



GIG
CYMRU
NHS
WALES

Iechyd Cyhoeddus
Cymru
Public Health
Wales

Tim Amdiffyn Iechyd

Iechyd Cyhoeddus Cymru, Y Deml Iechyd a Heddwch
Parc Cathays, Caerdydd, CF10 3NW

Health Protection Team

Public Health Wales, Temple of Peace and Health
Cathays Park, Cardiff CF10 3NW

Ffôn/Tel: 029 2040 2478 · Ffacs/Fax: 029 2040 2503

Gwefan/Web: www.iechydcyhoedduscymru.org

www.publichealthwales.org

Mr. Vaughan Gething AC AM
Chair of Health and Social Care Committee
National Assembly for Wales
Cardiff Bay
CF99 1NA

29th May 2013

Dear Mr Gething

Further to your letter of May 14th 2013, please find attached answers to questions you raised.

If you have further queries, please do not hesitate to contact me.

Yours sincerely,

Dr. Marion Lyons

Director of Health Protection / Cyfarwyddwr Adran Amdiffyn Iechyd

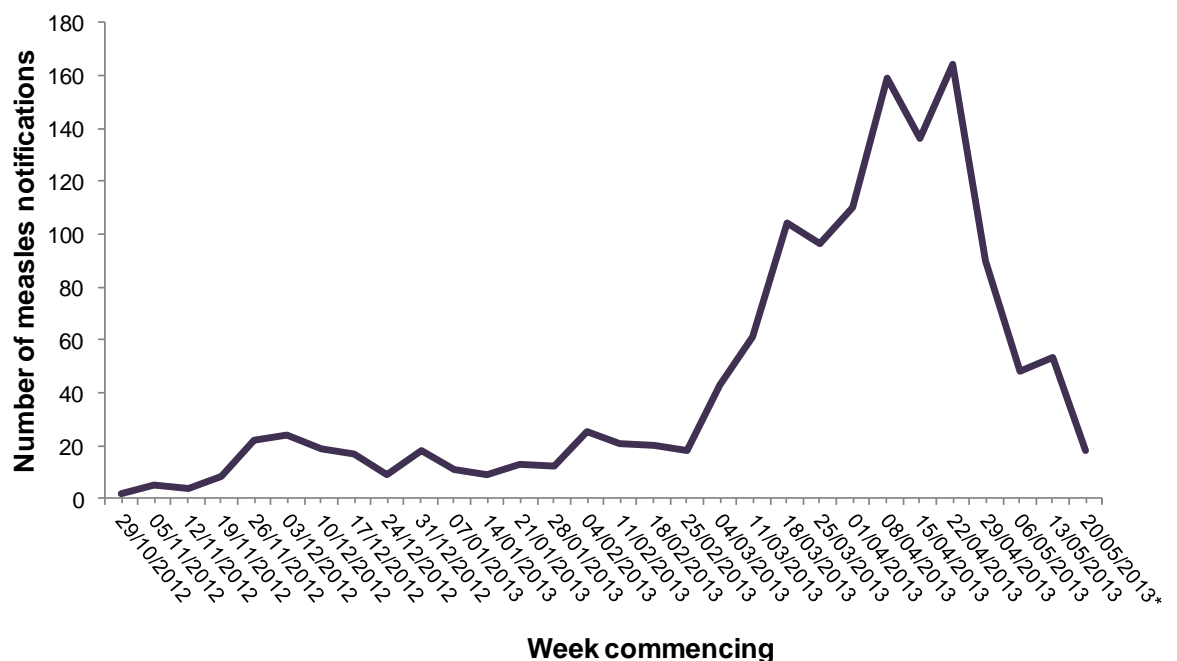
Response to Vaughan Gething AC AM , Chair of the National Assembly for Wales’ Health and Social Care Committee from Dr Marion Lyons, Director of Health Protection, Public Health Wales

1. Is there any understanding of when the current outbreak will peak, and what the full impact of this is likely to be?

The epidemiology suggests that the outbreak mainly centered in the Swansea, Neath Port Talbot area peaked by the 22nd April. (Figure 1). Since then general practitioners have continued to notify cases of measles, however, both the numbers reported and the numbers confirmed as true measles has fallen weekly. This drop in cases reported weekly will have been as a result of the successful local MMR campaign to immunise thousands of individuals from the at risk pool of children and young adults who had not received two doses of MMR vaccine.

Based on information received as at 20th May 2013, healthcare staff in Abertawe Bro Morgannwg UHB had administered a total of 26,160 unscheduled doses of MMR since March 2013. Of these 5,096 were administered to those aged between 10-18 years, representing 55% of those at risk in this age group because they had missed previous immunisations.

Figure 1. Weekly numbers of notifications in Wales since November 2012 (Public Health Wales CoSurv data)



* Data until 23/05/2013 of week 21 2013. Data for week 21 is provisional and may increase due to further notifications being received

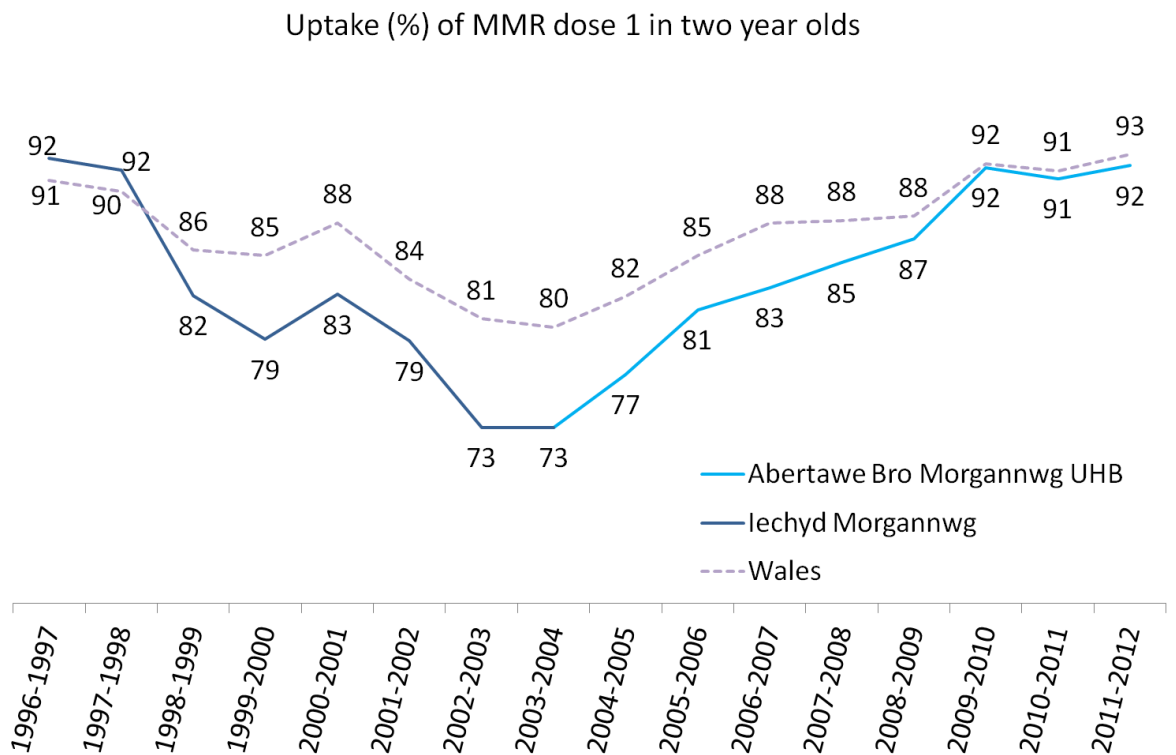
2. What factors have led to the current measles outbreak, and to what extent could future outbreaks be anticipated and planned for in order to minimise their impact?

In the late 1990s, in response to extensive media coverage of a paper published in The Lancet in 1998 and the claims of a few researchers that MMR, autism and bowel disease were linked, uptake of MMR vaccine fell in the UK. In two year old children in Wales uptake fell from an annual peak of 91% in 1996 to 80% by 2003 (Figure 2), and from a quarterly peak of 94% to 78% over the same period, even lower in those areas for local reasons most affected by the controversy, such as Swansea and Neath Port Talbot. The Lancet paper has since been formally withdrawn, and the research thoroughly discredited, with independent research overwhelmingly supporting the safety of MMR.

Public health services and the NHS in Wales has been working continuously to improve uptake of MMR vaccine, with the support of Welsh Government, implementing a number of effective Wales wide initiatives since 1999. These included 'MMR Mythbyster' pack for use with parents distributed to all practices in 2000; a national catch-up campaign in 2005-6 in which 53,708 school children received one or more doses of MMR, reducing the number of children who had missed MMR by 42.4%; and a change to the routine follow up of children to offer MMR vaccine as primary and secondary school entry and with the teenage booster to children identified as missing MMR vaccine (WHC 2005 081); and an audit of the implementation of that circular by Public Health Wales in 2008, with consequent correspondence between Welsh Government and Health Boards in 2009. These efforts have undoubtedly significantly increased the number of children protected against measles, so that the number affected and at-risk in the current outbreak is much smaller than it otherwise would have been.

However, the consequences of the scare would be apparent for years to come as a minority of children who were not routinely vaccinated over the years of the controversy, many now of secondary school age, continued to have no protection against measles, mumps, and rubella infection.

Figure 2. Annual uptake of MMR vaccination (dose 1) in two year olds in Abertawe Bro Morgannwg University Health Board area (Iechyd Morgannwg NHS area 1996 – 2003), compared to All Wales figures, as reported in Public Health Wales Annual COVER report.



: <http://howis.wales.nhs.uk/sites3/Documents/474/cover200366.pdf>

Across Wales Health Boards, Local Authorities and Public Health Wales are again working together to ensure all susceptible children and young people are offered another opportunity now to have the MMR vaccine. If this campaign is successful and the proportion of children immunised with two doses of MMR reaches 95%, that would be sufficient to ensure further outbreaks of measles would be avoided. As measles is currently endemic in England, Europe and other parts of the world we will inevitably import cases of measles to Wales, but if the 95% is reached this would ensure ‘herd immunity’, the point at which the sustained transmission of measles in Wales would be interrupted. At that point the international goal of measles elimination would have been reached in Wales.

COVER data, detailing the uptake of vaccines, including MMR by health board, has been published quarterly in Wales since before MMR vaccine was introduced. A range of additional surveillance tools at various population levels have been regularly published. These provide information for action to health boards, and including data at health board, local authority, and practice level on uptake of childhood vaccines including MMR, so that health boards can target interventions and support individual practices with low uptake reducing the risk of local outbreaks.

- 3. The current outbreak has centered around Swansea, although there have been cases of measles throughout Wales. Uptake data shows varying levels of MMR coverage across Wales. Are there any other areas in Wales where there are particular concerns, and if so, how is this being addressed?**

All Health Boards in Wales recognise that an MMR uptake rate of 95%, required for the elimination of measles, has not been achieved in older children and young adults due to past controversy over the MMR vaccine. All Health Boards have for a number of years had plans in place to offer the MMR vaccine to all those susceptible to measles mumps and rubella, now focusing more directly on those aged between 10-18 years. Work is currently underway to deliver on the most recent plans for catch-up immunisation arising from the current outbreak: all Health Boards are delivering a school based immunisation catch-up programme inviting children identified as missing MMR; some have introduced weekend and evening drop-in clinics and across Wales general practitioners are offering both extra vaccination clinics and opportunistic immunisation.

In addition to providing coverage data to help Health Boards identify those most at risk of not having received MMR vaccinations, Public Health Wales monitors the success of the catch-up immunisation programme and feeds back to the Directors of Public Health weekly.

- 4. In his letter to the Children and Young People Committee, the Minister stated that all GP practices in the Swansea area have received lists of unvaccinated and partially vaccinated children from the Child Health Office, and that GPs have sent personalised letters to parents of those children. In what ways are unvaccinated and under-vaccinated children throughout Wales being targeted?**

Similar to the activity described for Abertawe Bro Morgannwg UHB all Health Boards are identifying children up to 18 years who have no documented history of MMR vaccination on the Child Health System. Parents are contacted and the child or young person is invited to attend for MMR immunisation in either a school clinic session, an MMR drop-in clinic or in primary care. General Practices and drop-in clinics are also providing opportunities for children and adults to catch-up opportunistically on MMR vaccinations they have previously missed out on.

- 5. The Minister's letter also described arrangements that GP practices in the Swansea area have in place to provide catch-up doses of the MMR vaccine. What arrangements are there across Wales to ensure immediate access to the MMR vaccine for those who are under-vaccinated? Have there been any resource issues in relation to this, in terms of staff, facilities, supply of vaccine for example?**

Across Wales all the Health Boards have for a number of years had Local Enhanced Service Agreements in place such that general practitioners are reimbursed for delivering unscheduled MMR immunisations. General practitioners are currently delivering these either in special clinics, opportunistically or on a drop-in basis. The response from primary care has been considerable. Across Wales, as at 20th May

2013, primary care had delivered 33,386 of the 61,396 unscheduled immunisations given since March 2013.

There is no shortage of MMR vaccine and there is no delay in its delivery to the front line.

All Health Boards in Wales and Public Health Wales have recognised the public health significance of the measles outbreak centered in the Swansea, Neath Port Talbot area and have responded accordingly. They have worked proactively with the media to ensure that the public understand the risks associated with measles and the benefits afforded by MMR vaccination. The high level of public and media interest has offered a unique opportunity to engage with parents who had previously decided against the vaccination of their children with MMR. They recognised the urgent need to ensure that children in their area were not susceptible to a similar outbreak. All Health Boards have made this public health emergency a priority and there will inevitably be opportunity costs to this. There will in addition be vaccine costs and staffing costs.

6. Public Health Wales has identified the worst affected age group in the current outbreak as those between 10 and 18 years old. What action has been taken and how would you assess the effectiveness of this action to raise public awareness of the importance of vaccination to protect people from measles, particularly for the 10 – 18 age group, and to reassure the public about the safety and efficacy of the MMR vaccine?

Public Health Wales carried out an analysis of the proportion of children unvaccinated in each local authority by age group and school using data from the Child Health System. On the 11th April Public Health Wales provided all Directors of Public Health and Health Boards with figures showing the coverage levels of MMR in schools in their area so that children aged between 10-18 years could be targeted effectively. This was presented in the form of a league table so that health boards could plan accordingly targeting those with the poorest uptake first.

By the 19th April all health boards in Wales had submitted their plans for a school catch-up campaign for consideration and comment to the outbreak Senior Response Team. The Health Protection Division of Public Health Wales developed systems to collect data from Health Boards and report on the success of MMR catch-up campaigns on a weekly basis from Monday 22nd April.

Arrangements had been in place to collect daily data on numbers of individuals receiving MMR vaccination in response to outbreak measures on from General Practice, through the Audit+ reporting system since the week commencing 18th March. Uptake in general practice, including an age profile of those receiving vaccination, was reported back to Health Boards, through the Senior Response Team (SRT) each Monday, Wednesday and Friday.

The initial response to the school based clinics was felt to be disappointing. As a result, it was requested that Public Health Wales undertake a rapid evaluation of the non responsive parents (no consent form returned /vaccine refused) in the schools where vaccine had been offered to inform future action by the Health Board and others.

Information was provided to Public Health Wales on children who had not responded to invitations to attend school based MMR vaccination clinics at one of three Swansea Secondary Schools. The children had all been identified as being susceptible to measles based on their immunisation status recorded on the Child Health Computer System. School clinics were held in the week commencing 15th April 2013. Invitations, containing consent forms, were individually addressed and given to the pupils at school during the previous week.

Analysis of the results showed that approximately 50% of the children had recently received the MMR during the outbreak, others had previously received it overseas and some parents claimed not to have received the letter. Around 3% of the total sample had been told or believed that the vaccine was contraindicated due to other health problems.

Only 15% of the overall sample remained unimmunised due to concerns about the safety of the vaccine or vaccination in general, however these represented less than 2% of all children. The majority of this small group were concerned about the outbreak and were receptive to receiving more information or discussing the issue in more detail. Only a few parents were concerned about the safety of the vaccine.

Information from the above survey and from the high coverage of MMR in children at their second birthday of over 95% suggests that almost all parents now consider the MMR to be a safe and effective vaccine.

7. The response to the outbreak has involved a number of different agencies, including Public Health Wales, local health boards, education authorities and Welsh Government. How has a co-ordinated approach to dealing with the outbreak been managed?

The multiagency response required has been supported at both a local and national level.

At a local level, outbreaks have been overseen by multiagency outbreak teams and delivery of the required public health response by a 'silver' operational group. This has proven to be extremely effective in identifying resources for delivering the programme of work.

At a national level, Public Health Wales has supported the response through its Senior Response Team (SRT). The SRT has met weekly since its first meeting on the 18th February. This team provided advice to both Health Boards and Welsh Government on the response required to deal with the outbreak and minimize opportunities for further cases to arise across Wales. It oversaw the delivery of consistent advice to professionals and the public. As Directors of Public Health from

all the health boards are members of the SRT it allowed for the sharing of good practice between health boards and offered a forum for discussion of issues as they arose. Through the SRT, weekly data was provided on the impact of the various interventions at health board level. The SRT fed back to Welsh Government after each meeting and minutes of these meetings are copied to the Health Protection Division, Welsh Government.

8. What further action is needed/planned to increase MMR coverage in order to prevent future measles outbreaks?

When the school campaign is complete (end of May), Public Health Wales will analyse MMR uptake by age group for each local authority and, with colleagues in health boards, define communities /age groups with unacceptable levels of susceptibility to measles, mumps and rubella.

Public Health Wales will:

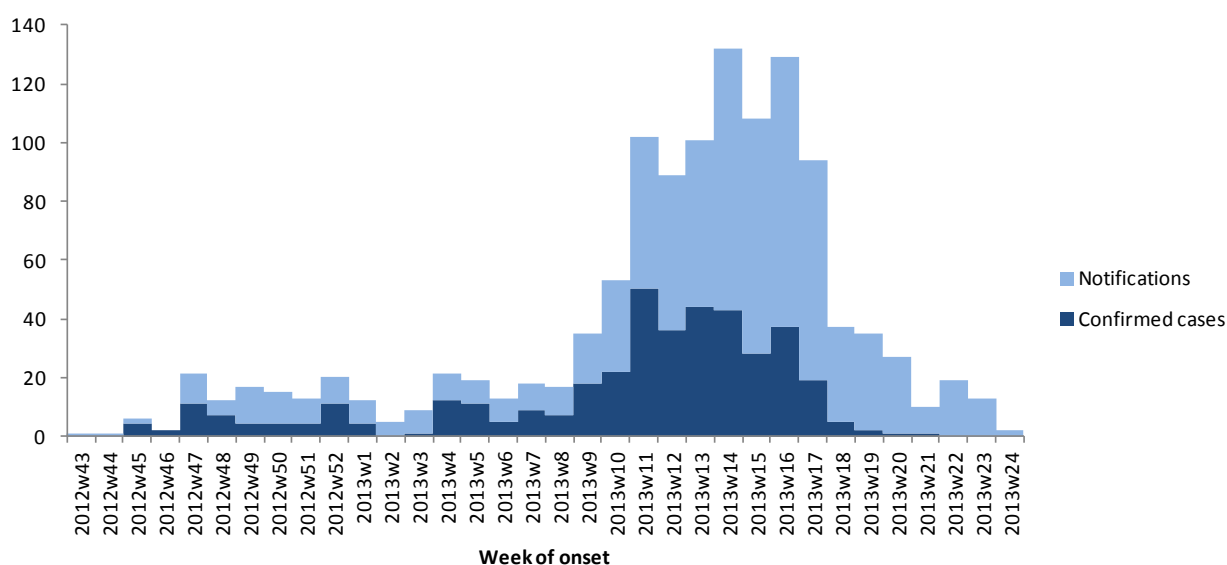
- Continue to work closely with Health Boards to ensure all available measures are in place so that children who have missed MMR are identified and offered vaccine at primary and secondary school entry and at the time of teenage booster vaccination, as required in WHC (2005) 081.
- Working with Health Boards to identify 'hard to reach' under-immunised groups across Wales and ensure MMR is offered.
- Maintain the current level of reporting of routine vaccination uptake at national, Health Board, Local Authority and General Practice level and introduce new measures to allow Health Boards to monitor overall coverage of MMR in their school aged populations both by year group and by school.
- Routinely publish information on MMR uptake by deprivation quintiles to allow Health Boards to monitor inequalities in vaccine uptake and support local action to improve uptake the groups most at risk of being unvaccinated.
- Maintain and build on the current level of support offered to Health Board Immunisation Coordinators, through the Public Health Wales Vaccine Preventable Disease Programme, in improving coverage of MMR and other routine vaccinations.

Descriptive Epidemiology of the South-West Wales Measles Outbreak

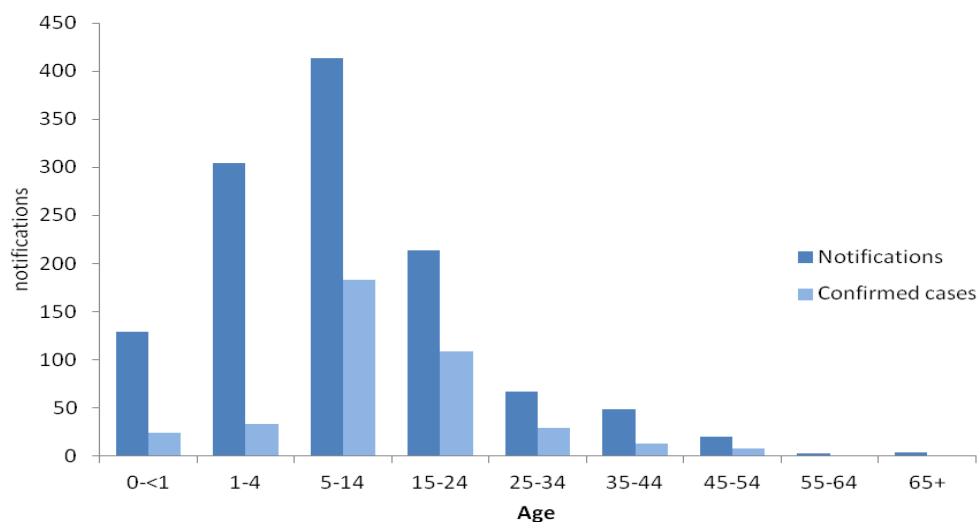
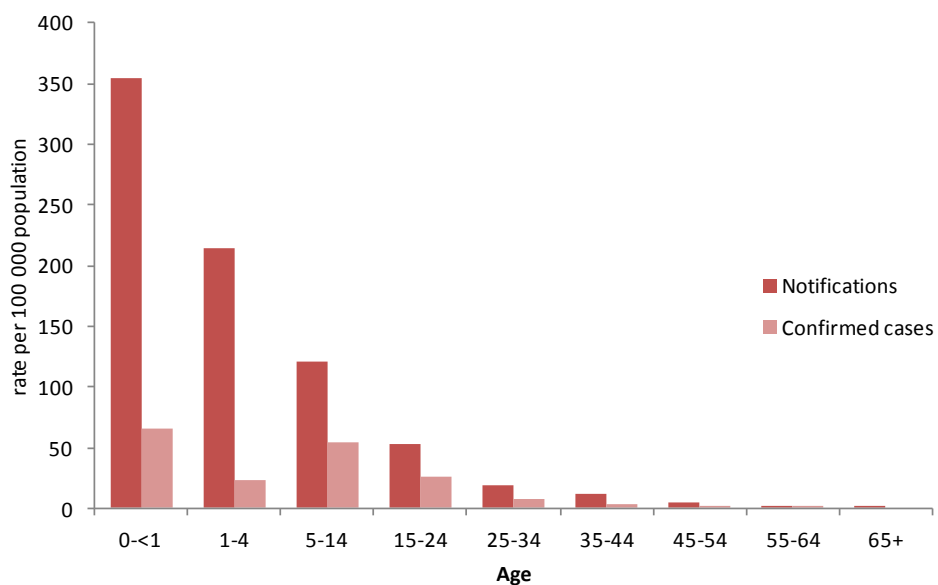
Between November 1 2012 and June 16 2013, there were 1,430 notifications of measles in Wales, of which 1,202 were from the health board areas of Abertawe Bro Morgannwg, Hywel Dda and Powys in South-West and Mid Wales. Notifications from this area, designated the outbreak area, were at around 20 per week from November 2012 to February 2013, then increased sharply in early March 2013, peaking during March and April 2013 (Figure 1). The outbreak was declared over on July 2 2013 when more than two incubation periods had passed without a confirmed case of measles in the outbreak area.

Provisional analysis of linked laboratory and notification data indicate that the distribution of confirmed cases from the outbreak area reflects that of notifications, with the peak in laboratory confirmations at around the same period, possible peaking slightly earlier. Of 1,202 notifications of measles from the outbreak area, 430 (36%) were laboratory confirmed.

Figure 1. South-West Wales measles outbreak: Epidemic curve

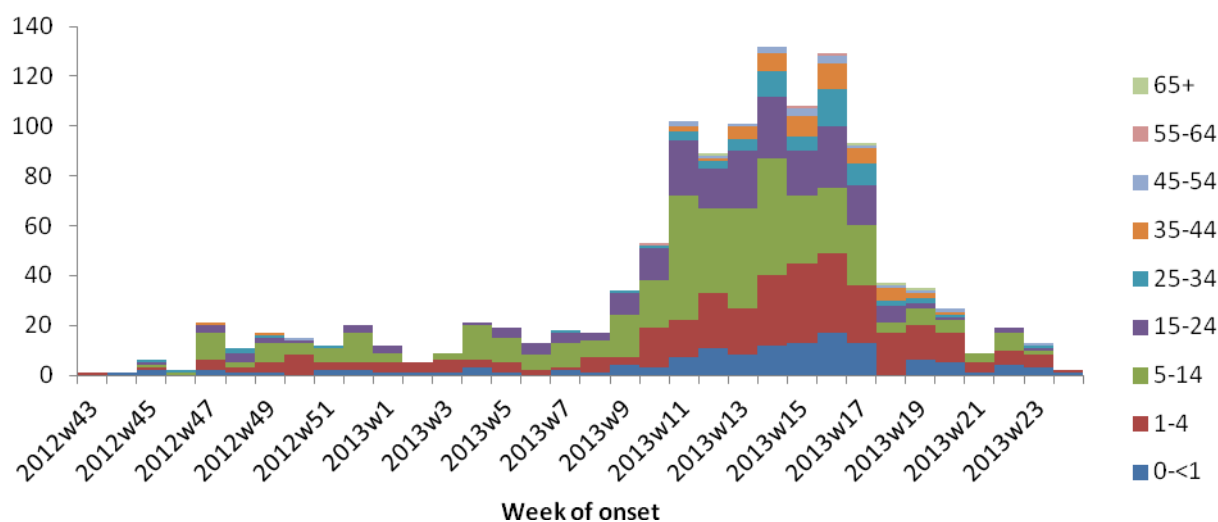


Similar numbers of male and female cases were notified from the outbreak area (620 males, 574 females, 8 gender not recorded). Notifications were most frequently in those aged five to fourteen years (Figure 2). However, when notification rates were calculated, incidence was highest in those aged under one year (Figure 3). Provisional analysis of linked laboratory and notification data indicate that the distribution of confirmed cases from the outbreak area was different in that more confirmed cases were identified in older children and young adults. This may reflect different testing patterns or different background rates of rash-illness in different age groups. Data on age-specific testing rates are available but have not yet been analysed.

Figure 2. South-West Wales measles outbreak: Age distribution of cases**Figure 3. South-West Wales measles outbreak: Age distribution of cases expressed as notification and confirmation rates per 100 000 population**

The peak of the epidemic curve was primarily cases in children, although there was a significant burden of infection in younger adults (Figure 4).

Figure 4. South-West Wales measles outbreak: Epidemic curve by age group



Local authority of residence was known for 1,177 of the 1,202 notifications (98%). Between November 1 2012 and June 16 2013, notifications from the outbreak area were most frequently from Swansea (650 notifications) and Neath Port Talbot (232). Smaller numbers were notified from Powys (99), Carmarthenshire (66), Pembrokeshire (60), Bridgend (49) and Ceredigion (21). Notification rates are shown in Figure 5. Notifications from Pembrokeshire were associated with the initial increase in cases in November 2012. The main peak in the epidemic curve comprised cases mainly from Swansea and Neath Port Talbot local authority areas (Figure 6).

Figure 5. South-West Wales measles outbreak: Incidence by local authority of residence

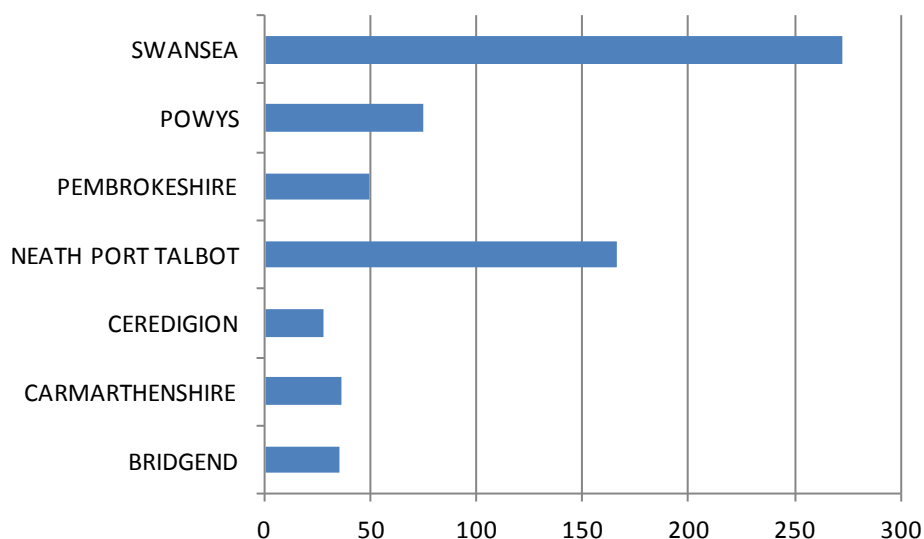
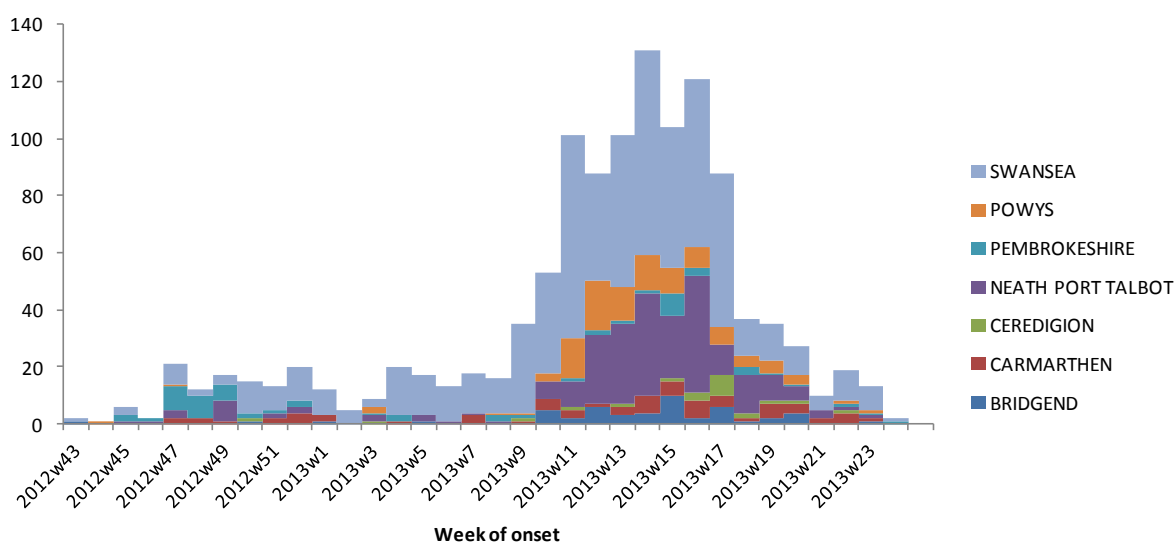


Figure 6. South-West Wales measles outbreak: Epidemic curve by local authority of residence



Genotyping was carried out on a proportion of laboratory cases. Provisional data on clinical notifications in the outbreak area that were notified, indicate that three genotypes were associated with the outbreak: D8 Taunton, D8 Swansea and D8 Frankfurt. Whilst it is possible that further genotyping data will become available in the coming weeks, early analysis indicate an intriguing molecular epidemiology, with three successive epidemic waves associated with different genotypes (Figure 7). The D8 Frankfurt genotype was confined to North Powys and is likely to represent a distinct cluster. The Taunton genotype occurred early on in the outbreak and was distributed in Pembrokeshire, Carmarthenshire, Swansea and Neath Port Talbot. The Swansea genotype occurred as a later wave affecting Swansea and Neath Port Talbot. Whilst the data are incomplete and should be interpreted with caution, the succession from D8 Taunton to D8 Swansea 'epidemic waves' raises some

interesting questions. Did the Swansea genotype represent a drift in the D8 strain or was it a new introduction?

Figure 7. South-West Wales measles outbreak: Temporal distribution of measles D8 strains

