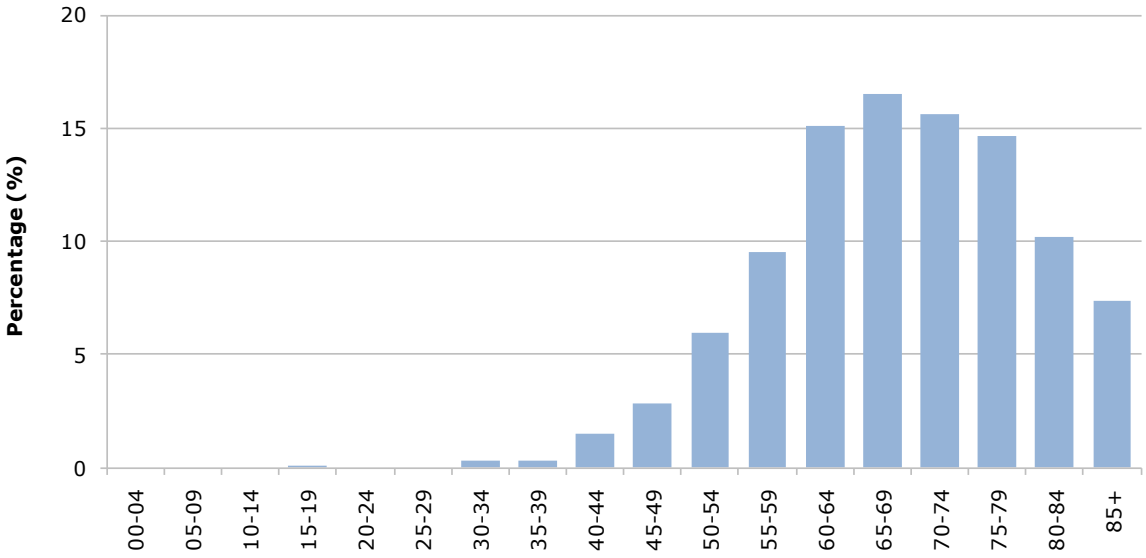
2.1 COPD

COPD patients have been identified using the same method as documented in section 3.2.3 of the original report with only one amendment i.e. the census date has been changed from 30th June to 1st September for the chosen year. The change of census date has been made to be consistent with the start date for flu vaccinations.

COPD becomes more prevalent with age, with almost 95% of patients being aged 50 and over (see chart below). For this reason, analyses have focused on COPD patients aged 50 and over.

Each year Public Health Wales CDSC and Vaccine Preventable Disease Programme publish flu immunisation uptake data. The data published are for patients aged six months to 64 years and 65 years and older in clinical risk groups, including chronic respiratory disease. It is **important to note** that different Read code definitions are used in reporting of vaccine uptake in chronic respiratory disease patients by CDSC and COPD patients in this report and therefore the two different sets of indicators are not comparable.

Age distribution for GP registered patients known to have COPD as at 1st September 2009
Produced by the Public Health Wales Observatory using GP practice, WDS and PEDW data via the SAIL databank

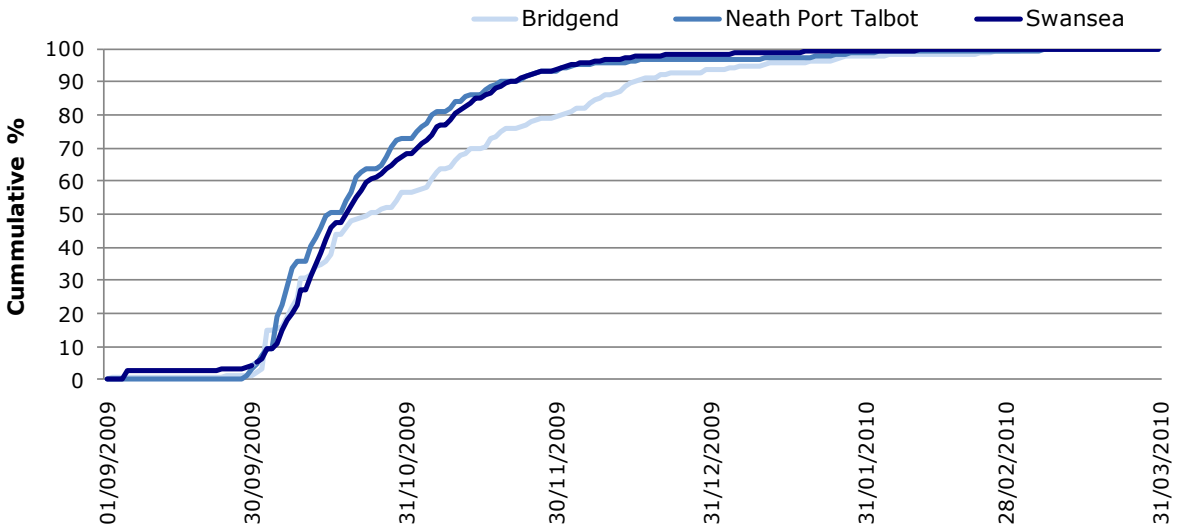


2.2 Flu vaccination

Patients with COPD are identified as having had the flu vaccination if they had one of the following Read codes (taken from the Quality and Outcomes Framework (QOF)):

- n47% (excluding n47A., n47B., n47r., n47s., n47t.)
- 65E.. – 65E4.
- ZV048

Cummulative percentage (%) of flu vaccinations for COPD patients by date of vaccination: September 2009-March 2010
Produced by the Public Health Wales Observatory using GP practice and WDS data via the SAIL databank

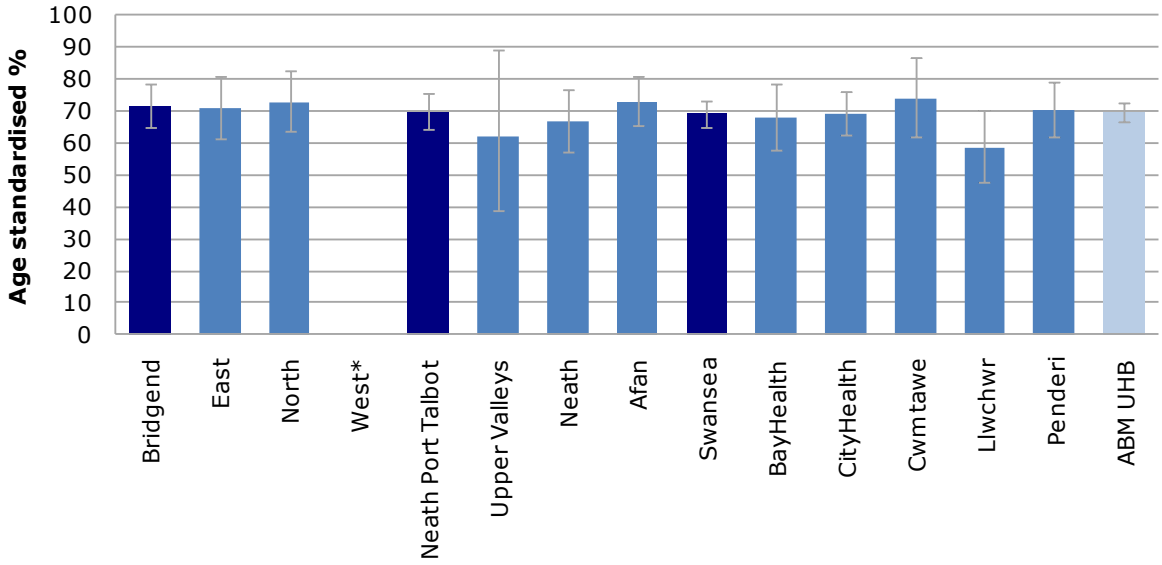


The timeframe specified by QOF for flu vaccination is 1st September to 31st March. The chart above shows that the large majority (>97.5%) of flu vaccinations for ABM UHB take place by the end of January.

The chart below shows the age standardised proportion (%) of COPD patients aged 50 and over (50+) that had the flu vaccination, by area of GP registration. The supporting data table for the chart below is provided in section 4.1.

Chronic obstructive pulmonary disease patients who had the influenza vaccination, persons aged 50 and over: September 2009-January 2010

Produced by the Public Health Wales Observatory using GP practice and WDS data via the SAIL databank



* insufficient number of GP practices in this community netwrok submitting data for the study period

The age standardised percentage of ABM UHB GP registered COPD patients having the influenza vaccination is 70% using the standard European reference population. Proportions have been standardised to improve comparisons across cluster areas; however, the actual vaccination rates for each cluster are marginally higher and are shown in section 3.1 below. Within the health board area there is not much variation at the local authority level with the lowest percentage seen in Swansea (69%) and the highest in Bridgend (72%). There is more variation at the community network level with the highest uptake seen for Cwmtawe in Swansea (74%) and Afan (73%) in Neath Port Talbot. The lowest percentages are seen in Llwchwr (58%) in Swansea and Upper Valleys (62%) in Neath Port Talbot.

Given that not all GP practices in each community network submit data to the SAIL databank, the actual coverage in a network may vary from this picture. The majority of practices in the ABM UHB area have been included in this analysis (88%), practices are excluded where no data is available or there have been inconsistent submissions.

3 Supporting data tables

3.1 COPD patients and flu vaccination uptake

Chronic obstructive pulmonary disease and influenza vaccination uptake, persons aged 50 and over: September 2009-January 2010

	Number of patients with COPD	Number who had flu vaccination	Percentage (%)	Age standardised percentage (%) with 95% C.I.	
Bridgend	1180	874	74.1	71.8	(65.2-78.7)
East	575	423	73.6	70.7	(61.2-81)
North	605	451	74.5	72.8	(63.8-82.5)
West*	-	-	-		
Neath Port Talbot	1227	892	72.7	69.8	(64.1-75.8)
Upper Valleys	101	63	62.4	61.9	(39.2-89.3)
Neath	455	327	71.9	66.8	(57.4-77)
Afan	671	502	74.8	72.9	(65.4-81)
Swansea	2742	2009	73.3	69.0	(65-73.1)
BayHealth	506	391	77.3	67.9	(57.8-78.8)
CityHealth	878	632	72.0	69.3	(62.8-76.2)
Cwmtawe	386	295	76.4	73.7	(61.9-86.6)
Llwchwr	361	236	65.4	58.3	(47.6-70.1)
Penderi	611	455	74.5	70.4	(62.3-79.1)
ABM UHB	**5149**	**3775**	**73.3**	**69.8**	**(66.9-72.8)**

Produced by the Public Health Wales Observatory
using GP practice and WDS data via the SAIL databank

*Insufficient number of GP practices in this community network submitting data for the study period

3.2 Age distribution

Age distribution for COPD patients, flu vaccinations and hospital admissions: 2009/10

	Patients with COPD[1]		COPD patients that had flu vaccination[2]		COPD patients admitted to hospital[3]	
	No.	%	No.	%	No.	%
00-04	-	-	-	-	0	0.0%
05-09	-	-	0	0.0%	0	0.0%
10-14	-	-	0	0.0%	0	0.0%
15-19	5	0.1%	0	0.0%	0	0.0%
20-24	-	-	0	0.0%	0	0.0%
25-29	-	-	-	-	0	0.0%
30-34	15	0.3%	10	0.3%	0	0.0%
35-39	17	0.3%	6	0.2%	0	0.0%
40-44	82	1.5%	42	1.1%	-	-
45-49	155	2.9%	84	2.1%	11	1.9%
50-54	322	5.9%	200	5.1%	14	2.4%
55-59	518	9.6%	343	8.8%	42	7.1%
60-64	818	15.1%	592	15.1%	73	12.3%
65-69	896	16.5%	662	16.9%	76	12.8%
70-74	848	15.6%	661	16.9%	90	15.2%
75-79	795	14.7%	600	15.3%	117	19.7%
80-84	553	10.2%	422	10.8%	90	15.2%
85+	399	7.4%	295	7.5%	81	13.6%
All ages	**5,423**	100.0%	**3,917**	100.0%	**594**	100.0%

Produced by the Public Health Wales Observatory
using GP practice, WDS and PEDW data via the SAIL databank

1 GP registered patients known to have COPD as at 01/09/2009

2. COPD patients that had the flu vaccination between 01/09/2009-31/03/2010

3. COPD patients admitted to hosptial as an emergency between 01/09/2009-31/03/2010

4 Summary

Results from COPD report 1 demonstrated that COPD prevalence was greatest in City Health in Swansea, Afan in Neath Port Talbot and North Bridgend in Bridgend. There is no clear pattern between COPD prevalence and vaccination rates. Afan and North Bridgend vaccinated a greater proportion of COPD patients than the local authority average; however, in City Health the proportion of vaccinated COPD patients was slightly lower at 72% compared to the Swansea average of 73.3%.

Upper Valleys and Llwchwr community networks have the lowest proportion of vaccinations at 62.4% and 65.4% respectively. Although Llwchwr has one of the lowest prevalence of COPD, prevalence in Upper Valleys is slightly greater than the ABM UHB average.

There is large variation between the proportions of COPD patients that have been vaccinated in the different community networks. A difference of 15 percentage points can be seen when comparing crude and age-standardised rates between the networks with the least and greatest proportion of vaccinations.

5 Glossary

5.1 European age-standardised percentage

Age-standardisation allows comparison of rates and proportions across different populations while taking account of the different age structures of those populations. Failure to take account of differing age structures can be very misleading when comparing proportions in different populations. The European age standardised percentage, used in this document, represents the overall percentage you would get if the population had the same age-structure as a theoretical standard European population (direct age-standardisation). In order to calculate the percentage occurring in each age band to the new (standard) population structure are applied. The measure only allows for comparison between percentages which have been standardised; it is not a proportion or risk of an event occurring and does not, of itself, involve a comparison with proportions across Europe.

5.2 Confidence intervals

Confidence intervals (CIs) are indications of the natural variation that would be expected around the prevalence and they should be considered when assessing or interpreting the prevalence. The size of the CI is dependent on the number of events occurring and the size of the population from which the events came. Generally speaking, rates based on small numbers of events and small populations are likely to have wider CI i.e. an indication of susceptibility to random variation. Conversely, rates based on large populations are likely to have narrower CIs. The upper limit of the CI is known as the upper confidence limit (UCL) and the lower the lower confidence limit (LCL). CIs are usually presented at 95% which suggests that one can be certain that 95% of the time the true value falls within the UCL and LCL.

5.3 Chronic Obstructive Pulmonary Disease

Chronic obstructive pulmonary disease is characterised by airflow obstruction that is usually progressive, not fully reversible and does not change markedly over several months.[1] COPD is now the preferred term for the conditions in patients with airflow obstruction who were previously diagnosed as having chronic bronchitis or emphysema.[1]

Chronic obstructive pulmonary disease is predominantly caused by smoking.

6 References

1. National Clinical Guideline Centre. *Chronic obstructive pulmonary disease: management of chronic obstructive pulmonary disease in adults in primary and secondary care.* CG101. 2010. [Online]. Available at: http://www.nice.org.uk/nicemedia/live/13029/49425/49425.pdf [Accessed 28th Nov 2012]