

MAIN REPORT		ABM University Health Board
Health Board		26th September 2013 AGENDA ITEM: 2 (ii)
Subject	Director of Public Health Annual Report 2012-13	
Prepared by	Abertawe Bro Morgannwg Public Health Team	
Approved by	Sara Hayes, Director of Public Health	
Presented by	Sara Hayes, Director of Public Health	

1. PURPOSE

To present the Director of Public Health Annual Report for 2012-13.

2. KEY ISSUES

The Directors of Public Health in each of the Health Boards publish an annual report on the health and well being of their population and on action being taken to improve and protect their population's health. These statutory reports are independent and aim to describe the challenges to public health, to help local services and communities find solutions.

The 2012-13 report focuses on the measures being taken through the lifecourse to improve public health and well being through tackling three priorities:

- smoking cessation
- tackling obesity
- increasing immunisation uptake across all ages.

It also includes chapters on health protection and oral health.

The overarching themes in the report are the need to tackle inequalities through investing in effective interventions, with an emphasis on the more disadvantaged and deprived groups. Increasing attention is being paid to helping communities mobilise their own assets, creating sustainable services and supportive environments.

The report demonstrates how this approach is being carried through by the ABM Health Board Public Health Team, ABMU Health Board staff, local authorities and voluntary agency partners. There will be many opportunities for enthusiastic staff, volunteers and members of the public to get involved to help themselves and their communities over the coming year.

3. RECOMMENDATION

The Board is asked to note the content of the Report.

Director of Public Health Annual Report

2012-2013

Abertawe Bro Morgannwg
University Health Board



Acknowledgements

I am grateful to Christian Heathcote-Elliott and Judith Tomlinson for their help in preparing this report and also thanks to Wendy Sunderland Evans, Jorg Hoffmann, Hugh Bennett and all the members of the Abertawe Bro Morgannwg Public Health Team, for their contributions.

Authors	Abertawe Bro Morgannwg Public Health Team
Date of publication	September 2013
Version	1
Front cover images	Courtesy of Freedigitalpictures.net

Forward

This year I have decided to prioritise public health action in three major areas:

- smoking cessation
- tackling obesity
- increasing immunisation uptake across all ages.

My annual report describes the health of the population and the measures we are taking, particularly in the three prioritised areas, to improve health and tackle inequalities in health. I aim to bring about measurable change through joint working between health, local authorities and voluntary agencies.

I was very pleased to have my seasonal influenza immunisation last year, thanks to our Immunisation Coordinator June Wheel (see photo). This year children aged 2 and 3 years and children in school year 7 will be offered the vaccination for the first time. I encourage them, as well as frontline health and social care staff, those aged 65 and over, pregnant women and people in at-risk groups to take the opportunity to be protected.

Over the last year there have been harrowing reports of neglect and poor care in health services, described vividly but not exclusively in the Francis Report. Abertawe Bro Morgannwg University Health Board (ABM) is placing quality and safety at the centre of its service and I will be exploring how the public health system can support this over the coming year.

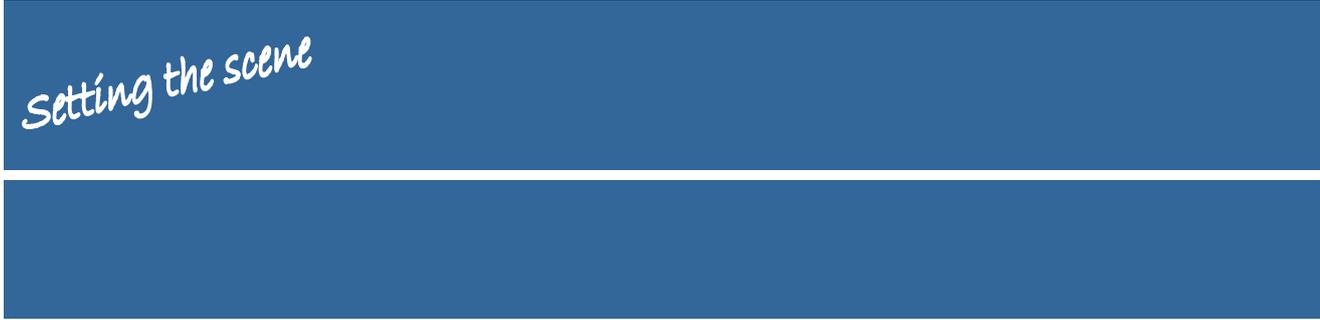
Sara Hayes



August 2013

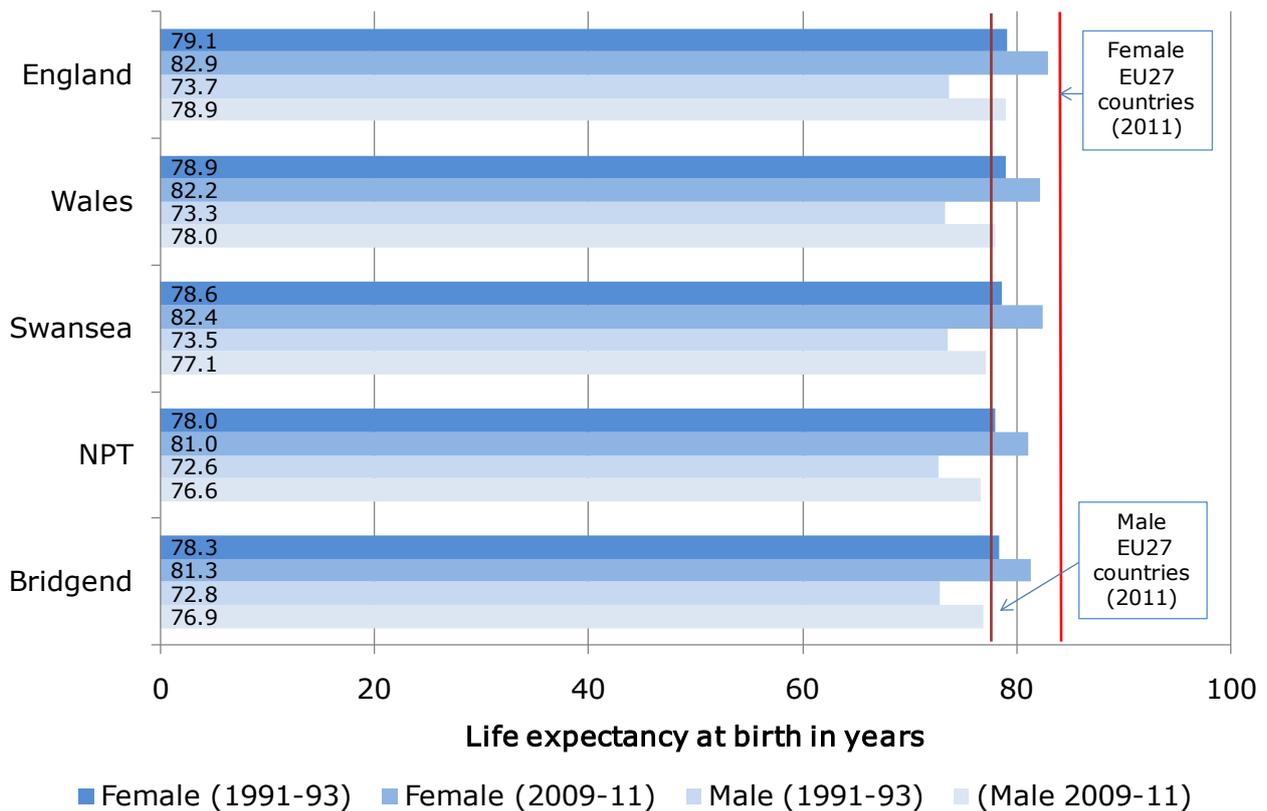
Contents

Chapter	Page number
Setting the scene	1
1 Maternity and newborns	7
2 Children and young people	16
3 Working age adults	24
4 Older adults	35
5 Health protection	44
6 Oral health	49
References	54
Sources of information	58



In common with England and Wales, life expectancy at birth across the ABM University Health Board area has continued to increase over the last two decades (Figure 1) although we are slightly below the EU27 countries average for both males and females.^{1,2}

Figure 1: Life expectancy at birth 1991-93 and 2009-2011, England, Wales and ABM University Health Board area local authorities

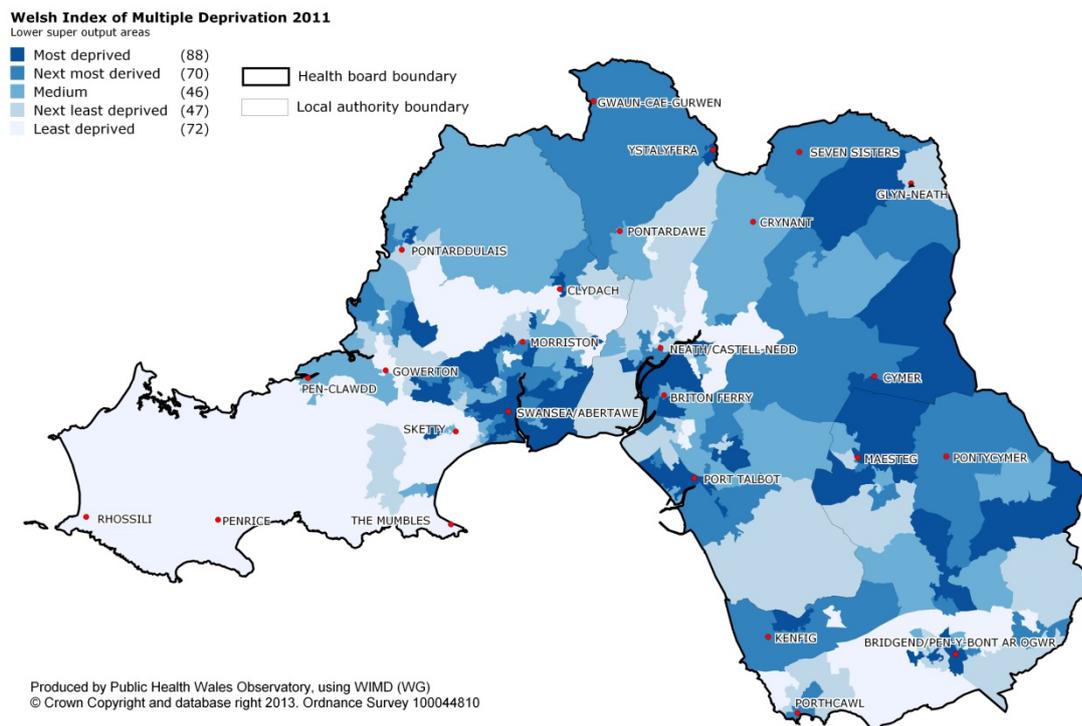


Source: National Statistics, 2013; Eurostat, 2013

Despite the overall increase in life-expectancy at birth across the ABM University Health Board area not all our communities share the same life chances. Figure 2 illustrates deprivation levels across the ABM University

Health Board area as measured by the Welsh Index of Multiple Deprivation 2011.³ Twenty seven per cent of Lower Super Output Areas (LSOA) in the ABM University Health Board area fall within the top 20 per cent most deprived in Wales. Male babies born into our 20 per cent most deprived communities can expect to live around ten years less than those born into our 20 per cent least deprived communities. Whilst the life expectancy gap is smaller for female babies it is still sizeable, being about seven years.⁴

Figure 2: Welsh Index of Multiple Deprivation 2011, ABM University Health Board area



Produced by Public Health Wales Observatory, using WIMD (WG)
© Crown Copyright and database right 2013. Ordnance Survey 100044810

Most deprived = LSOA falls within the 20 per cent most deprived LSOAs in Wales
Least deprived = LSOA falls within the 20 per cent least deprived LSOAs in Wales

These inequities in health outcomes across the ABM University Health Board area reflect the interaction between biological factors, health-related behaviours and the wider determinants of health which begin at birth. Table 1 shows that for smoking, fruit and vegetable consumption and teenage conceptions there is a clear social gradient with our more disadvantaged communities having less healthy lifestyles. For alcohol the trend is reversed although the burden of ill-health through excessive alcohol consumption falls disproportionately on our more disadvantaged communities.⁵

Table 1: Selected lifestyle factors, ABM University Health Board area and Wales

	ABM University Health Board area	Wales	Social gradient (Wales)	
			Least deprived fifth	Most deprived fifth
Current smoker (%) ⁱ	23.2	22.9	13.5	34.1
Alcohol - above daily guidelines (%) ⁱ	45.3	43.7	47.1	38.5
Fruit & vegetable consumption 5+ portions daily (%) ⁱ	32.8	33.9	36.2	28.2
Physical activity – meeting 5 x 30 recommendations (%) ⁱ	28.0	29.6	29.1	28.2
Sexual health - Under 18 teenage conceptions, per 1,000 women (aged 15-17 years) ⁱⁱ	32.8	34.2	Strong relationship but current data not available	

Sources: *i* Welsh Health Survey 2010/2011 & national data from Welsh Health Survey 2011; *ii* StatsWales 2011 data.^{6,7}

Our lifestyles are strongly influenced by the material and social circumstances we find ourselves in. Table 2 shows selected indicators for the wider social determinants of health and shows how wide the gap is between the worst and best in the ABM University Health Board area, alongside the Welsh average.

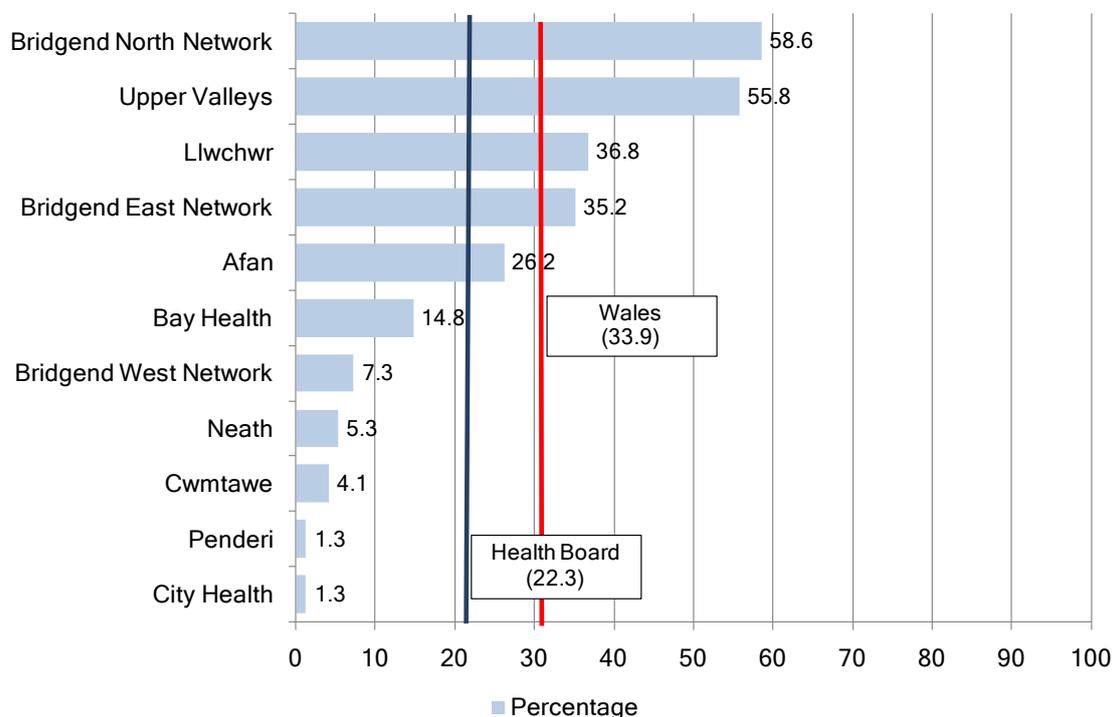
There is an increasing range of data becoming available on lifestyle behaviours (Table 1), environmental settings (Table 2) and accessibility and use of healthcare services (Figure 3), which, when taken together, allows identification of areas and population groups facing the greatest challenges. For example, it is possible to look at the proportion of lone parents with dependent children who have no access to a car alongside the mean travel times to the nearest surgery in the community networks. Such analysis can be very useful in designing service developments. The pattern of inequality should also influence how services are improved, helping to focus services on those in greatest need, as in immunisation, where there is a small but clear variation by level of deprivation (Figure 4).

Table 2: Selected indicators for the social determinants of health, ABM University Health Board local authorities

	ABM University Health Board area		Wales
	Worst	Best	
Home & family			
Lone parents with dependent children (%), 2011 ⁱ	25.6 (Swansea LSOA)	0.7 (Swansea LSOA)	7.7
No access to a car or van (%), 2011 ⁱ	74.8 (Swansea LSOA)	1.5 (Bridgend LSOA)	22.9
Education, income & work			
Level 2 (%) including a GCSE grade A-C* in English/Welsh & mathematics aged 15, 2011/12 ⁱ	0.0% (four LSOAs in ABM area)	100.0% (six LSOAs in ABM area)	51.0%
Median annual household income 2012 ⁱ	£13,398 (Swansea LSOA)	£49,066 (Bridgend LSOA)	£22,848
Unemployment claimant count rates (%) 2012 ⁱ	9.9 (Swansea LSOA)	0.1 (Swansea LSOA)	3.7
Community			
Crime rates 2012/2013 (per 1,000 population) ⁱⁱ	67.7 (Swansea)	49.2 (Neath Port Talbot)	57.4
Built and natural environment			
Accessible natural greenspace (% of population living within 300 metres of any site) ⁱⁱⁱ	60.0 (Neath Port Talbot)	74.0 (Swansea)	Not available
Recycling rates of municipal waste (%) ⁱⁱⁱ	40.5 (Swansea)	48.0 (Bridgend)	45.3

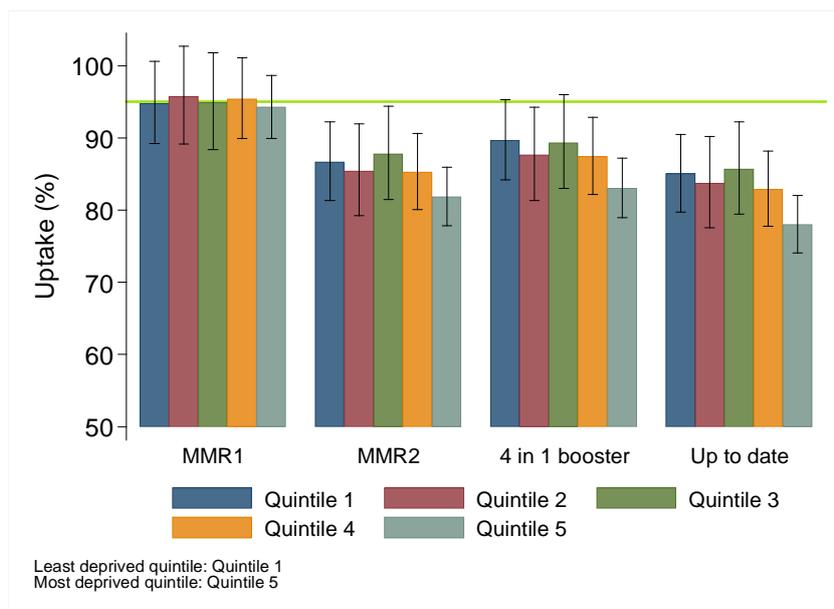
Sources: ⁱ ABM University Health Board area local authorities, ⁱⁱ South Wales Police, ⁱⁱⁱ StatsWales.⁷

Figure 3: Percentage of patients living in areas classified as rural (using 2004 Office for National Statistics definition), GP clusters in ABM University Health Board area, 2012



Source: Public Health Wales Observatory⁸

Figure 4: Uptake of routine immunisations in ABM University Health Board area children turning four years of age during 2012, by Welsh Index of Multiple Deprivation



Source: Public Health Wales Vaccine Preventable Disease Programme⁹

Whilst we are strengthening our support in the early years and giving every child the best start, we need to improve the life chances of our adult population across the ABM University Health Board area, with a proportionate focus on the most disadvantaged. This can only be done by helping our communities access employment, good quality housing and continuing educational opportunities and by developing environments which support their emotional health, promote physical activity and a healthy diet. Increasingly we are not only looking at the problems or 'deficits' in our communities but also what assets they have including skills, knowledge, passions, networks and connections which can support health and wellbeing. Through harnessing and mobilising these assets we can start to build community resilience, developing capacity and tackling persistent inequities.

The Health Board has refreshed its local Public Health Strategic Framework using a life course approach and making the case for a strong focus on prevention and early intervention in the early years. This framework now needs to be developed for implementation through the Health Board's 'Changing for the Better' Programme.

Abertawe Bro Morgannwg (ABM) Public Health Team will be supporting ABM University Health Board and its partners to tackle three key priority areas for 2013/14:

- Reducing smoking prevalence through increasing smoking cessation and wider tobacco control measures
- Reducing levels of overweight and obesity through increasing participation in physical activity and reducing unhealthy eating
- Increasing the uptake of vaccination and immunisation rates to target levels.

These issues have been selected as priorities based on their unequal distribution, their adverse impact on our communities' health and wellbeing and NHS services, and because there is evidence of effective interventions.

What are we trying to achieve?



To improve the health and well-being of all mothers to be, mothers and babies

The 2011 *Strategic Vision for Maternity Services* in Wales sets out the Welsh Government's:¹⁰

- vision and the results it wants for women and their babies during pregnancy and childbirth
- expectations of NHS maternity services in delivering these results, and
- how success will be measured.

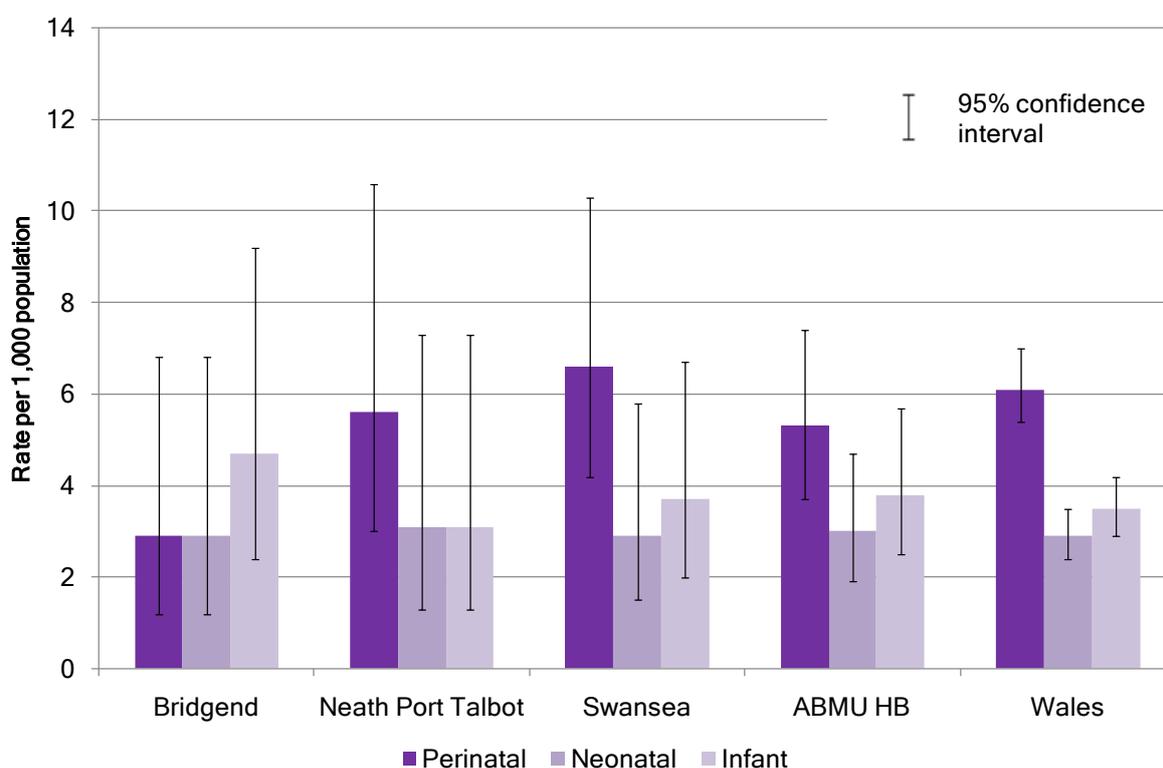
The foundations for health and well-being across the lifecourse begin prior to conception, during pregnancy and immediately after birth. For many indicators of maternal and newborn health there is a clear social gradient, with those mothers and babies from more disadvantaged backgrounds having poorer outcomes. Improving outcomes across the social gradient involves not only tackling inequities in access to maternity services but also reducing the wider inequities in society associated with education, income, employment, family structure and supportive neighbourhoods.¹¹

Where are we now?

Infant mortality

Death rates in infants are categorised as perinatal (stillbirths and deaths in the first week of life per 1,000 live births), neonatal (deaths in the first 27 completed days of life per live births) and infant (age under one year per 1,000 live births). Mortality rates have fallen considerably in England and Wales in recent decades. For example, compared to 1981 the infant mortality rate in 2011 is more than one hundred per cent lower (11.1 and 4.2 per 1,000 population respectively).^{12,13} Figure 5 shows mortality rates across the ABM University Health Board area local authorities and Wales for 2011. Due to the small number of deaths, these figures need to be interpreted with caution.

Figure 5: Infant mortality rates in ABM University Health Board area and Wales, 2011



Source: *Wales Perinatal Survey, 2011*¹³

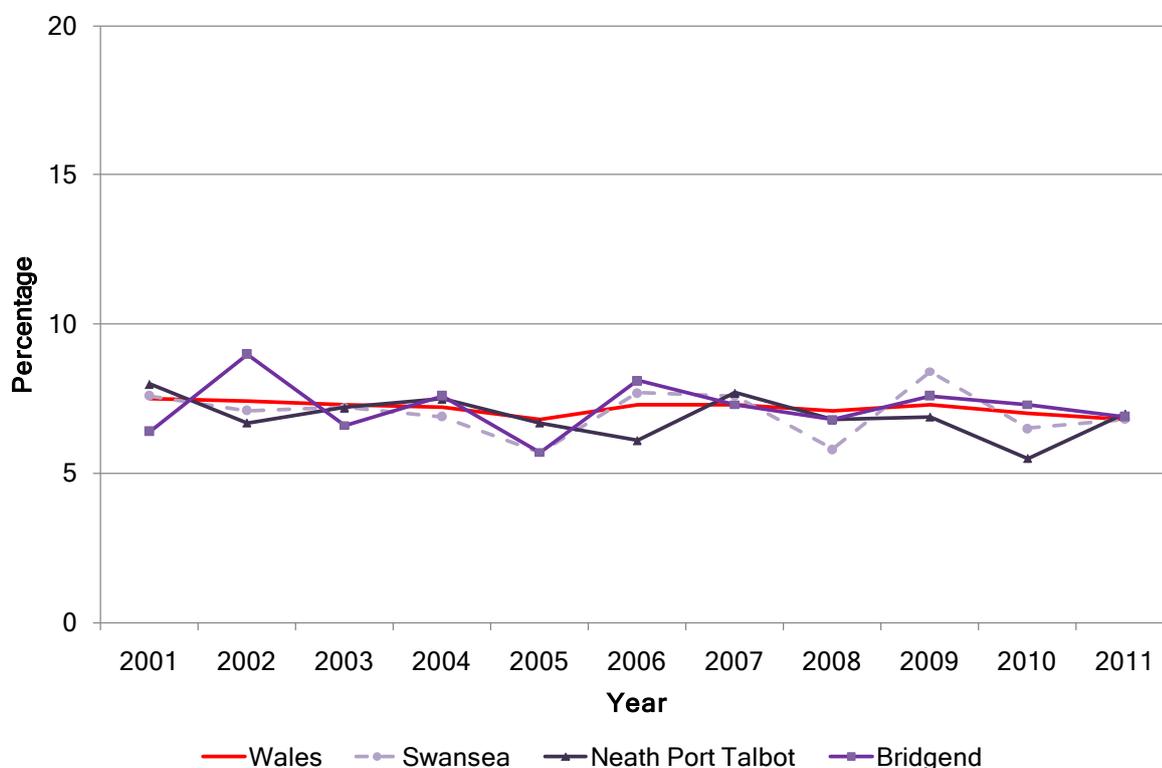
Low birth weight babies

Low birth weight is defined as a baby born less than 2500g and may be associated with poorer health and educational outcomes in the child. Optimal health outcomes are associated with mothers who are at least 20 years old,

who have a well-balanced diet, who are not experiencing stress or anxiety, who are not smoking or drinking alcohol, who are in good physical and mental health and have access to pre-natal health care.¹⁴ Women from more disadvantaged backgrounds are at greater risk of having a low birth weight baby.¹⁵

In 2011, there were 419 low weight babies born to mothers resident in the ABM University Health Board area. Figure 6 shows that the proportion of low birth weight babies over the last decade has fluctuated but not significantly reduced in Wales and across the ABM University Health Board area local authorities.

Figure 6: Percentage of low birth weight babies, Wales and ABM University Health Board area local authorities, 2001-2011



Source: *Wales Perinatal Survey, 2011*¹³

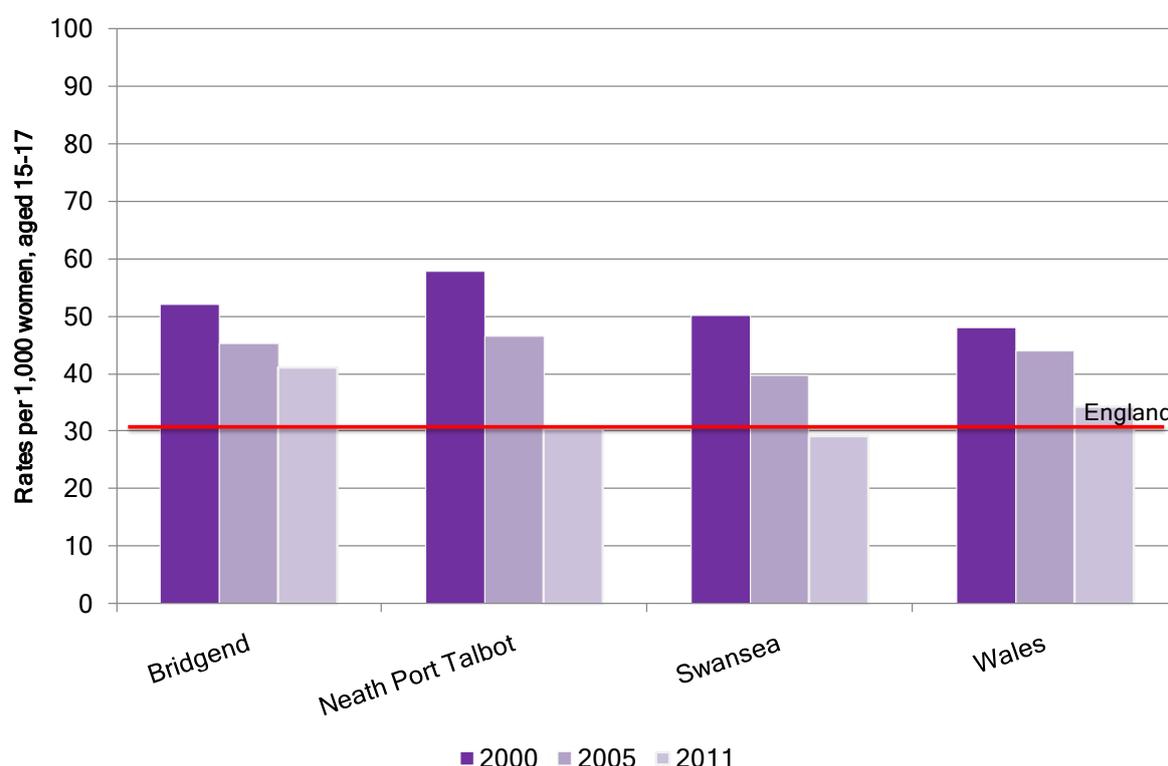
Teenage conceptions

Teenage parenthood, particularly early in the teenage years, is associated with social disadvantage and a number of adverse outcomes for both the mother and child. For example children of teenage mothers are more likely to have a lower level of educational attainment, be economically inactive and girls are more likely to become teenage mother themselves.¹⁶ Across England, Wales

and the ABM University Health Board area teenage conception rates (under 18s) have fallen since 2000 (Figure 7).

However, the rate for Wales remains higher than the average for England in 2011 (Wales = 34.2; England = 30.9). Within the ABM University Health Board area the 2011 rate in Bridgend remains considerably higher than for Neath Port Talbot and Swansea.

Figure 7: Under 18 teenage conception rates, ABM University Health Board areas, 2000, 2005, 2011



Source: StatsWales, National statistics^{7,17}

Smoking in pregnancy

Smoking during pregnancy is associated with increased risk of pregnancy complications, premature delivery, low birth weight babies and sudden infant death syndrome (SIDS).¹⁸ The Infant Feeding Survey 2010 estimates that in Wales one in three mothers (33%) smoked before or during their pregnancy with highest proportion of smokers found amongst teenage mothers (52%).¹⁹ Of these teenage mothers one third reported smoking throughout their pregnancy. Table 3 shows at booking 21% of pregnant women reported smoking across the ABM University Health Board area. Although 38% of pregnant smokers at the time of booking accepted a referral to Stop Smoking

Wales (Table 3), only 12.7% of these mothers went on to book an initial assessment session with the service.²⁰

Table 3: Smoking rates in pregnancy and smoking cessation referral rates, ABM University Health Board local authorities, April 2012-March 2013

	Women who smoke in early pregnancy		Pregnant smokers who accepted a referral to smoking cessation services	
	No.	%	No.	%
Bridgend	387	23	140	36
Neath Port Talbot	316	23	116	37
Swansea	534	18	213	43
ABM University Health Board	1237	21	469	38

Source: Myrddin Maternity Information System.

Obesity

The Confidential Enquiry into Maternal and Child Health (CEMACH) triennial report of 2011 highlights the increased risk of mortality and other complications of being overweight or obese during pregnancy.²¹ Overweight is defined as a body mass index (BMI) of between 25.0 and 29.9 and obese as a BMI of 30+. The Centre for Maternal and Child Enquiries (CMACE) conducted a national survey on obesity in pregnant women in the UK in 2010.²² The results showed that the prevalence of obesity in pregnancy in Wales was 6.5%, the highest in the UK. A woman with a BMI of over 30 has around a 40 per cent increased risk of a stillbirth compared to woman who is of a healthy weight.²³ Figure 8 shows in ABM University Health Board area 27.5% of pregnant women were overweight and 22.4% were obese in 2012/13.

Breastfeeding

Breast feeding is associated with a number of short and long term benefits including reducing the risk of:

- allergies and gastrointestinal diseases
- mortality in the first two years through childhood infections
- childhood and adult overweight and obesity

In addition breast feeding is associated with increased intelligence test scores.²⁴ Figure 9 shows the proportion of women initiating breastfeeding at birth since 2002 has increased across the three local authorities in the ABM area. The ABM University Health Board figure for 2012/13 compares favourably

with Wales (50.6%, 2011) but is considerably lower than the 2012/2013 England average of 73.9%.²⁵

Figure 8: Percentage of women with an increased BMI recorded in early pregnancy within ABM University Health Board, 2012/2013

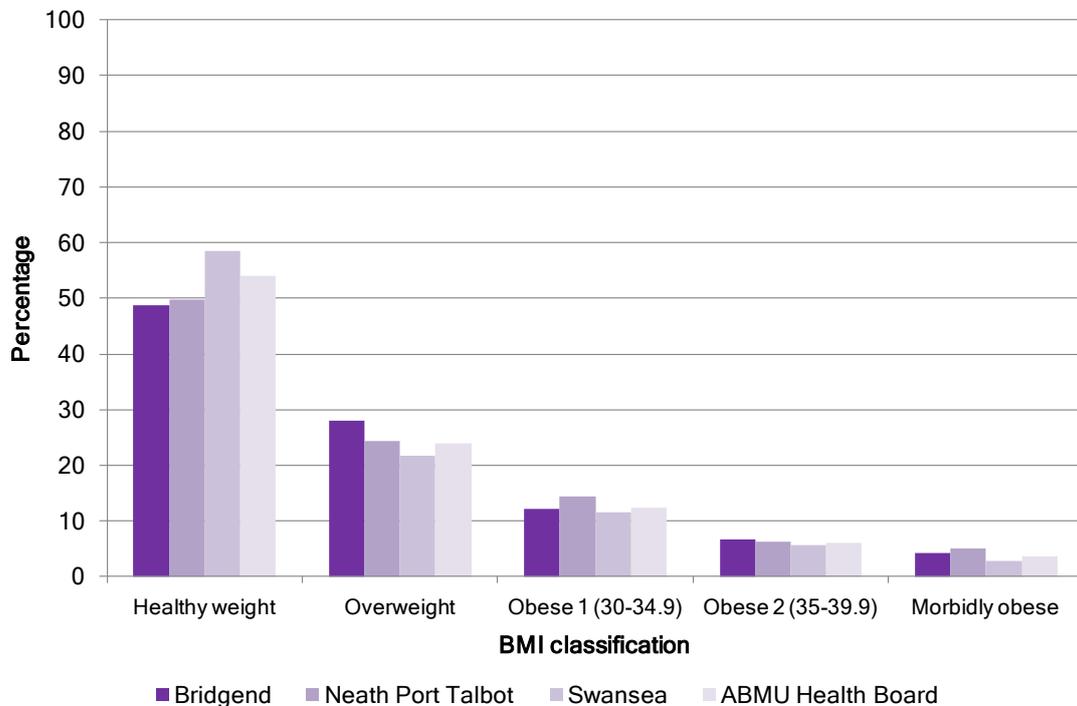
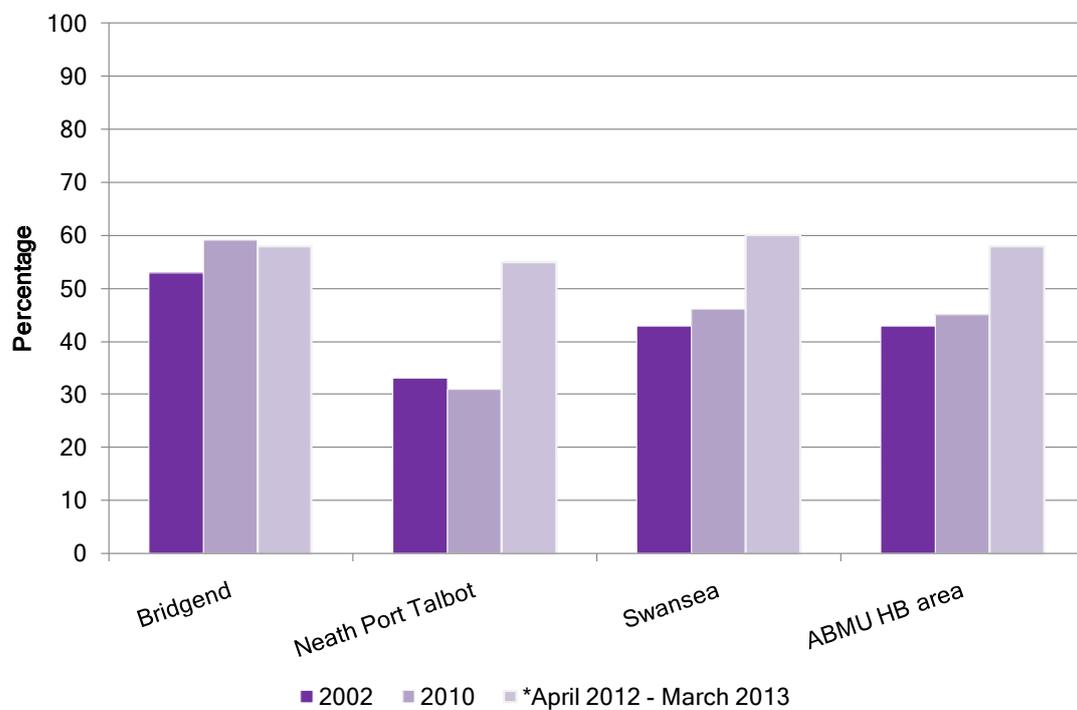


Figure 9: Breast feeding initiation rates in ABM University Health Board

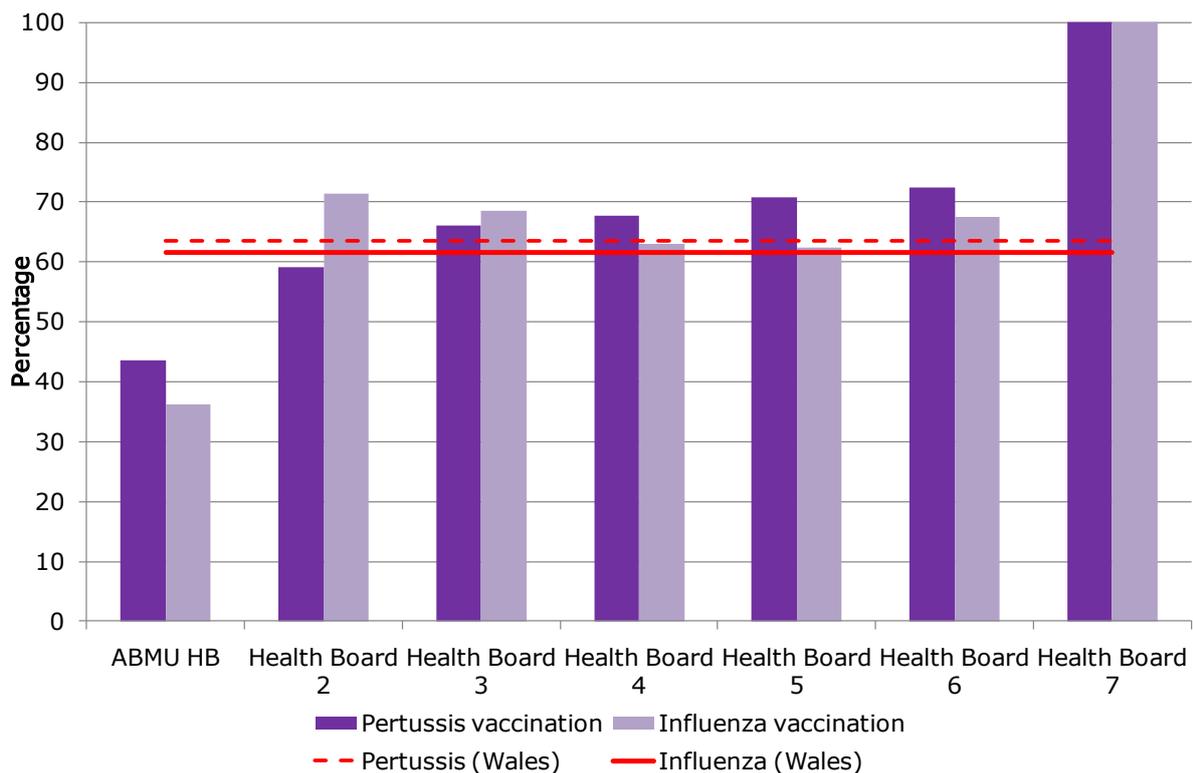


Source: Myrddin Maternity Information System; National Community Child Health Database.

Immunisation

Following a rise in whooping cough cases among young babies in Wales pertussis vaccinations have been offered to pregnant women since September 2012. Vaccination of the mother increases maternal antibodies which can pass across the placenta to the unborn infant and provide protection during the early weeks of life.²⁶ The benefits of influenza vaccine for pregnant women are also well evidenced.²⁶ Vaccine uptake is currently monitored by Public Health Wales using Audit + GP data. In addition, in 2013 a survey across maternity departments was undertaken by Public Health Wales. This survey showed that out of the seven Health Boards, ABM University Health Board had the lowest proportion of women taking up the pertussis vaccination and the influenza vaccination (Figure 10).²⁶

Figure 10: Percentage of pertussis and influenza vaccination uptake in pregnant women by Health Board, March 2013



Source: Public Health Wales

What are the priorities for maternity and newborns in 2013/14?

ABM University Health Board's public health priorities for maternity and newborns are:

- to reduce the number of mothers smoking during their pregnancy and reduce exposure to secondhand smoke
- to increase the number of mothers who are of a healthy weight during early pregnancy and increase the number of mothers who initiate breastfeeding at birth
- to increase the uptake of influenza and pertussis vaccinations.

Working with partners

ABM University Health Board is working with partners including schools nurses, social services, schools and the third sector in order to fulfil the Welsh Government's vision for maternity services.

Case studies

MAMSS (Models for Access for Maternal Smoking cessation Support)

A pilot to increase the smoking cessation rate in pregnancy is being led by Public Health Wales and is taking place in ABM University Health Board (Bridgend) and three other Welsh Health Boards. The MAMSS pilot aims to deliver intensive interventions in women's homes or a setting of their choice to improve engagement with smoking cessation services, and increase the number of women who go on to quit. Two qualified midwives who are also trained in smoking cessation receive referrals directly from midwives in the Bridgend area.



One participant from the pilot, Sandra, had been smoking for 15 years and had not previously engaged with Stop Smoking Wales or attempted to quit her 15-20 cigarette a day habit. Since engaging with the MAMSS pilot, Sandra has reduced her carbon monoxide (CO) reading from 17ppm to 3ppm. Sandra stated that her motivation to quit came from the introduction of monitoring CO levels. Sandra also stated that the flexibility of the MAMSS pilot and the ability to have 1-to-1 support within her home was a factor helping in her to quit.

Why Weight

Working together with Communities First, ABM University Health Board's maternity services have recently introduced the pilot "Why Weight" in Neath Port Talbot. At the antenatal booking appointment, midwives will offer women with an increased BMI a referral to the 12 week "Why Weight" programme. This programme is guided by the Food Standards Agency / Welsh Government healthy eating guidelines. The 12 week 'Why Weight' programme aims to assist pregnant women who need to lose weight, to do so in a healthy, sustainable way during their pregnancies.

What happens next?

The Health Board will continue to work with partners on initiatives which support breastfeeding, maintaining a healthy weight during pregnancy, smoking cessation, reducing teenage pregnancies and improving perinatal and infant health. Greater investment with partners is required on early years to deliver public health focused preventative interventions. This can be achieved through robust Health Visiting provision with access to the intensive Flying Start models, parenting programmes and good quality child care via universal and targeted approaches proportionate to need.

Smoking cessation

A challenging smoking cessation in pregnancy target will be set by Welsh Government in 2014. ABM University Health Board is ensuring all midwives are trained in brief intervention training and that CO monitoring is used routinely across the localities. ABM Public Health Team will be working closely with maternity services to increase the referral rates to Stop Smoking Wales in the Swansea and Neath Port Talbot areas. Evaluation data from the MAMSS pilot will be used to strengthen smoking cessation services across the Health Board.

Obesity

Maternity services are developing a pathway for women with a BMI of 30 – 34, 35-39 and 40+. This pathway will include targeted times during pregnancy to weigh women and give advice around maximum weight gain during pregnancy.

Vaccinations and immunisation

In order to increase the uptake of vaccinations in pregnancy, the Health Board is planning to implement a successful model from North Wales. This model will focus on working closely with midwifery and ABM University Health Board communications to raise awareness of the benefits of pertussis and influenza vaccination during pregnancy. All midwives will be offered training in the key messages and social media will be used to promote the programmes to pregnant women.

Chapter 2

Children and young people

What are we trying to achieve?



To maximise children and young people's potential

To improve the health and wellbeing of children and young people

Across the ABM University Health Board area our goal is to realise the aims set out in the UN Convention on the Rights of the Child to ensure that all children and young people adopt positive health behaviours, such as being physically active and avoid behaviours that compromise their health, such as smoking. We want children and young people to live in family and community environments which enhance their health and wellbeing and which ultimately keep them safe and help them to achieve their full potential.

Where are we now?

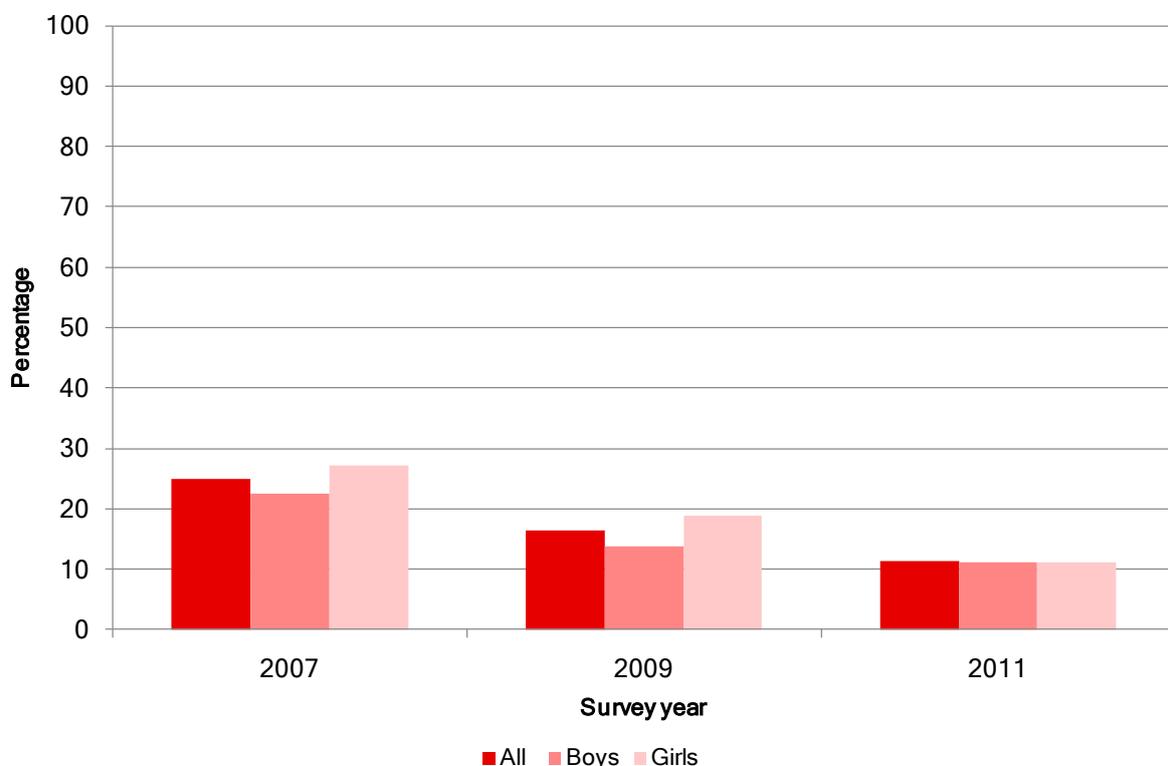
In 2012/13 local authority partnerships have focused on meeting the needs of the poorest and protecting the most vulnerable children and young people. To this end action has been prioritised to reduce the adverse impact of family poverty, to strengthen safeguarding for children and young people, and to provide families with a broad range of early intervention services to reduce the need for higher level and crisis services. These partnership priorities will continue in 2013/14. In addition, partners have worked together to support children and young people to establish healthy habits early in life, facilitate emotional well being and protect children from communicable diseases.

Smoking

Data from the Health Behaviour in School Aged Children survey has shown a slight decline in Wales in the proportion of young people smoking at least once per week since the late 1990s. The last survey undertaken in 2009/10 suggests that 6% of boys and 7% of girls aged 11-16 years smoke at least once per week in the ABM University Health Board area.²⁷ These figures are similar to the Welsh average (5% boys; 8% girls). The survey also found that 19% of respondents in ABM University Health Board area reported being exposed to secondhand smoke in the car.

Although we do not have data for all three local authority areas, a population sports and participation survey²⁸ was undertaken in Bridgend in 2011 amongst children aged 13/14 years which included questions on smoking. The results of this survey indicate that 11.3% of children reported smoking occasionally or regularly. This is a significant reduction on surveys undertaken in 2007 and 2009 (Figure 11).

Figure 11: Percentage of Bridgend locality children aged 13/14 years smoking occasionally or regularly

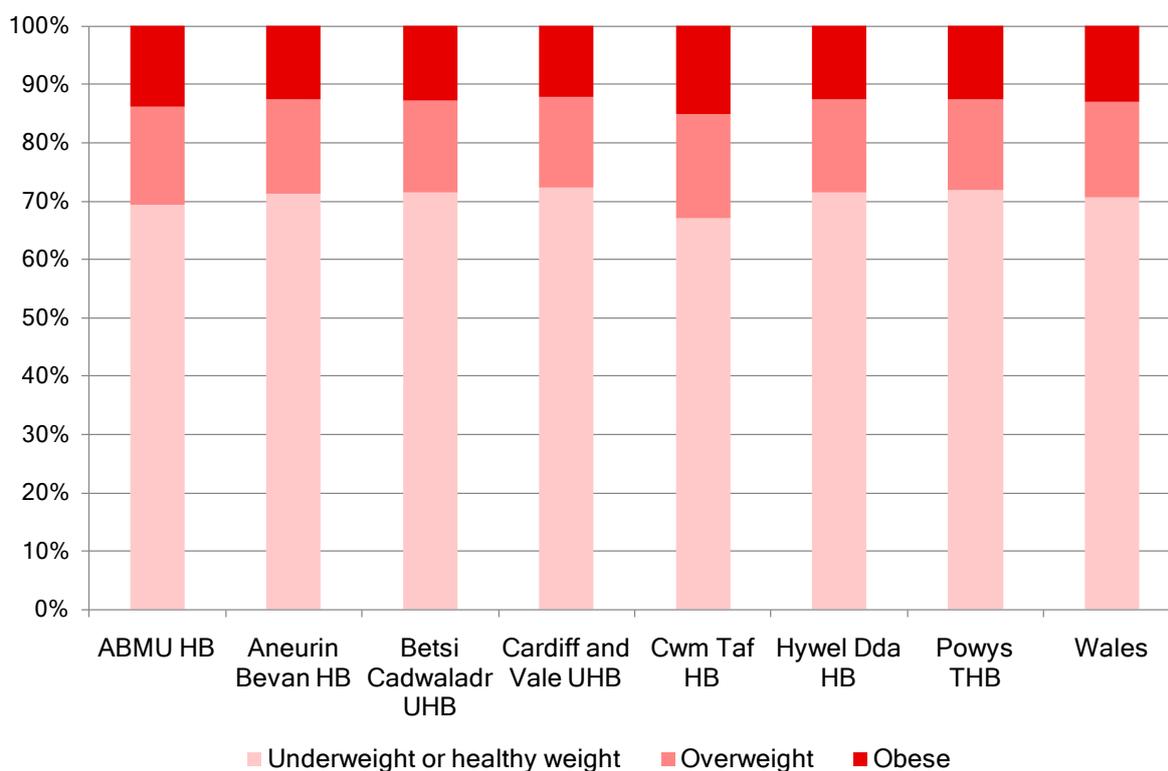


Source: Bridgend County Borough Council STRATA Survey – Year 9, Knight, Kavanagh & Page (2011)

Childhood overweight and obesity

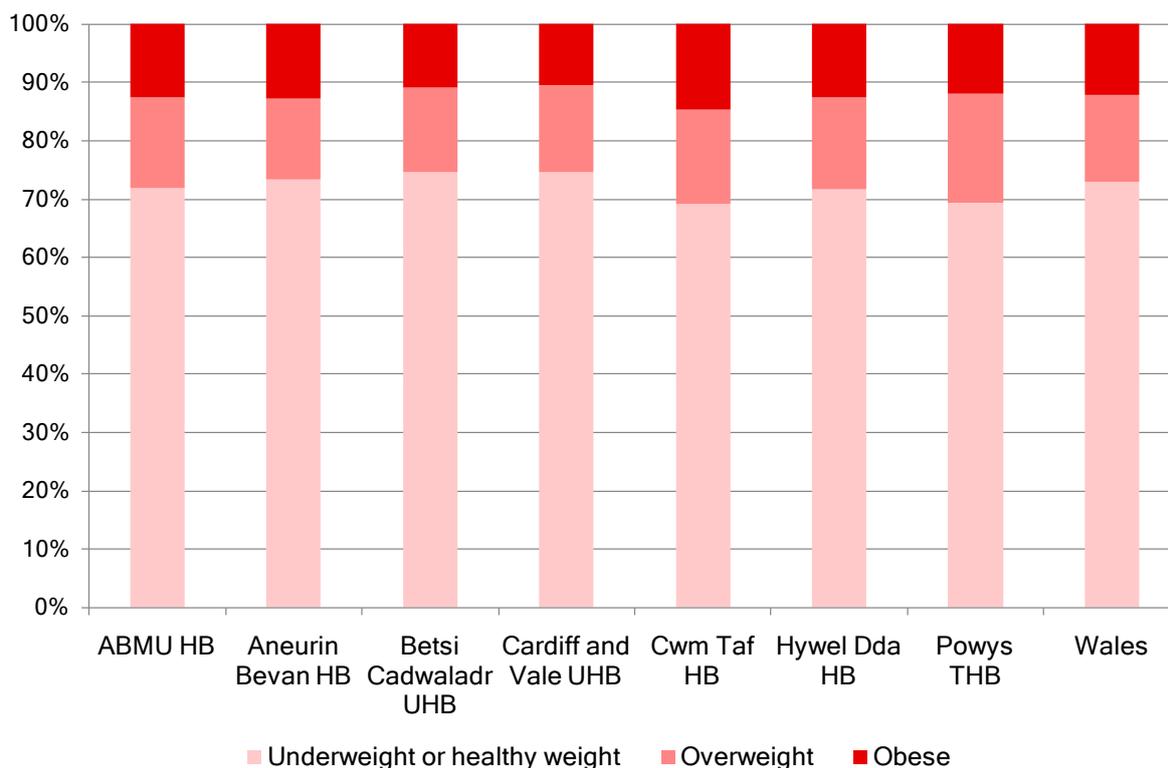
A childhood height and weight measurement programme was introduced in Wales in 2011.²⁹ Results from the programme for the 2011/12 academic year show in Wales that 29.3% of boys and 27.1% of girls aged 4-5 were overweight or obese. These figures are considerably higher than comparable data for England (boys = 23.5%; girls = 21.6%).³⁰ Apart from Cym Taf there is little variation in results across the Health Boards in Wales (Figures 12 and 13). In ABMU University Health Board area 30.6% of boys and 28.0% of girls aged 4-5 are overweight or obese with Neath Port Talbot locality having the highest proportion children who were obese (14.6%). The results of the measurement programme at a Wales level also show a clear social gradient in the percentage of children aged 4-5 who are overweight or obese with a 6.3 percentage point difference between the 20 per cent most deprived areas compared to the 20 per cent least deprived areas.

Figure 12: Percentage of boys aged 4-5 years by weight classification, Welsh Health Boards, 2011/12



Source: Public Health Wales Observatory (2013)

Figure 13: Percentage of girls aged 4-5 years by weight classification, Welsh Health Boards, 2011/12



Source: Public Health Wales Observatory (2013)

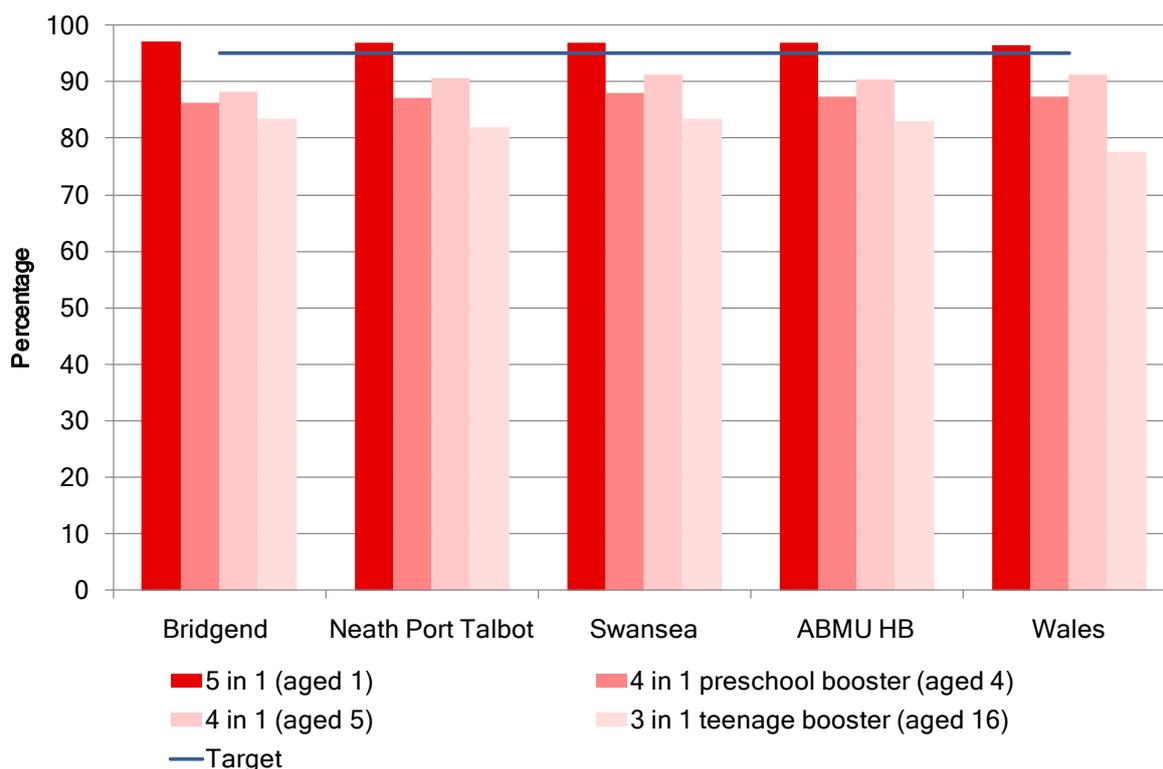
Immunisation

Figure 14 shows the uptake of selected immunisations in children and young people in the ABM University Health Board area. Whilst the uptake of the 5-in-1 primary course (diphtheria, polio, tetanus, pertussis and haemophilus influenzae type B) by the first birthday is high at 97.0%, rates of uptake of immunisations given in older children are lower, with the 4-in-1 preschool booster (diphtheria, polio, tetanus, pertussis) at 5 years being 90.3% and the 3-in-1 teenage booster (diphtheria, polio, tetanus) at 16 years being 83.0%. This pattern is observed across the local authorities in the ABM University Health Board area and also in Wales.

There have been many changes to the routine childhood immunisation programme in 2012/13. From September 2012 the High School Booster has been given to those in Year 9 as well as Year 10. From September 2013 it will only be offered routinely to Year 9 pupils. This change has been made to try to increase uptake, as school attendance is better in Year 9 pupils than Year 10

pupils and there is potentially less disruption from the programme on formal exams. The new rotavirus immunisation programme was introduced in July and there have been changes to the Meningococcal Group C schedule, with one dose being dropped in the first year of life and a dose being offered to high school children with the High School Booster in Year 9.

Figure 14: Percentage of selected immunisations in children aged one, four, five and 16, ABM University Health Board area, 2012/2013



Source: Public Health Wales³¹

Following the outbreak of measles in older children in South Wales between November 2012 and May 2013 there has been a concerted effort to immunise unprotected children. Local analysis of the child health system suggests there has been a good response:

	At least 1 MMR	2 doses of MMR
2-18 year olds	96.1%	87.9%
10-18 year olds	95.2%	88.5%

Source: ABM University Health Board³²

Data from the National Community Child Health Database in July suggested there were still around 3,000 resident children aged 2-18 years who had not received any MMR vaccinations in the ABM University Health Board area.⁹

What are the priorities for children and young people in 2013/14?

ABM Public Health Team will focus its efforts on working with partners to

- reduce the uptake of smoking and support young smokers to quit
- reduce childhood levels overweight and obesity through comprehensive school and community based actions
- achieve 95% of children being up-to-date with routine vaccinations by their fourth birthday, 95% of children having at least 1 MMR by their 18th birthday and a reduction in the geographical variation in uptake of vaccinations.

Working with our partners

We are working with partners to address the considerable variation across the ABM University Health Board area in the health outcomes and life experiences of children and young people. We know that our support is most effective during the early years, so our work focuses on the foundations for all aspects of children's development that are laid down during pregnancy and early years. Efforts are being focused on the needs of our most vulnerable young people because the evidence shows how health compromising behaviours increase with age as well decreasing family affluence.

Case studies

Smoke-free play areas - 'In the park we like to play, so keep your smoking far away'

ABM Public Health Team has been working with partners to introduce a voluntary smoke-free play areas scheme across Bridgend, Neath Port Talbot and Swansea. A competition to design a smoke-free play areas sign was held in primary schools across the ABM University Health Board area. The winning entry was designed by a class in Cefn Glas Infants Schools. The children sang a 'healthy playgrounds' song at the launch of the initiative at Wordsworth Avenue play area in Cefn Glas. Signs have now been erected at key children's play areas across the ABM University Health Board area and each local authority continues to promote the initiative.



Preventing obesity - Pentrechwyth Flying Start

In Swansea Pentrechwyth Flying Start set up a six week parent and toddler cookery course as part of their work around nutrition and oral health for the Healthy & Sustainable Pre-school scheme. The project was based on the Welsh Government's Fun, food and active play for tiny tots. The course had a number of aims, including increasing interaction between parents and their children, increasing awareness and knowledge around healthy snacks and reiterating the importance of oral health. The project is now delivered on a six week rotational basis with six families able to attend at a time.



What happens next?

The Children and Young People's Plans 2011-15 set out shared priorities for the Health Board, local authorities and other public and third sector organisations to target interventions to help us all achieve the seven core aims of the UN Convention on the Rights of the Child. In 2013 these priorities have been included in the new Single Integrated Plans for each local authority. These plans will drive forward the work in 2013/14.

Reducing the uptake of smoking and smoking cessation

The local authority Tobacco Action Groups will continue to deliver actions which aim to reduce the uptake of smoking in children and young people, including the promotion of the Welsh Government's Fresh Start Wales smoking in cars campaign and the smoke-free play area initiative. Healthy Schools Scheme teams will work closely with schools to ensure that consistent and innovative approaches to preventing the uptake of smoking are woven into the curriculum.

In addition ABM Public Health Team will be piloting a 'Chemical Soup' community activation train the trainer project in selected Communities First cluster areas across the ABM University Health Board localities. The aim of the project will be to raise awareness around the effects of secondhand smoke and reduce children and young people's exposure to smoke in the home.

Obesity

Through the implementation of ABM University Health Board's *Obesity strategic delivery plan 2013-2016* we will continue to work with local authority and third sector partners to reduce the inequities in the provision of initiatives aimed to increase physical activity levels and consumption of healthy foods in children and young people. ABM Public Health Team will continue to support the delivery of the Health Schools Scheme and Health and Sustainable Pre-Schools Scheme with a focus on implementing the Welsh Government's Appetite for Life Standards and establishing School Nutrition Action groups. In addition, the Health Board are implementing *A Framework for a School Nursing Service for Wales* (2009) to ensure named school nurses are in place to provide follow-up for families whose child has been identified as overweight or obese.

Vaccinations and immunisation

The nasal flu vaccine for Children (Fluenz®) will be introduced in autumn 2013. All children aged 2 and 3 years of age will be offered the vaccine through primary care and year 7 school children will be offered the vaccine through the school nursing services.

Efforts will continue to improve coverage of MMR as while there is still a large cohort of unprotected and underprotected children another outbreak of measles could occur.

Chapter 3

Working age adults

What are we trying to achieve?



Working age adults to live healthier, happier and fairer lives

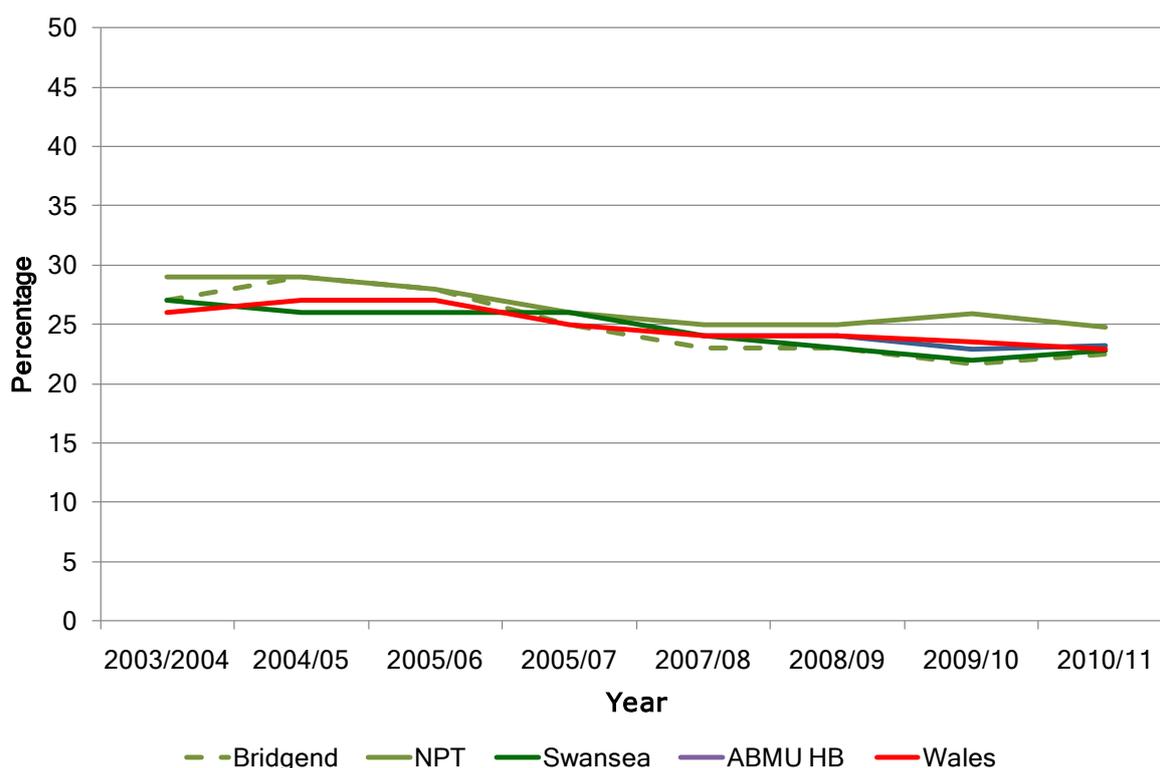
Where are we now?

We have continued to see reductions in mortality from cardiovascular disease, all cancers and respiratory disease in Wales and the ABM University Health Board area population. However, there is still a significant variation in health outcomes across the ABM University Health Board area which maps closely to areas of significant deprivation. For example, male premature death rates (aged under 75) in 2007-09 were nearly three times higher in our 20 per cent most deprived communities compared to our 20 per cent least deprived communities.³³ As highlighted in the beginning of this report this variation is determined by our lifestyles and the social and material circumstances we find ourselves in throughout the lifespan. For example, cardiovascular disease is largely caused by factors which can be controlled such as high blood pressure and cholesterol levels.

Smoking

Smoking continues to be a major driver of ill-health and health inequities across the ABM University Health Board area. It is associated with increased risk of premature death from a wide variety of causes such as cardiovascular diseases and cancers and with increased levels of ill health and disability from causes such as strokes, respiratory diseases and blindness. Figure 15 shows that whilst the prevalence of adult smoking has fallen progress has been slow in recent years and we are behind England (20.8%, 2011 figures).³⁴ Based on our present trajectory we are unlikely to meet the Welsh Government's target of reducing smoking prevalence to 16% by 2020. National and local data also shows that that smoking is more prevalent in our most deprived areas, the unemployed, offender populations and populations in psychiatric facilities.

Figure 15: Prevalence of cigarette smoking, ABM University Health Board area and Wales, aged 16+ (age-standardised), 2003/04-2010/11



Source: Welsh Health Survey

At present smoking cessation services in the ABM University Health Board area consist of Stop Smoking Wales groups and 1:1 sessions, primary care support and support through pharmacy level two schemes. NICE guidance states that 5% of adult smokers should make quit attempt using smoking cessation

services.³⁵ In 2011/2012 it was estimated that 2.3% smokers made a quit attempt through Stop Smoking Wales.³⁶ Table 4 shows that the number of treated smokers in Stop Smoking Wales has fallen in recent years. This pattern is consistent with the picture across Wales.

Table 4: Number of treated smokers and smokers with a 4-week CO validated quit, ABM University Health Board, 2010/11-2012/2013

	2010/11		2011/12		2012/2013	
	No of treated smokers	% of 4-week quitters (CO validated)	No of treated smokers	% of 4-week quitters (CO validated)	No of treated smokers	% of 4-week quitters (CO validated)
ABM University HB	2,370	49.9	2,108	47.6	1,916	44.7
Bridgend	633	50.2	456	52.9	344	56.4
NPT	588	52.2	708	45.2	623	41.9
Swansea	1,149	48.6	944	46.9	949	42.4

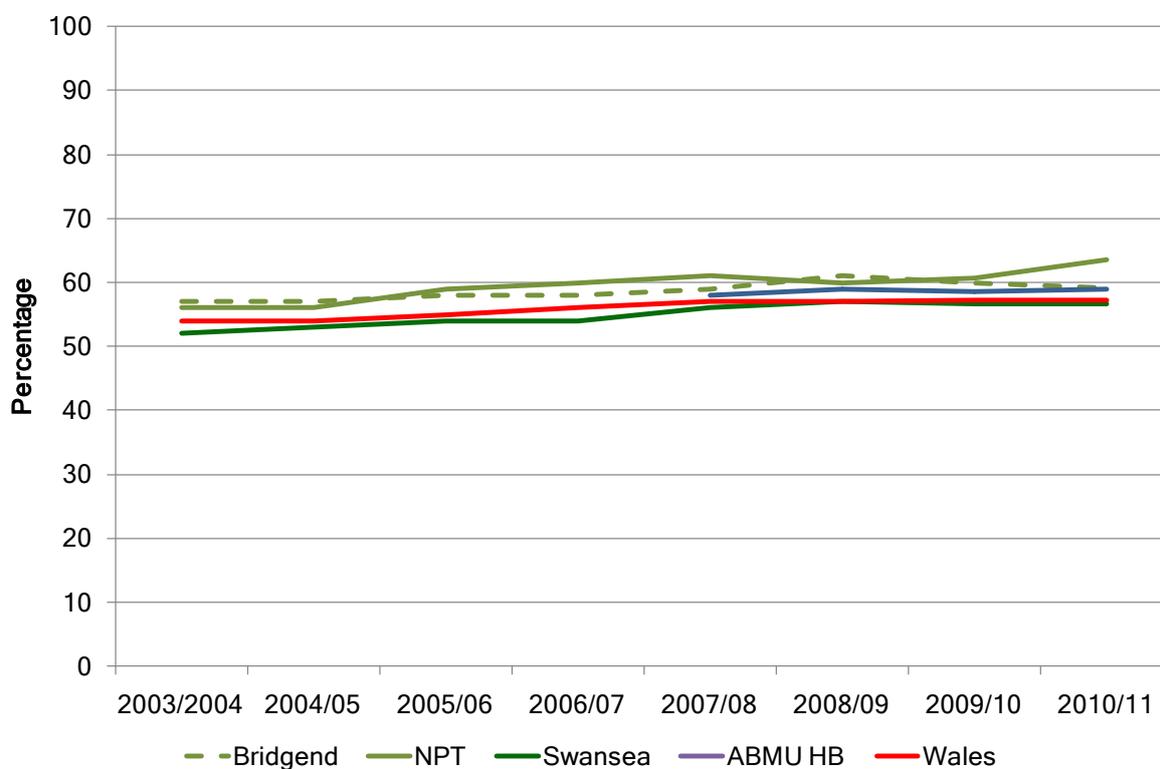
Source: Stop Smoking Wales annual and quarterly reports

Obesity

The complexity of reducing the numbers of our population who are overweight or obese has been increasingly recognised. The Foresight report³⁷ published in 2007 demonstrated the range of biological, psychological, social and environmental factors which have driven the 'obesity epidemic' and the cost of obesity to both NHS services and economy as a whole. An all Wales Obesity Pathway was launched in 2010 and partners in ABM University Health Board area have been working towards ensuring services are available in part of the pathway.

In Wales adult levels of obesity have continued to rise over the last decade with 57.3% of the population in 2010/2011 estimated to be overweight or obese.⁶ This trend has also been witnessed in England where 61.7% of the population were estimated to be overweight or obese in 2011.³⁴ Figure 16 shows that a similar pattern has occurred in the three local authorities within the ABM area and Neath, Port Talbot now has the joint highest level of overweight and obesity in Wales.

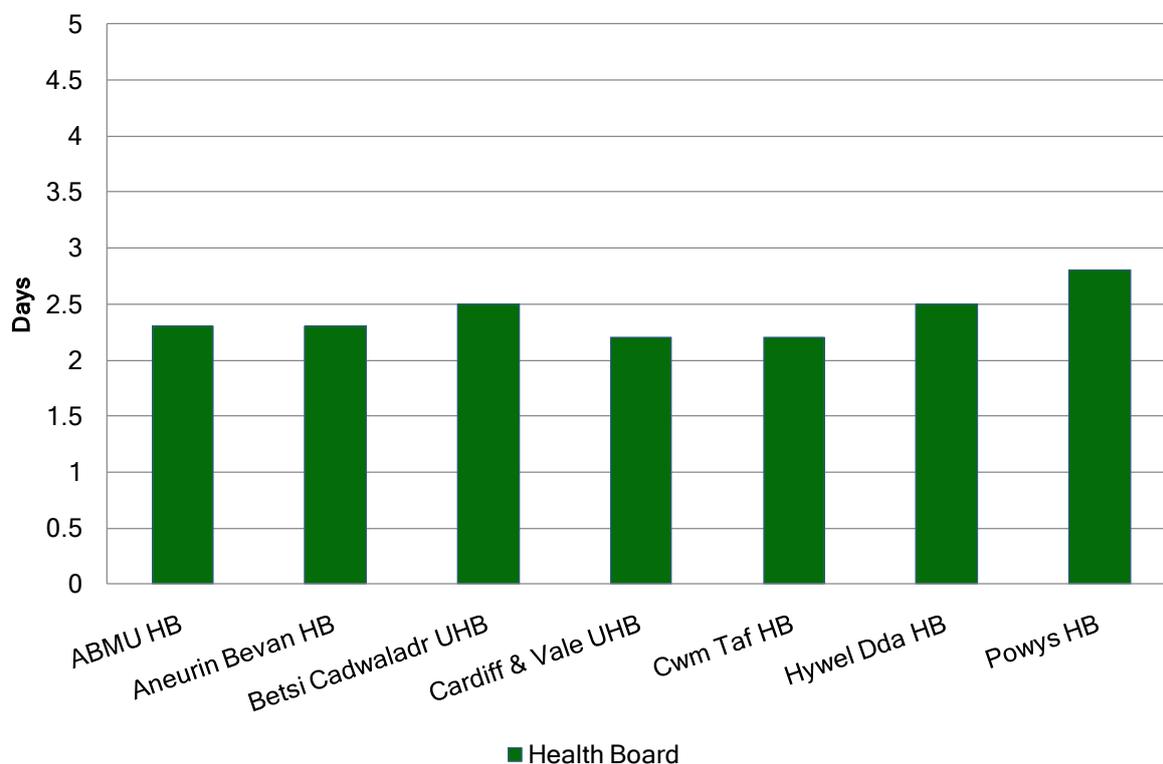
Figure 16: Percentage of overweight and obese adults, ABM University Health Board area and Wales, aged 16+ (age standardised), 2003/04-2010/11



Source: Welsh Health Survey

With increasingly sedentary lifestyles, levels of physical activity amongst adults in Wales have remained persistently low. Physical activity is a key component of energy expenditure and central to maintaining energy balance and weight control. Figure 17 show the average number of days in which adults undertake 30 minutes or more of moderate or vigorous physical activity in 2009/10.³⁸ It is recommended that this level of activity is undertaken on at least five days per week but as Figure 17 illustrates all Health Boards remain some way off this recommendation.

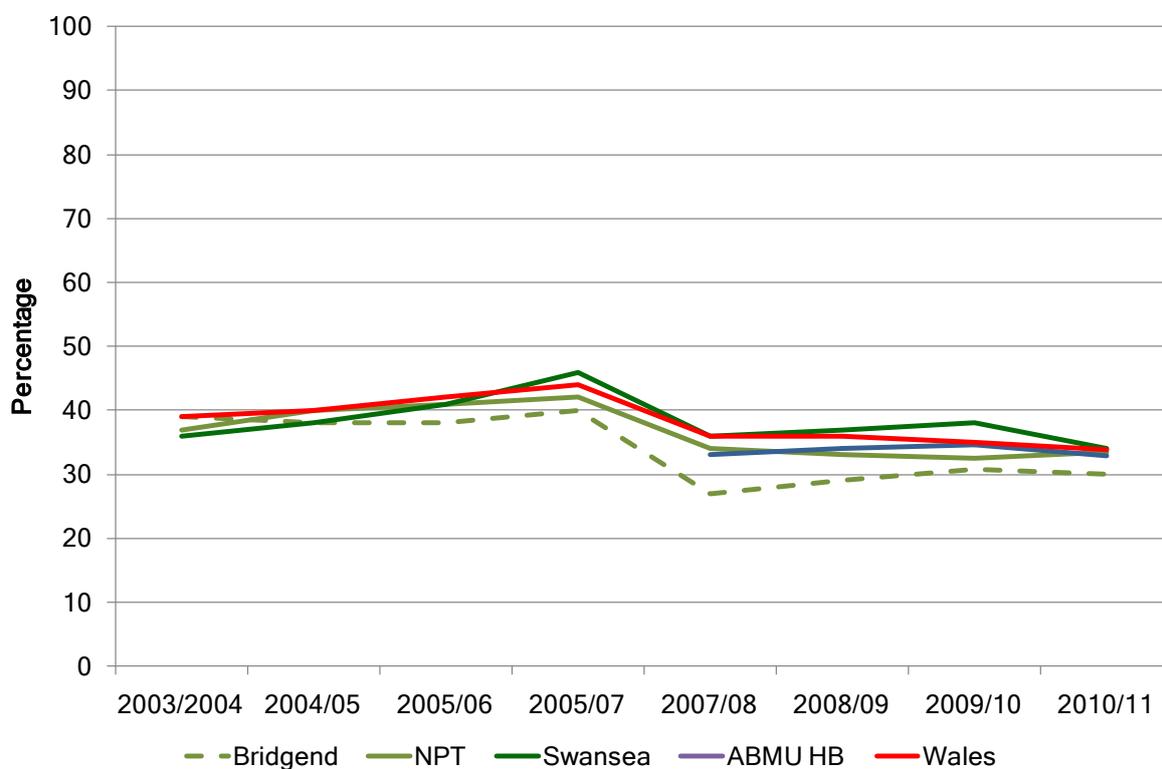
Figure 17: Average no. of days with 30 minutes of moderate or vigorous physical activity, Welsh Health Boards, aged 16+, 2009/10



Source: Public Health Wales Observatory

Food and nutrition is also fundamental to maintaining the energy balance and ensuring a healthy weight. Evidence in the UK has shown that in recent decades we have increased our consumption of energy dense foods whilst fruit and vegetable consumption has remained relatively low. Figure 18 shows Welsh Health Survey trend data for the percentage of the population consuming 5 or more portions of fruit and vegetables per day.⁶ For Wales, and across the ABM University Health Board area consumption of 5+ portions has decreased over the last decade to around one in three adults. In England the 2011 figure was 26.6%.³⁴

Figure 18: Percentage of the population consuming 5+ portions of fruit and vegetables per day, ABM University Health Board area, aged 16+ (aged standardised), 2003/04-2010/11

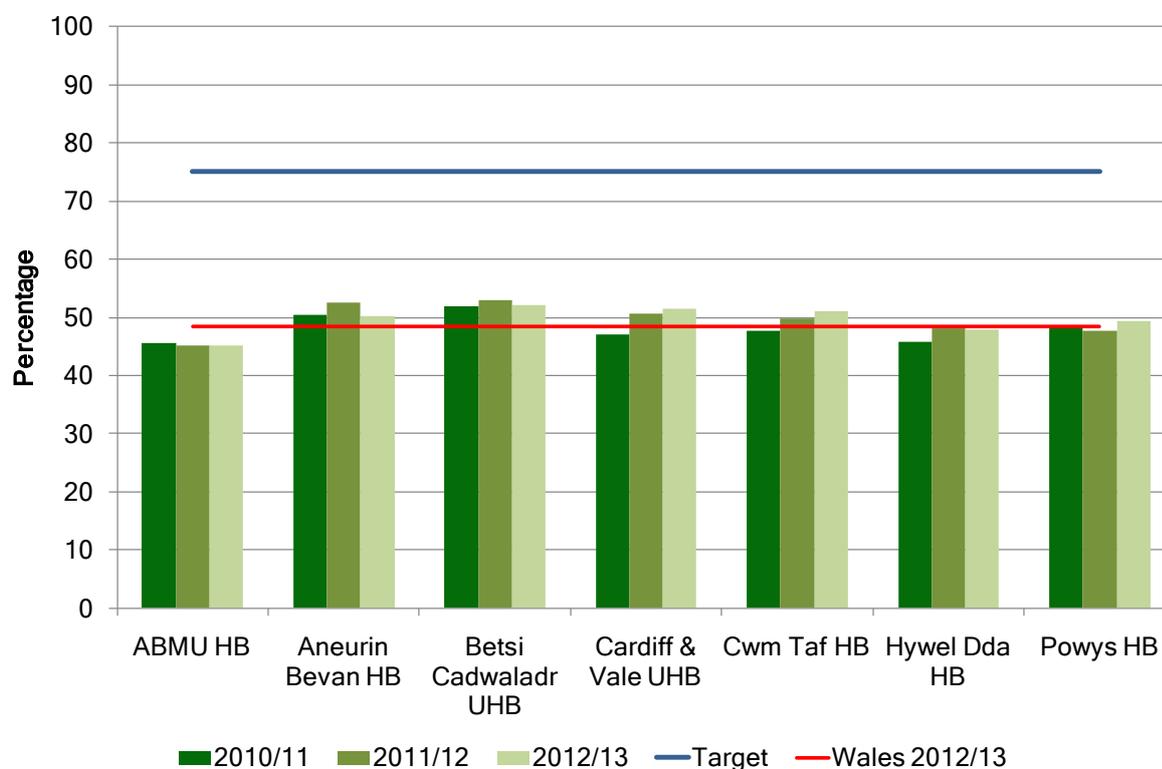


Source: Welsh Health Survey

Vaccinations and immunisations

Vaccination is a safe and effective way to protect health. Data for patients under 65 who are at risk show there has been little improvement in the uptake of influenza immunisation across the ABM University Health Board over the last three years with less than one in two patients being vaccinated in 2012/13. Immunisation rates remain the lowest out of the seven Health Boards (Figure 19) and there is considerable variation in uptake across GP practices ranging from 31.8% to 69.5% in 2012/13 (Table 5).³⁹ No practice achieved the target of 75%.

Figure 19: Uptake of influenza immunisation in Welsh Health Boards in patients aged 6 months to 64 years with one or more clinical risks 2010/11-2012/13



Source: Public Health CDSC

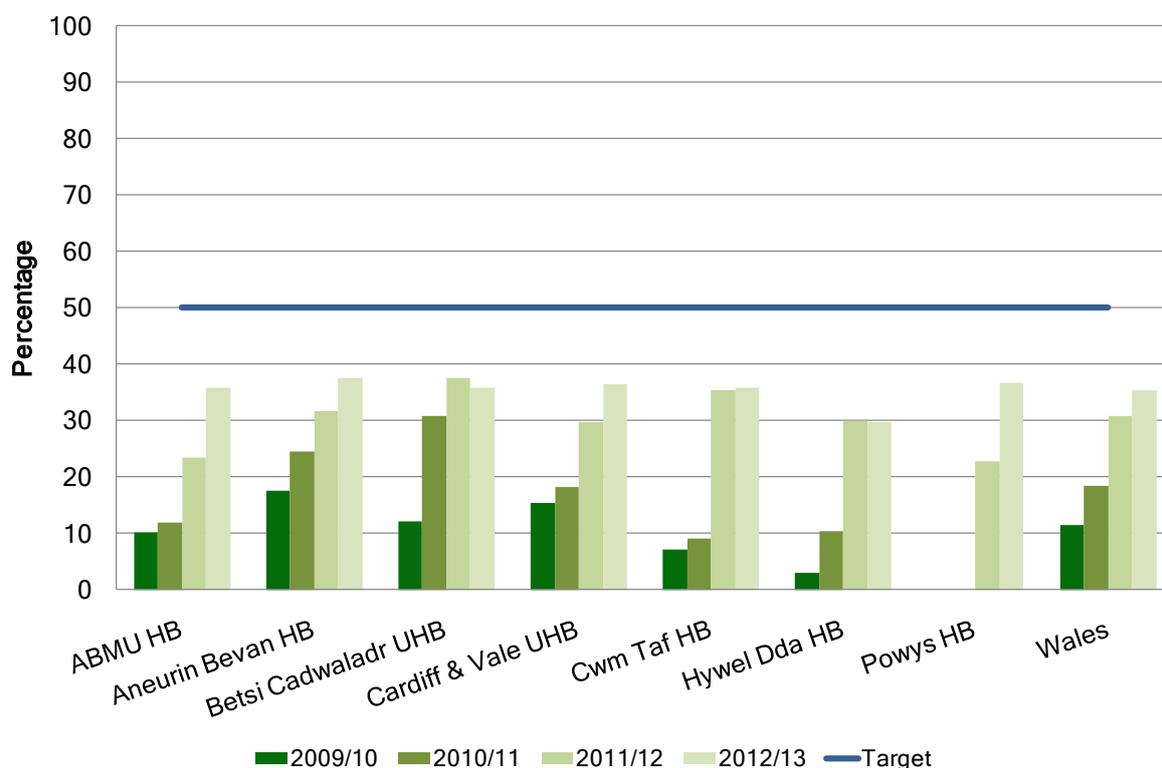
Table 5: Range of uptake of influenza immunisation in patients aged 6 months to 64 years with one or more clinical risks, 2012/13

	Lowest practice uptake (%)	Highest practice uptake (%)	Overall LA uptake (%)
Bridgend	34.8	51.8	43.7
Neath Port Talbot	31.8	69.5	45.8
Swansea	34.6	65.5	45.9
ABM total	31.8	69.5	45.2

Source: Public Health Wales. It should be noted data is missing for one practice in Neath Port Talbot

In 2012 the Health Board made considerable efforts to increase the uptake of the flu vaccination amongst employees. This resulted in an increase from 10.2% uptake in 2009/10 to 35.9% in 2012/13 (Figure 20). This compares favourably with the Welsh average for 2012/13 (35.5%) although is still some way short of the Welsh Government target of 50%.⁴⁰

Figure 20: Uptake of influenza immunisation in Occupational Health Departments in Welsh Health Boards 2009/10 to 2012/13



Source: Public Health CDSC

What are the priorities for working age adults in 2013/14?

The public health priorities for working age adults are

- increasing the number of smokers making a quit attempt and accessing smoking cessation services
- reducing levels of overweight and obesity
- increasing immunisation rates.

These priorities address inequalities of our most disadvantaged communities experiencing worse health. For example, smoking attributable death rates in Wales are nearly 2.5 times higher in our 20% most deprived communities compared to our 20% least deprived communities.³³ Working with partners we are also looking at tackling the root causes of unhealthy lifestyle behaviours. The Marmot team's *Fair Society Healthy Lives* shows¹¹ that focusing on lifestyle factors alone without addressing the wider determinants of health including income disparities, poor living conditions, worklessness and poor mental health will not substantially reduce health inequities.

Working with partners

In 2011/12, four major statutory plans and strategies - Community Strategies, Children and Young People's Plans, Health, Social Care and Wellbeing Strategies and Community Safety Partnership Plans - provided the details of local partnership work to improve the health and wellbeing the population in each Local Authority area. In 2012 these plans were reviewed and brought together into Single Integrated Plans. ABM Public Health Team has worked closely with partners in shaping these plans.

Case studies

Stop Smoking Wales - responding to the Chief Medical Officer's 30/90 day challenge

In May 2013 the Chief Medical Officer for Wales set a 30 and 90 day challenge to increase the number of smokers accessing Stop Smoking Wales. Local Stop Smoking Wales advisors have responded to the challenge by looking at ways to reduce waiting times and increase flexibility. Saturday sessions have been established in Swansea and rolling sessions have been introduced in Bridgend and Swansea. Stop Smoking Wales and ABM Public Health Team colleagues have also been visiting primary care Community Network meetings to raise awareness of smoking cessation services and understand the issues for patients trying to access services.

Swansea Communities First Cluster Area Food Environment Mapping

Around 2,400 households are estimated to be at risk or experiencing food poverty in Swansea. ABM Public Health Team has worked with the City and County of Swansea and Swansea Communities First to look at access, cost and availability of healthy foods in each of the Communities First cluster areas. The food environment mapping exercise also involved talking to community members and food-related project workers to look at local issues which determine what foods people buy and how local cooking and growing projects could be improved. The results of mapping have led to action plans being developed in each of Swansea's Communities First Cluster Areas to establish 'Cooking, Growing, Eating' projects including setting up local food fora involving residents, schools and shop keepers.



Staff influenza vaccinations in ABM University Health Board

In the autumn of 2012 ABM University Health Board occupational health with support from communications and front line staff ran an awareness campaign and held vaccination drop-in sessions. Pivotal to the increase in uptake over the previous year were individual members of staff who acted as influenza champions. These champions communicated the importance of having the vaccination not only for staff but also for protecting vulnerable patients. Some became vaccinators themselves. For example, Sister Ursula Arnold supported occupational health in delivering vaccinations to the Emergency Department in Morriston Hospital. In five weeks Ursula vaccinated 129 staff including nurses, domestic staff, porters, doctors, ambulance staff, laboratory staff and physiotherapists.



What happens next?

The Health Board has refreshed its local Public Health Strategic Framework using a life course approach. Alongside the Single Integrated Plans a major delivery mechanism for the framework will be through the Health Board's Changing for the Better 'Staying Healthy' programme. In the first year this programme will focus on our priorities of smoking cessation, tackling obesity and increasing vaccination and immunisation rates.

Smoking cessation

All Health Boards across Wales have been set a Tier 1 smoking cessation standard of 5% of smokers making a quit attempt via smoking cessation services, with at least a 40% CO validated quit rate. This is a particularly challenging target for the Health Board as data from quarter four indicate around 2.4% smokers made a quit attempt via Stop Smoking Wales. Meeting the target will require a shift from 'a one size fits all model' of smoking cessation to a menu of services which are flexible and targeted at the needs of different types of smokers, with a focus on smokers in our most disadvantaged communities. Using a commissioning approach a business case is being developed which identifies the type and level of services required in order to meet the target.

Obesity

The Health Board and its partners will start to deliver on actions identified in the 2013-2016 *Obesity Strategic Delivery Plan*. For 2013 these will focus on creating an environment that supports active lives and access to a healthy balanced diet. In addition, there will be a focus on developing more comprehensive health services for overweight and obese people. At present there is a lack of consistent community based weight management services for all eligible overweight residents and there is no multi-disciplinary specialist service for those with a body mass index (BMI) of >35 with other co-existing diseases or a BMI>40. A proposal is being developed for these services to be made available.

Vaccinations and immunisation

The Health Board has been set a Tier 1 Standard and the Strategic Immunisation Group is developing a vaccination and immunisation action plan which will be delivered through the locality based Local Immunisation Groups. A specific focus will be on reducing the variation in the uptake of influenza vaccination among under 65s at risk groups and pregnant women. Public

Health Wales Health and Wellbeing Activity Grant funding will be used to run an awareness campaign across the Health Board.

Working with the Health Board's Health and Wellbeing group and through the local authorities in the ABM University Health Board area the influenza vaccine will be promoted across health and social care staff groups. Influenza champions will be identified in each Directorate and Locality.

What are we trying to achieve?



To improve the health and wellbeing of older adults and maintain independence in later life

A key strategic aim of the Welsh Government's Strategy for Older People in Wales (2008-13) is to:⁴¹

Improve the health and well being of older people through initiatives to promote health, as well as high quality, responsive and appropriately regulated health, social care and housing services. These will enable older people to live as actively and independently as possible in a suitable and safe environment of their choice.

In ABM University Health Board we are working with our Western Bay partners, to achieve this through:

- **Healthy active ageing**
 - Improved general health through promoting healthy and active lifestyles and encouraging health behaviours, such as immunisations and screening, abiding by the principles of proportionate universalism.

- **Health and social care remodelling and service integration**
 - Remodelling services that are consistent with the Welsh Government's Strategy for Older People In Wales (2008-13) and consider older people's views when developing all policy areas, including health and the wider determinants of health.
 - Strengthening high quality community based services to keep people in their own homes for longer through working closely with social care and employing a patient based approach.
 - Where hospital treatment is necessary patients should not remain in hospital unnecessarily
 - Supporting a dignified death.

Where are we now?

Demography

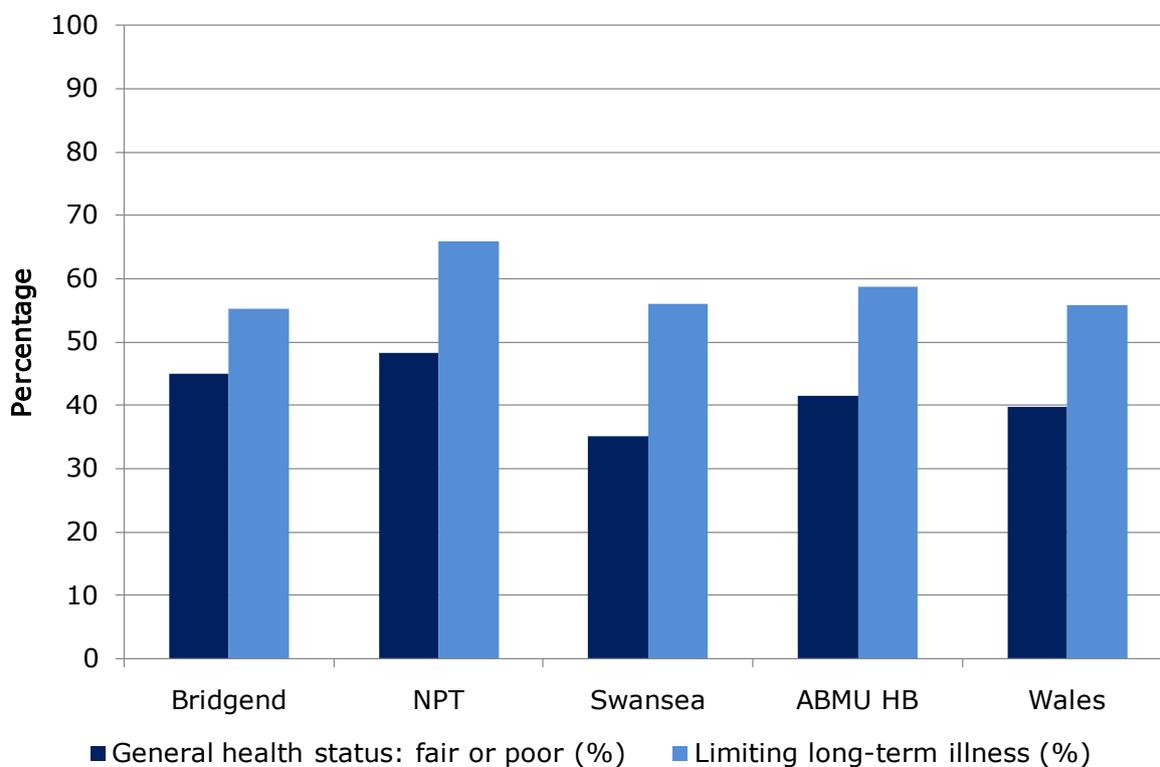
Within the ABM University Health Board area there are approximately 93,100 individuals of 65 years of age or older, 18.5% of the total population, and of these 26,200 are aged 80 years or older. Population projections based on 2011 figures suggest the number of older adults aged 65 years and over will increase by 52% to 141,593 in 2036.⁷

General health

The Welsh Health Survey (2008-10 data) shows in ABM University Health Board area and across Wales that over four in ten older adults perceive their health to be poor or fair and over one in two older adults report at least one long term limiting illness (Figure 21).⁴² Within ABM University Health Board area these figures are highest in Neath Port Talbot (48.3% and 65.8% respectively).

It is therefore clear that we must make healthy ageing a priority, encouraging healthy, active lifestyles and promoting health-seeking behaviours such as immunisations and screening.

Figure 21: Proportion of adults aged 65 and over reporting poor or fair health / long term limiting illness, Welsh Health Survey, 2008-10

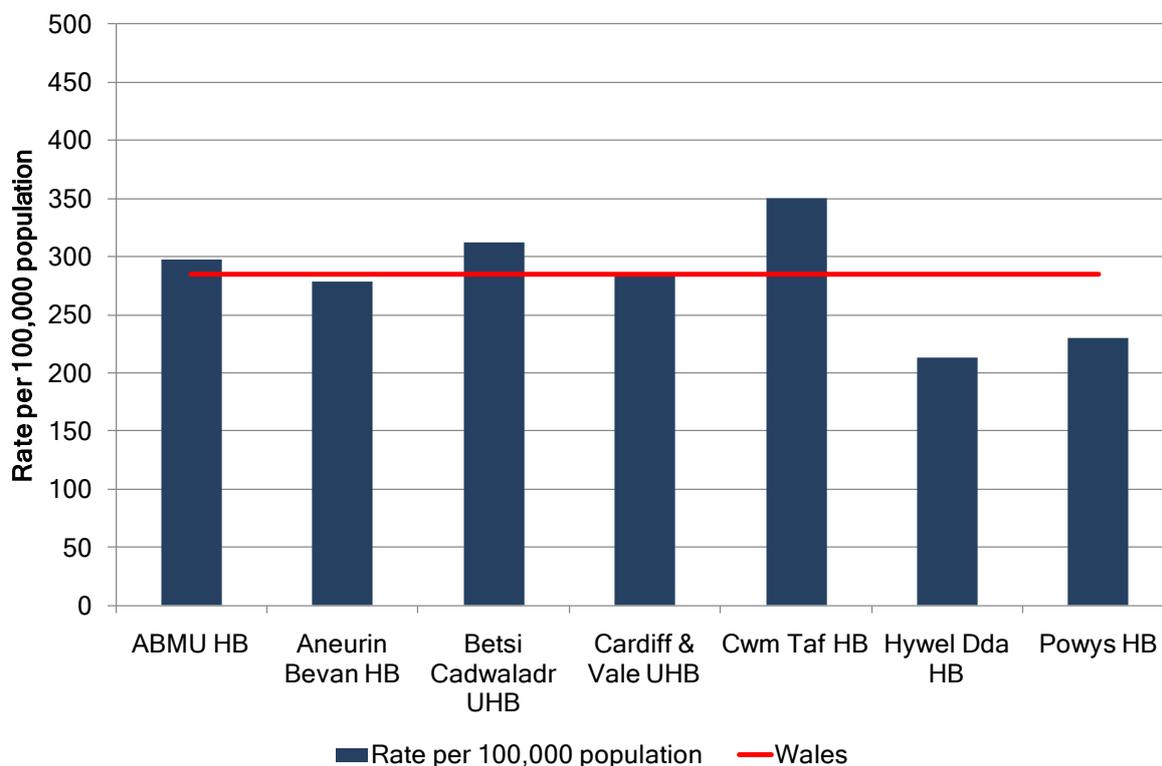


Source: Welsh Health Survey (2008-10 pooled data)

Smoking

Data from the Welsh Health Survey 2010 estimates that 12.0% of individuals aged 65 or over in ABM University Health Board area are daily or occasional smokers.⁴² This figure is similar to the Welsh average (12.2%) but substantially lower than adult prevalence for all ages (23.2% in ABM University Health Board area). Despite the lower prevalence of smoking, the burden of ill-health attributable to smoking falls disproportionately on older adults. For example, figure 22 shows the estimated prevalence of lung cancer across the Health Boards in Wales in 2010 for all persons aged 65 and over. ABM University Health Board has the third highest rate in Wales and Neath Port Talbot has sixth highest rate (339 per 100,000 population) of the 22 local authorities in Wales.⁴²

Figure 22: Prevalence of lung cancer per 100,000 population, Welsh Health Boards, persons aged 65 and over, 2010



Source: Public Health Wales.

Obesity

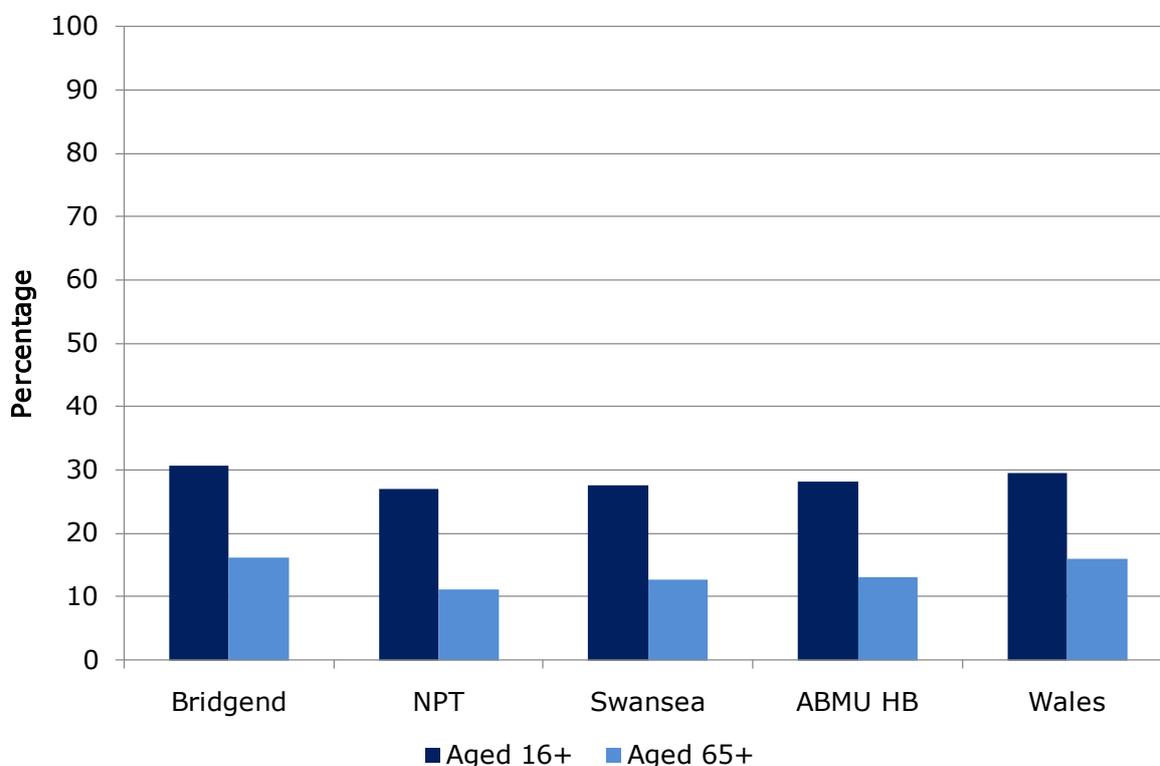
The Welsh Health Survey estimates that 60.3% of individuals aged 65 or over in ABM University Health Board area are overweight or obese (2008-2010 figures).⁴² This figure is slightly higher than the Welsh average (58.9%) but considerably lower than Health Survey for England figures for adults aged 65-74 years (74.5%) and those aged 75 and over (72.4%).³⁴

Whilst local data are not available national data from the Welsh Health Survey shows a four percentage point increase between 2003/04 and 2011 in the proportion of adults aged 65 and over who are overweight or obese. This is consistent with the overall rise in the level of overweight and obesity in the general population.

With the decline in physiological functioning and increasing likelihood of ill-health physical activity levels tend to decrease in later life.⁴³ Data from the Welsh Health Survey (2008-10)⁴² show that only one in ten (12.7%) of the ABM University Health Board area population aged 65 and over undertake the

recommended 5 x 30 levels of moderate physical activity. This compares to over one in four adults (28.2%) aged 16 years and over (figure 23).

Figure 23: Percentage of population undertaking 5 x 30 minutes of moderate physical activity, ABM University Health Board and Wales, aged 16+ and 65+

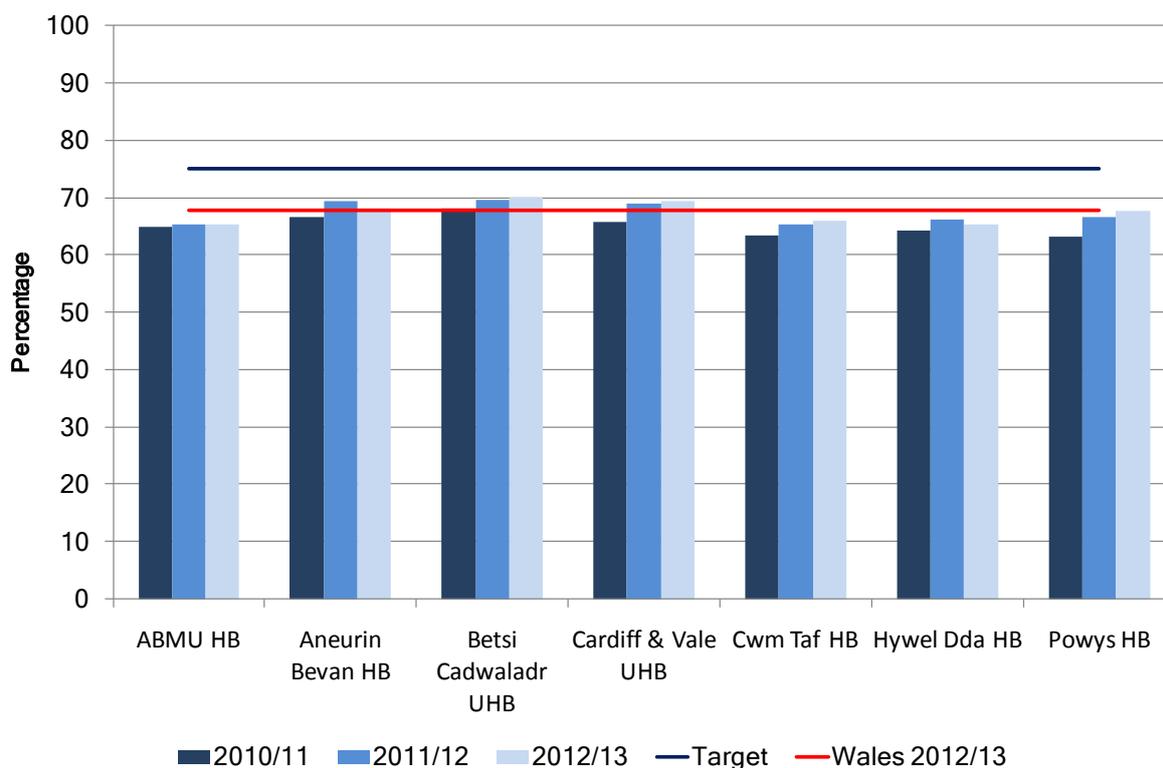


Source: Welsh Health Survey 2008-10 (aged 65+), Welsh Health Survey 2009-10 (aged 16+)

Immunisations and screening

In ABM University Health Board area uptake of influenza immunisation in those aged 65 years and older has been consistently below the Welsh Government uptake target of 75%, rising only very marginally from 64.8% in 2010/11 to 65.4% in 2012/13 (Figure 24).⁴⁰ In 2012/2013 only six GP practices achieved the Welsh Government target and there is considerable variation across GP practices in the localities (Table 6).³⁹

Figure 24: Uptake of influenza immunisation in Welsh Health Boards in patients aged 65 and over, 2010/11-2012/13



Source: Public Health Wales.

Table 6: Range of uptake of influenza immunisation in patients aged 65 years and over, 2012/13

	Lowest practice uptake (%)	Highest practice uptake (%)	Overall LA uptake (%)
Bridgend	52.7	75.9	67.6
Neath Port Talbot	54.6	81.0	64.1
Swansea	49.1	76.2	64.7
ABM total	49.1	81.0	65.4

Source: Public Health Wales. It should be noted data is missing for one practice in Neath Port Talbot

What are the priorities for older people in 2013/14?

Public health priorities for the coming period across the life stages are to:

- decrease the prevalence of smoking
- reduce the levels of obesity in our population
- achieve and maintain recommended levels of immunisation.

These priorities apply equally to the older population and will contribute to our stated aim of healthy active ageing.

In the ABM University Health Board area we are committed to improving health and social care for all through a comprehensive remodelling of services, including service integration. A prime example of the work in this area is the Mobile Response Unit covering the Bridgend locality; the unit responds to health related calls to a dedicated telecare service set up to assist older people in maintain independent living. Another successful example is that of the Advanced Paramedic Practitioner Service, which uses highly-skilled paramedics, with additional training in diagnostics and treatment, to safely deal with a large number of calls, preventing the need for hospital admissions.

Working with partners

To enable healthy active ageing and support to maintain independence in older age we will be working in close collaboration with key partners, including:

- The Western Bay Partnership
- Welsh Government
- Older people and their families
- The three Local Authorities (Bridgend, Swansea and Neath Port Talbot)
- Primary Care
- The Welsh Ambulance Service NHS Trust
- Community/residential care sector
- Voluntary organisations such as Bridgend Association of Voluntary Organisations and Age Cymru

Case studies

Bridgend Community Cafes

There are ten successful Community Cafes in Bridgend which are part of the Community Companions scheme. The cafes provide an opportunity for older people to meet new friends, take part in activities and enjoy getting out of the house.

The Scope Cymru Community Cafe provides regular chair based exercise for its members. The main aims of this type of exercise are increasing mobility and ranges of movement. The secondary aims are to help improve strength, endurance and maintain cardiovascular fitness where possible.



Gofal – y Ddolen

The British Red Cross volunteer and support staff that work with over 50s across the ABM University Health Board area to put together a flexible action plan to improve confidence, wellbeing and social interaction during a 6-12 week period.

Fully trained volunteers work to ensure that interventions are sustainable so that links made within their local community are long lasting to ultimately reduce isolation. The British Red Cross work in partnership with existing services and social groups to help people to improve people's lives by: helping to create and sustain social networks; improving confidence; developing independence; providing emotional support and helping to maintain independent living.

What happens next?

Smoking cessation

As part of the Health Board's tier 1 smoking cessation target ABM Public Health Team will be working closely with Stop Smoking Wales and partners to increase the number of smokers, including older adults accessing smoking cessation services. A proposal is being developed to establish a Health Board in-house smoking cessation service which will target patients with chronic health conditions such as chronic obstructive pulmonary disease.

Obesity

ABM University Health Board has just published its *Obesity strategic delivery plan 2013-2016* which aims to both encourage and empower the population to make healthy lifestyle choices and also tackle the obesogenic environment by providing surroundings that support active lives and enables people to access a healthy balanced diet. The delivery plan aims to reach all elements of the

community, including older aged adults, in order to reduce the inequalities that currently exist in obesity.

Vaccinations and immunisation

The Health Board will be working with partners to develop a systematic approach to ensuring all residents in care homes receive appropriate vaccinations.

There will be a strong drive to increase uptake of influenza vaccination to 75%. In addition, 2013 will also see the introduction of the shingles vaccination for older adults aged 70 years.

What are we trying to achieve?



Improving the health and wellbeing of our population by maximising and maintaining vaccination uptake

Health protection is mainly concerned with the control of communicable diseases in the community but also overlaps with hospital care. The main tools available are:

- immunisation – which protects against certain diseases
- infection control – which stops the spread of infection
- the education of the public - for example in relation to safe cooking.

Health protection is also concerned with protecting the public from environmental threats such as carbon monoxide poisoning or the results of a chemical fire.

ABM University Health Board works closely with the Public Health Wales Health Protection Team led by the Consultant in Communicable Disease Control (CCDC), who routinely deal with all health protection issues for the ABM University Health Board area.

In order to protect the public from communicable diseases and environmental threats, arrangements have to be put in place to respond to incidents that arise. Health protection work is often reactive as when dealing with emerging threats such as the 2012/13 measles outbreak. However, health protection

also needs planning with adaptation and review of long term policies and plans such as for population immunisation programmes and emergency planning.

Where are we now?

Despite improved vaccination rates over the last decade, the 2012/13 measles outbreak has demonstrated that the ABM University Health Board population is still vulnerable to threats of communicable disease.

Although MMR vaccine uptake rates have increased with over 30,000 vaccinations administered since the measles outbreak began, there is still a large unvaccinated population aged around 10 to 18 years that is vulnerable to measles, mumps and rubella.

Increasing vaccination uptake is a priority for ABM Public Health Team because susceptibility to rubella is important. Rubella is a real threat as in pregnant women it can seriously affect the unborn child. Mumps can damage a man's fertility so also poses a significant health risk to this population and their families. In the aftermath of the measles outbreak, there has been an increase in notifications of mumps especially in university students, which demonstrates that sections of the population remain under vaccinated for certain diseases. There were 107 mumps notifications reported from 1st April 2012 to 31st March 2013 in the ABM University Health Board area. Mumps notifications are increasing nationally, mirroring the situation in ABM University Health Board area. Efforts need to be focused on maintaining childhood vaccination rates at 95%+ and getting those who have missed vaccinations up-to-date to protect against diseases such as measles, mumps and rubella.

In addition to the major measles outbreak, there were also other communicable disease notifications to be dealt with. For example during the period of 1st April 2012 to the 31st March 2013, there were:

- 555 notifications of food poisoning
- 147 notifications of whooping cough
- 28 notifications of cryptosporidiosis
- 28 notifications of meningitis or meningococcal septicaemia
- an outbreak of pertussis in a health care setting.

ABM University Health Board has committed to contribute to the update of the All Wales cohort review of tuberculosis (TB) cases and it is hoped that this will contribute to further progress and streamlining of TB services in the Health

Board. The all Wales TB action plan is not yet fully implemented across different hospital sites and needs further review.

What are the priorities for health protection in 2013/14?

Vaccination is a safe and effective way to protect health. It is also a Tier 1 target and a priority for the Health Board. The increase in vaccination and the increased public support for vaccination as a result of the measles outbreak will be used as a platform to achieve and maintain recommended levels of immunisation.

ABM Public Health Team will target the remaining pockets of the population who are unvaccinated with a focus on the most deprived areas of the Health Board. There is also a need to ensure that staff within the Health Board are vaccinated in order to protect the patients they come into contact with and also to ensure that they too are protected and a survey of front line staff is planned to facilitate this.

ABM University Health Board is preparing emergency plans to respond to infectious disease situations and incidents that arise. For example, there are some incidents that can be prepared for in advance, such as seasonal influenza but others will occur with no notice. ABM University Health Board must be in a position to effectively manage these situations alongside Public Health Wales and its local authority partners.

The discussions to develop and standardise the TB service across ABM University Health Board area need to be reinvigorated. This is important as tuberculosis incidence is higher in Swansea than the Wales average. TB remains endemic in some communities and there have been ongoing cases in groups of the indigenous population, which are difficult to control as the incubation period can be many years.

Working with partners

The measles outbreak demonstrated how important it is to work with partners such as GPs, local medical committee, local education authorities, school nurses and third sector organisations. Our GPs have continued the emphasis on MMR vaccination amongst the remaining 10 to 18 year olds who are unvaccinated.

Schools are particularly important partners for the Health Board. The partnership developed during the measles outbreak will be further utilised during the roll out of the universal influenza vaccine for children in Year 7 in the autumn term of 2013.

Case study

MMR and the measles rising to the challenge

ABM University Health Board and in particular, Swansea locality, has been the epicentre of the largest measles outbreak in Wales for over a decade. The Health Board responded via involvement in the Outbreak Control Team and organising schools vaccination where person to person spread had known to have taken place within the school setting.



As the outbreak escalated the Pandemic Flu Response Plan was used as a framework for the Health Boards response. The response was largely in two main components; firstly, vaccination of those within the population who were susceptible which was undertaken via an integrated approach offering vaccinations at schools, colleges, drop in sessions during weekends and evenings and at GP practices and secondly, ongoing communication with stakeholders including GPs, health care staff, Public Health Wales, Welsh Government, third sector organisations and the public.

The outbreak is over and ABM University Health Board has undertaken a debriefing exercise to learn from the experience. Public Health Wales will produce an outbreak report which will be publicly available once completed.

ABM University Health Board used the 'let's knock the spots off measles' slogan to spearhead their campaign to get people vaccinated.

The 2012/2013 Measles Outbreak ABM University Health Board area key facts:

- There were almost 1,000 cases of measles notified in the ABM University Health Board area
- At least 66 cases of measles needed treatment in hospital for their symptoms
- Around 30,000 MMR vaccinations were administered in response to the outbreak
- The outbreak affected all ABM University Health Board primary care services
- There are still a proportion of the population unvaccinated against measles, mumps and rubella infection

What happens next?

The vaccination uptake rates for ABM University Health Board area will be monitored and there will be a continued emphasis on immunisation. Relationships with partner organisations will be strengthened through working

towards common goals, particularly the introduction of new immunisation programmes. The population of ABM University Health Board area will continue to be protected by the actions of the health protection team of Public Health Wales who will deal with all notifications of communicable disease.

What are we trying to achieve?



Improving the oral health of the population with a focus establishing good oral health early in life

Reducing the inequities associated with oral health

In March 2013, Welsh Government published *Together for Health: A National Oral Health Plan for Wales 2013-18*.⁴⁴ Health Boards across Wales are required to submit Local Oral Health Action Plans (LOHAPs) to Welsh Government by December 2013.

The strategic approach towards the planning of dental services and oral health improvement that the ABM University Health Board began developing three years ago has put it in a strong position to respond to the national plan. At the heart of this approach is the Strategic Dental Services Planning Group focussing on:

- Ensuring a system-wide approach is taken to implementation of dental service plans and integrating the community, primary care and hospital dental services
- Ensuring oral health improvement is at the core of the approach supporting Designed to Smile (D2S)
- Prioritising the most vulnerable groups in the population and reducing oral health inequities.
- Reducing inequities in access to dental services
- Encouraging a patient journey/pathway.

Oral health throughout the lifecourse

Children and young people

Dental decay

Dental decay is almost totally preventable, and yet it is the commonest disease affecting children.

The Welsh Government targets for dental health improvement are:⁴⁵

- By 2020 to reduce the levels and burden of decay at age 5 among the most deprived quintile of the population to that recorded for the middle deprived quintile.
- By 2020 to reduce the levels and burden of decay at age 12 among the most deprived quintile of the population to that recorded for the middle deprived quintile.

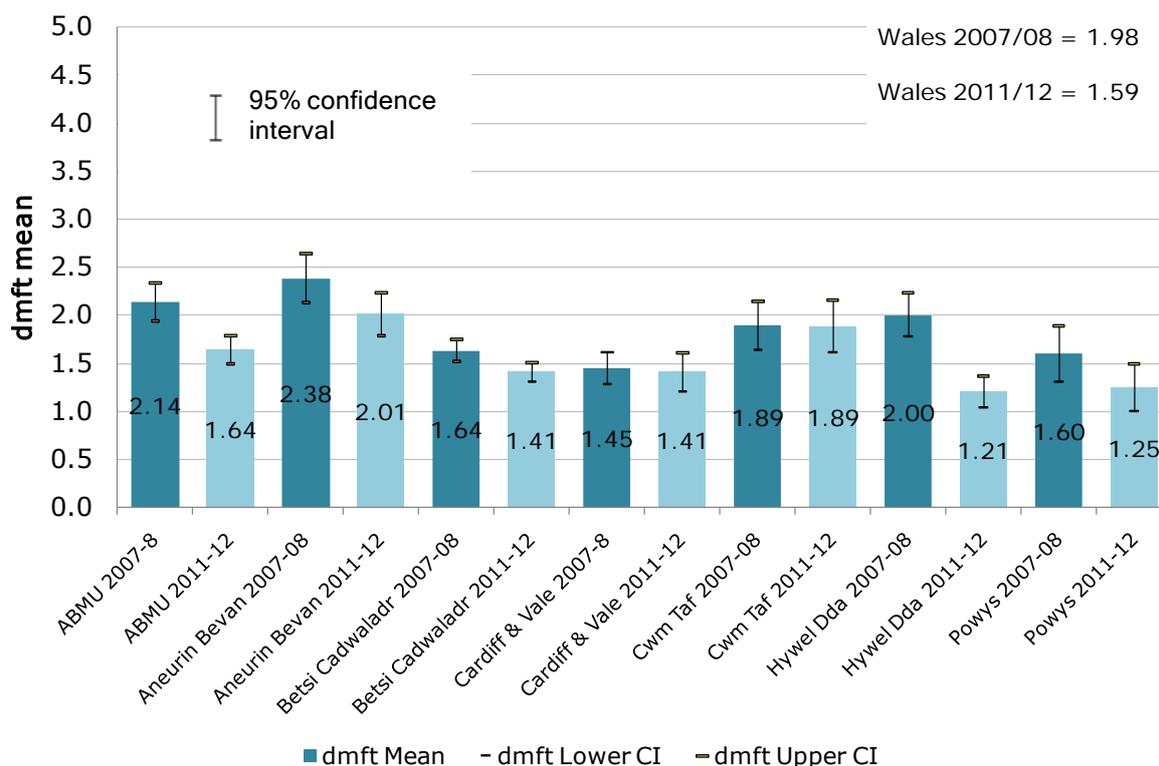
Designed to Smile

The Health Board continues to support D2S, a health improvement programme that encourages children to brush their teeth daily with fluoride toothpaste, with the aim of reducing levels of tooth decay. The scheme is delivered by the Community Dental Service in schools and nurseries in some of our most disadvantaged communities, where chronic tooth decay is most prevalent. D2S also involves a wider range of initiatives including working with health visitors, healthy schools, childminding settings, parent sessions in schools and community settings.

At the end of March 2013, there were 22,573 children regularly tooth brushing in schools, nurseries and with childminders in ABM University Health Board area. In September 2013 fluoride varnish will be introduced with a focus on areas of highest need.

While it is accepted that it is too soon to determine whether D2S is delivering improved health outcomes for children, the preventative interventions used in the scheme are strong and well-established. The findings of the 2011/12 five-year old dental survey⁴⁶ are encouraging. ABM University Health Board was one of two health boards which had a statistically significant reduction in the mean number of decayed, missing or filled (dmft) teeth seen in five-year old children (Figure 25). A decrease from 2.14 as reported in the 2007/08 survey to 1.64 in 2011/12.

Figure 25: Mean dmft per 5 year old child, Welsh Health Boards, 2007/08 and 2011/12



Source: Public Health Wales and Cardiff University

At a local authority level, Bridgend had a statistically lower mean number dmft than the Welsh average, whilst Swansea had a significant reduction from 2007/08 to 2011/12. However, Neath Port Talbot showed little change with the mean number of DFMT in 2011/12 being statistically higher than the Welsh average (Neath Port Talbot = 2.20; Wales = 1.59).

In 2011/12 44.2% of children in ABM University Health Board area had at least one DFMT, but in these children, there was a statistically significant reduction in the mean number of decayed, missing or filled teeth from 4.4 (95%CI: 4.1-4.7) in 2007/08 to 3.7 (95%CI: 3.5-4.0) in 2011/12.

Findings from the 2011-2012 Dental Survey also show that inequalities in oral health persist with those in the most deprived areas having the poorest oral health. However, the inequalities gap is narrowing. In 2015 when the five-year olds will next be surveyed it will be possible to examine the full impact of the D2S initiative.

Dental general anaesthetics

In the period 2012-13, 2,068 children from the ABM University Health Board area had a general anaesthetic for tooth extractions. This represents a 6.4 per cent reduction compared to 2011-12.

It is Welsh Government policy to reduce the number of child dental general anaesthetics. The continued support of the D2S programme will contribute to a reduction in the demand for such treatment in the medium to longer-term. ABM University Health Board is also working with the dental profession to improve referral processes and develop care pathways that encourage alternative treatments.

Oral health of working age adults

In 1978, as many as 37% of adults in Wales had no natural teeth; by 2009 this figure had fallen to 10%. However, the proportion of adults with no teeth is still high in Wales when compared with England (6% in 2009).⁴⁷

Although more middle aged people have their own teeth, many of these teeth have been filled; these fillings need maintenance and repeated repair. As this population ages, the demand upon dental services will change with a need to provide care for an increasingly older population of people who may have a history of complex dental care, more retained teeth and complex health issues. This changing pattern in the demand for dental services needs to be taken into account in future dental workforce and service planning.

Older adults

The Welsh Care Home Survey⁴⁸ reported that only 68% of care home residents in ABM University Health Board area saw a dentist when they had problems with their teeth or dentures. Oral Health Promotion services for adults are being enhanced through the development of the Mouth Care for Adults in Hospital programme. This work is being lead by the 1000 Lives Plus Dental Manager of the Community Dental Service (CDS). Discussions are underway within the CDS to pilot a similar approach in Residential and Care Homes. In addition, ABM University Health Board is working with the profession and Public Health Wales to develop a care pathway to ensure improved and equitable dental domiciliary care.

The Health Board, working with Public Health Wales Dental Public Health Team, is reviewing provision of dental domiciliary care including services to care homes and this will be taken up through the LOHAP. The Community Dental

Service Oral Health Promotion Officer (OHPO) is continuing to develop stakeholder links to facilitate the provision of dental advice and oral health promotion for vulnerable adult groups. The work of the OHPO is linked into the 1000 Lives Plus programme.

Oral cancer

One of the priorities within the national plan is oral cancer. The plan states that at least three-quarters of oral cancers could be prevented by the elimination of tobacco smoking, use of tobacco in other forms, and a reduction in alcohol consumption.

The total number of cancers of the mouth, lip and oral cavity for the ten year period 2001-2010 in ABM University Health Board area was 353. The three local authorities within the ABM University Health Board area all have European Age Standardised Rates per 100,000 population which rank them in the worst fifth of Wales' local authorities.⁴⁷

Data published in April 2013 by the Welsh Cancer Intelligence and Surveillance Unit, found there were 425 lip, oral cavity and pharynx cancers diagnosed in Wales in 2011. Two hundred and sixty of these were in males aged 50 years and over, 108 in women aged 50 years and older. Specifically of tongue, mouth and salivary gland cancers, there were 161 cases in males, and 142 of these were in males over 50 years and over; 90 cases in females and 76 of these were aged 50 years and older.

It is planned that the LOHAP will highlight the need to raise awareness of these cancers and their causes, and stress the importance of early diagnosis and referral. ABM University Health Board, working with Public Health Wales, will also be emphasising the key role all dentists and dental teams have in providing smoking cessation brief interventions to their patients and supporting health promotion initiatives such as oral cancer awareness week.

Health protection

ABM University Health Board's Primary Care and Planning Management team have commenced work towards the establishment of an Occupational Health Service for general dental practice teams contracted with ABM University Health Board. It is planned for the new scheme to commence before the end of 2013, and will include immunisation services for primary care dental teams and management of needle-stick/sharps injuries.

References

- 1 Office for National Statistics (2013) Statistical Bulletin: *Life expectancy at birth and at age 65 for local areas in England and Wales, 2009-11* [online]. Available at: http://www.ons.gov.uk/ons/dcp171778_320078.pdf
- 2 Data extracted from Eurostat [online]. Available at: <http://epp.eurostat.ec.europa.eu/portal/page/portal/health/introduction>
- 3 Welsh Government (2013) Welsh Index of Multiple Deprivation 2011 [online]. Available at: <http://wales.gov.uk/topics/statistics/theme/wimd/wimd2011/?lang=en>
- 4 Public Health Wales (2011) *Measuring Inequalities, Trends in Mortality and Life Expectancy in Wales* [online]. Available at: [http://nww2.nphs.wales.nhs.uk:8080/PubHObservatoryProjDocs.nsf/\(\\$All\)/BA402B3D53C6A33D8025795E00556236/\\$File/InequalitiesProfiles_AllWales_Final_English_v1.pdf?OpenElement](http://nww2.nphs.wales.nhs.uk:8080/PubHObservatoryProjDocs.nsf/($All)/BA402B3D53C6A33D8025795E00556236/$File/InequalitiesProfiles_AllWales_Final_English_v1.pdf?OpenElement)
- 5 Public Health Wales Observatory (2011) Measuring Inequalities data – Alcohol-attributable and alcohol-related mortality [online]. Available at: <http://howis.wales.nhs.uk/sitesplus/922/page/47835>
- 6 Data extracted from Welsh Health Survey [online]. Available at: <http://wales.gov.uk/topics/statistics/theme/health/health-survey/results/?lang=en>
- 7 Data extracted from StatsWales [online]. Available at: <https://statswales.wales.gov.uk/Catalogue>
- 8 Public Health Wales Observatory (2013) *GP Cluster Profiles: Abertawe Bro Morgannwg UHB* [online]. Available at: <http://howis.wales.nhs.uk/sitesplus/922/news/46630>
- 9 Public Health Wales Vaccine Preventable Disease Programme (2013) Coverage of routine immunisations in children – 2012. Public Health Wales.
- 10 Welsh Government (2011) *Strategic Vision for Maternity Services in Wales* [online]. Available at: <http://wales.gov.uk/docs/dhss/publications/110919matstrategyen.pdf>
- 11 Marmot, M (2010). *Fair Society, Healthy Lives Strategic Review of Health Inequalities in England Post-2010* [online]. Available at: www.instituteofhealthequity.org/.../fair-society-healthy-lives...review/fair-society-healthy-lives-executive-summary.pdf
- 12 Data extracted from National Statistics [online]. Available at: <http://www.ons.gov.uk/ons/rel/vsob1/child-mortality-statistics-->

- [childhood--infant-and-perinatal/2011/sty-infant-mortality.html](http://www.nhs.uk/childhood--infant-and-perinatal/2011/sty-infant-mortality.html)
- 13 Perinatal Survey Office, Department of Child Health (2012) *All Wales Perinatal Survey 2011 Annual Report* [online]. Available at: http://medicine.cf.ac.uk/media/filer/2012/10/23/awps_ann_report_2011_web_1.pdf
 - 14 Department for Education & Wave Trust (2013) *Conception to age 2- the age of opportunity* [online]. Surrey. Available at: <http://www.wavetrust.org/key-publications/reports/conception-to-age-2>
 - 15 Colingwood Bakeo, A. & Clarke, L. (2006) Risk factors for low birthweight based on birth registration and census information, England and Wales, 1981-2000. *Health Statistics Quarterly, summer 2006* [online]. Available at: <http://www.ons.gov.uk/ons/rel/hsq/health-statistics-quarterly/no--30--summer-2006/index.html>
 - 16 Teenage pregnancy unit and the Department of Health (2004) Teenage Pregnancy Research Programme Research Briefing 1: *Long term consequences of Teenage births for Parents and the Children* [online]. Available at: <http://media.education.gov.uk/assets/files/pdf/b/briefing%201.pdf>
 - 17 Data extracted from National Statistics [online]. Available at: <http://www.ons.gov.uk/ons/rel/vsob1/conception-statistics--england-and-wales/2011/2011-conceptions-statistical-bulletin.html>
 - 18 Centers for Disease Control and Prevention (2004) *Surgeon General Report 2004: The Health Consequences of Smoking* [online]. Available at: http://www.cdc.gov/tobacco/data_statistics/sgr/2004/index.htm
 - 19 Health and Social Care Information Centre (2012) *Infant Feeding Survey 2010 Summary* [online]. Available at: http://www.nct.org.uk/sites/default/files/related_documents/Infant%20Feeding%20Survey_uk_2010_summary.pdf
 - 20 Personal communication – data supplied by Stop Smoking Wales.
 - 21 Centre for Maternal and Child Enquiries (2011) *Saving Mothers' Lives Reviewing maternal deaths to make motherhood safer 2006-2008. The Eighth Report of the Confidential Enquiries into Maternal Deaths in the United Kingdom* [online]. Available at: <http://onlinelibrary.wiley.com/doi/10.1111/j.1471-0528.2010.02847.x/pdf>
 - 22 Centre for Maternal and Child Enquiries (2010) Maternal obesity in the UK: findings from a national project [online]. Available at: <http://www.publichealth.hscni.net/sites/default/files/Maternal%20Obesity%20in%20the%20UK.pdf>
 - 23 Salihu, H.M., Dunlop, A-L., Hedayatzadeh, M., Alio, A.P., Kirby, R.S. & Alexander, G.R. (2007) Extreme obesity and risk of stillbirth among black and white gravidas. *Obstetrics and Gynecology*, 110, 552-557.
 - 24 Horta, B.L & Victora, C.G. (2013) *Long term effects of breastfeeding – a systematic review* [online]. World Health Organization. Available at: http://apps.who.int/iris/bitstream/10665/79198/1/9789241505307_eng.pdf
 - 25 Department of Health (2013) Breastfeeding statistics England [online]. Available at: [www.gov.uk/government/organisations/department-of-](http://www.gov.uk/government/organisations/department-of-health)

[health/series/breastfeeding-quarterly-statistics-england](#)

- 26 McGowan, A., Lewis, R., Cottrell, S. & Roberts, R. (2013) *Uptake of pertussis and influenza vaccination in pregnant women in Wales 2012-2013*. Public Health Wales.
- 27 Government Social Research (2011) *Health Behaviour in School Aged Children: initial findings from the 2009/10 survey in Wales* [online]. Available at:
<http://wales.gov.uk/docs/caecd/research/110328healthbehaviouren.pdf>
- 28 Knight, Kavanagh & Page (2011) *Bridgend County Borough Council Strata Survey – Year 9 Final Report January 2012*. Knight, Kavanagh & Page.
- 29 Public Health Wales Observatory (2013) *Child Measurement Programme for Wales Report 2011/12* [online]. Available at:
<http://www.wales.nhs.uk/sitesplus/888/page/67795>
- 30 Health and Social Care Information Centre (2012) *National Child Measurement Programme: England 2011-2012 School Year* [online]. Available at: <https://catalogue.ic.nhs.uk/publications/public-health/obesity/nati-chil-meas-prog-eng-2011-2012/nati-chil-meas-prog-eng-2011-2012-rep.pdf>
- 31 Public Health Wales (2013) *Vaccine Uptake in Children in Wales COVER Annual Report 2013* [online]. Available at:
[http://www2.nphs.wales.nhs.uk:8080/VaccinationsImmunisationProgsDocs.nsf/\(\\$All\)/5BEB94EE63907A9880257B950037FC4E/\\$File/COVER20122013.pdf?OpenElement](http://www2.nphs.wales.nhs.uk:8080/VaccinationsImmunisationProgsDocs.nsf/($All)/5BEB94EE63907A9880257B950037FC4E/$File/COVER20122013.pdf?OpenElement)
- 32 Personal communication. ABMU Health Board.
- 33 Public Health Wales Observatory (2012) *Measuring inequalities: Data* [online]. Available at: <http://www.wales.nhs.uk/sitesplus/922/page/58384>
- 34 Health and Social Care Information Centre (2013) *Healthy Survey for England 2011 Trend Tables* [online]. Available at:
<http://www.hscic.gov.uk/article/2021/Website-Search?productid=10152&q=health+survey+for+england&sort=Relevance&size=10&page=1&area=both#top>
- 35 National Institute for Clinical and Health Excellence (2008) *Smoking Cessation Services. NICE Public Health Guidance 10* [online]. Available at:
<http://guidance.nice.org.uk/PH10/Guidance/pdf/English>
- 36 Stop Smoking Wales (2012) *Stop Smoking Wales Annual Report 2011-2012* [online]. Available at:
<http://www.nice.org.uk/nicemedia/live/11925/39596/39596.pdf>
- 37 Government Office for Science (2007) *Foresight: Tackling Obesities – Future Choices Project Report* (2nd edn) [online]. Available at:
<http://www.bis.gov.uk/assets/foresight/docs/obesity/17.pdf>
- 38 Public Health Observatory for Wales (2013) *Our Healthy Futures Indicators* [online]. Available at:
<http://howis.wales.nhs.uk/sitesplus/922/page/55005>
- 39 Public Health Wales Vaccine Preventable Disease Programme (2013). *Uptake of Seasonal Influenza Vaccination – HB Specific reports. Abertawe Bro Morgannwg University HB 2012/2013*. Cardiff: Public Health Wales.

- 40 Public Health Wales Vaccine Preventable Disease Programme (2013). *Seasonal Influenza vaccine uptake in Wales - 2012/13*. Cardiff: Public Health Wales.
- 41 Welsh Government (2008) *The Strategy for Older People in Wales 2008-2013* [online] Available at: <http://wales.gov.uk/strategy/strategies/2166490/olderpeopleII.pdf?lang=en>
- 42 Public Health Wales Observatory (2013) *Older People Indicators 2012 Abertawe Bro Morgannwg University Health Board* [online]. Available at: <http://howis.wales.nhs.uk/sitesplus/922/page/52072>
- 43 Chodzko-Zajko, W.J., Proctor, D.N., Fiatarone Singh, M.A., Minson, C.T., Nigg, C.R., Salem, G.J. & Skinner, J.S. (2009) *Exercise and Physical Activity in Older Adults - Position Stand* [online]. *Medicine & Science in Sports and Exercise*. Available at: <http://fitnessresearch.edu.au/files/papers/articles/810b5f378b.pdf>
- 44 Welsh Government (2013) *A National Oral Health Plan for Wales 2013-2018* [online]. Available at: <http://wales.gov.uk/docs/phhs/publications/130318oralhealthplanen.pdf>
- 45 Welsh Assembly Government (2008) Welsh Health Circular 2008 (008) [online]. Available at: [http://www.wales.nhs.uk/documents/WHC\(2008\)008.pdf](http://www.wales.nhs.uk/documents/WHC(2008)008.pdf)
- 46 Morgan, M., Monaghan, N. & Johnson, I. (2013) *Picture of oral health 2012 - Dental Epidemiological Survey of 5 year olds 2011-2012* [online]. Cardiff University/ Public Health Wales. Available at: <http://www.cardiff.ac.uk/dentl/resources/A%20Picture%20of%20Oral%20Health%20-%20School%20Year%201%20-%202011-12.pdf>
- 47 Welsh Oral Health Information Unit (2012). Abertawe Bro Morgannwg University Health Board. *Local Health Board - Oral Health Profiles 2012* [online]. Available at: <http://www.cardiff.ac.uk/dentl/resources/ABMU-Oral%20Health%20Profile-March2012.pdf>
- 48 Welsh Oral Health Information Unit. *Wales Care Home Dental Survey 2010-11*. First Release Cardiff University [online]. Available at: <http://www.cardiff.ac.uk/dentl/resources/Care%20Home%20Survey%202010-11%20-%20First%20release%20-%20web2.pd>

Sources of information

This report has been compiled by using the following sources:

Alcohol Concern Cymru:

<http://www.alcoholconcern.org.uk/projects/alcohol-concern-cymru>

Cancer Research UK:

<http://www.cancerresearchuk.org/>

National Community Child Health Database:

<http://www.wales.nhs.uk/nwis/page/52616>

Government Social Research Service:

<http://www.civilservice.gov.uk/networks/gsr>

Information Centre for Health and Social Care:

<http://www.ic.nhs.uk/>

National Institute for Clinical and Health Excellence:

<http://www.nice.org.uk/>

NHS Wales Information Service – Health Maps Wales:

<http://www.healthmapswales.wales.nhs.uk/IAS/>

Public Health Wales Communicable Disease Surveillance Centre:

<http://www.wales.nhs.uk/sites3/page.cfm?orgid=457&pid=25313>

Public Health Wales Observatory:

<http://www.wales.nhs.uk/sitesplus/922/home>

Royal College of Physicians:

<http://www.rcplondon.ac.uk/>

STATSWALES:

<http://statswales.wales.gov.uk/>

Stop Smoking Wales:

<http://www.stopsmokingwales.com/>

University College London:

<http://www.ucl.ac.uk/>

UK National Statistics:

<http://www.statistics.gov.uk/hub/index.html>

Welsh Government Education and Skills:

<http://wales.gov.uk/topics/educationandskills/?lang=en>

Welsh Health Survey:

<http://wales.gov.uk/topics/statistics/theme/health/health-survey/results/?lang=en>

Welsh Oral Health Information Unit – Cardiff University:

<http://www.cardiff.ac.uk/dentl/research/themes/appliedclinicalresearch/epidemiology/oralhealth/index.html>

World Health Organization:

<http://www.who.int/en/>