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Dear Colleague

REDUCING THE RISK OF MEASLES IN YOUNG PEOPLE IN SCOTLAND

1. The purpose of this letter is inform you of measures aimed at reducing measles risk among those age groups with increased levels of susceptibility, and to seek your co-operation in promoting MMR vaccination for secondary school-aged children who have not yet received 2 doses of MMR vaccine.

Latest Position

2. In the first 6 months of 2011, there have been 60 measles notifications in Scotland with 23 laboratory confirmed cases and one probable case. While this is not substantially higher than measles activity in recent years, and we are not seeing any outbreaks or transmission of measles amongst young children, we are concerned about the potential for increased contact with cases of measles among 15 to 24 year olds and the potential for onward transmission of the infection.

3. Measles is re-emerging in Western Europe. In 2010 over 30,000 cases were reported in Europe, a fivefold increase from the preceding 5 years, and during the first 6 months of 2011 the figure reached 26,000 with further cases anticipated. This situation increases the risk of measles importation into Scotland, of Scottish travellers coming into contact with measles cases while abroad, and of onward transmission of imported cases within Scotland.

4. Health Protection Scotland (HPS) has recently undertaken an updated risk assessment for measles transmission in Scotland. Key points are highlighted at Annex A.

5. The report highlights that there are low levels of susceptibility amongst primary and younger secondary school-aged children, who are well protected by high levels of vaccine uptake. However, older adolescent cohorts have slightly higher levels of susceptibility and I am writing to you now to ensure we take action to maximise uptake of MMR1 and MMR2 amongst these older children, as set out below.

From the Chief Medical Officer
Sir Harry Burns MPH FRCS(Glas)
FRCP(Ed) FFPH

07 October 2011

SGHD/CMO(2011)12

For action

NHS Board Chief Executives
Immunisation Co-ordinators
NHS Board Medical Directors
NHS Board Nursing Directors
NHS Board Directors of Public Health
Infectious Disease Consultants
Practice Nurses
Health Visitors
CPHMs
Scottish Prison Service
Scottish Ambulance Service

For information

General Practitioners
Practice Managers
Directors of Pharmacy
Consultant Paediatricians
Consultant Physicians
Health Protection Scotland
Chief Executive, NHS Health Scotland
NHS 24
Scottish General Practitioners
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Further Enquiries

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Childhood Programme

6. Current levels of uptake of MMR within the routine childhood immunisation programme in Scotland are very high, with 95% uptake of MMR1 and 90% uptake of MMR2 by the age of 5. There is no evidence of any transmission of measles amongst young children. If current levels of uptake continue young children will continue to be at low risk from measles.

7. I would like to thank Public Health and GPs and their practice staff for their hard work in calling and recalling and ensuring that children are receiving their childhood vaccinations on time. Uptake of childhood vaccines in Scotland, including MMR, continue to be higher than average for the UK.

Vaccination of 18-24 year olds

8. For young adults aged 18-24 years, we have no centrally-held uptake information and no data to estimate levels of susceptibility. The average age of confirmed cases of measles seen in 2011 was older than in previous years with a median age of 20.5.

9. Given the difficulties in systematically reaching this age group, we recommend that existing practice continue whereby vaccine continues to be available opportunistically for those who seek it or where there is a public health need e.g. travel (see TRAVAX). Earlier in the year, universities and colleges were contacted to make them aware of the increased risk of measles.

10. Under the GP contractual arrangements, GPs are only obliged to administer the MMR vaccine to the target groups specified in Annex J of the General Medical Services contract Statement of Financial Entitlements (SFE). GPs are entitled to charge for the administration of MMR vaccine when it is given as a travel vaccine. NHS Boards will wish to liaise with their GP practices and LMC to agree local arrangements in relation to the administration of the vaccine.

11. Children who are too young to be eligible for the first dose of MMR will be especially at risk if measles incidence goes up in this young adult age group; partly because unimmunised pregnant women will be unable to provide passive immunity to their new born children, and partly because those aged 18-24 years often come into contact with infants.

12. In line with existing guidance, Boards should employ effective measles control strategies in the event of any cases or outbreaks should they emerge.

Vaccination in Secondary Schools

13. There are children aged 11-17 years in Scotland who have not received either the first or second dose of MMR vaccine. The youngest among these may have been affected by the fall in uptake rates between 1998 and 2003, following the Wakefield episode. Older teens who missed one or both doses of MMR vaccine in childhood may have had limited opportunity to access these missed doses later on. As these get older and especially after leaving school, travel and social mixing among these groups will increase. As a consequence, the probability of importation and onward transmission of the virus rises.

14. While this cohort are still in school there is an opportunity to maximise uptake of MMR1 and MMR2. As per the current recommendation in the Green Book, the teenage

(school-leaving) booster session or appointment for tetanus, diphtheria and polio is an opportunity to ensure that unimmunised or partially immunised children are given MMR.

15. For the foreseeable future, Boards should take all necessary steps to ensure that children presenting for their teenage booster have their MMR vaccination status checked. Under-immunised children should be vaccinated. Whenever possible, the MMR vaccination should be given at the same time as the Td/IPV vaccine. The intention is to build upon existing opportunities to vaccinate children and not to add additional vaccination appointments into the calendar.

16. To identify those requiring MMR vaccination a development has been put in place to link information from the childhood immunisation system (SIRS) to the Child Health Systems Programme-School (CHSP-S.) A Business Objects report is now available and can be run at any time to produce a printable report to identify those pupils who still require MMR vaccination.

17. MMR vaccines given at this point, and any identified as previously given but not recorded should be recorded onto CHSP-S.

18. In most schools the teenage booster is administered during the course of S3. Given the principle of building upon existing appointments it is likely that there will not be an opportunity within school to routinely check and vaccinate children S4, S5 and S6. However Boards should vaccinate such children opportunistically if it is possible to do so.

19. Children up to the age of 15 (S4) who have not had any previous MMR vaccination can be vaccinated by GPs. This is a contractual responsibility under the Statement of Financial Entitlement (SFE). Any children who would qualify for such vaccinations, and who cannot be vaccinated at the teenage booster point in schools, can be directed to their own GP for MMR.

20. Non-pregnant women of child-bearing age who have not had any previous MMR vaccines can also be vaccinated by GPs under the SFE. Older girls who cannot be vaccinated through the teenage booster in schools can also therefore be directed to their GP.

Vaccination of Healthcare Staff

21. Over the last 5 years 30% of measles cases confirmed in Scotland were seen in hospital. This means hospital staff are at increased risk of coming into contact with a case. We are aware of reports of outbreaks within hospitals. In such cases, some staff had not been vaccinated (or vaccination status was not known). The resulting control measures might easily include ward closures or the need for enforced staff absences. As with all vaccinations available to frontline healthcare staff, I would emphasise the importance of staff ensuring that they are protected and that they protect patients in their care. This is especially important for those caring for neonatal and paediatric patients or the immunocompromised. In particular staff should be vaccinated against hepatitis B, influenza, measles, mumps, rubella and varicella.

22. It is equally important that the vaccination status of staff is known and recorded by occupational health so that the response to any hospital outbreak of a vaccine preventable disease can be well-informed and timely.

Action

23. NHS Boards are asked to note the arrangements outlined in this letter for the ongoing vaccination of those groups susceptible to measles.
24. In particular NHS Boards are asked to ensure action is taken forward to ensure as many children as possible have received 2 doses of MMR by the time they leave secondary school, and the school-booster point should be used to check MMR status.
25. NHS staff are asked to ensure they are vaccinated against any vaccine preventable diseases particularly hepatitis B, influenza, measles, mumps, rubella and varicella. Occupational health departments should ensure vaccination status of staff is known.
26. I would like to thank you once again for all your efforts.

Yours sincerely

Harry Burns

HARRY BURNS

An assessment of the risk of measles transmission in Scotland 2011 – Key Points

1. Overall measles is relatively well controlled in Scotland. To be accredited by the World Health Organisation (WHO) as having achieved the elimination of measles, the annual incidence of measles must remain below one case per million (i.e. in Scotland, less than 5 cases per year). In the 10-year period 2000 to 2009, the average annual number of laboratory confirmed cases of measles in Scotland was, 12.5. In 6 of the 10 years, there were fewer than 5 cases

2. Estimated levels of susceptibility to measles in 2-9 year olds are now lower than those recommended by WHO for attaining elimination¹. This is largely due to efforts at increasing and sustaining levels of uptake of MMR1 and MMR2. This year there have been only 2 cases of measles in children of this age, one was imported the other was exposed to a case from England. There is no evidence of any transmission occurring at these ages in Scotland. In terms of pockets of susceptibility, at 2-4 years, less than 4% of all children live in Intermediate Zones² with average levels of susceptibility above the elimination level and at 5-9 years, only 11%.

3. However the situation is different in older children. At 10-14 years of age, the level of susceptibility for Scotland as a whole is 10.3% and for 15-17 years, 9.8%, both above elimination levels. In Europe there is now evidence of transmission in those aged more than 15 years. The levels of susceptibility in this age group are due to the following:

- I. In the UK, the impact of adverse publicity on the uptake of MMR in the late 1990s especially on children currently aged around 9-12 years who are now in school. These have higher levels of susceptibility although still well below those necessary to sustain on-going transmission. As older adolescents, they will mix and travel more, with a greater chance of them being exposed to the virus. This may lead to an increase in measles outbreaks in this group.
- II. The resurgence of measles in Europe in older adolescents and young adults. This is due to the pattern of introduction of measles control measures in different countries in the late 1980s and early 1990s. This has given rise to an accumulation of susceptibles in the population at levels sufficient to sustain measles outbreaks. For reasons of work, leisure and education, population mixing across Europe is relatively high at this age.

4. In looking at how to reduce measles susceptibility, broadly, there are 3 cohorts to be considered:

- **Children aged 2-9.** Uptake of MMR1 and MMR2 is currently very high in Scotland and accordingly we are not seeing any evidence of spread of disease in this group. We are achieving target susceptibility rates for elimination of measles.
- **Children and adolescents aged 10-17.** Within this group are those children who were eligible for childhood vaccination during the Wakefield episode and amongst whom uptake dipped. Susceptibility is known to be higher than is desirable for

¹ These levels allow for 15% susceptibility in 2-4 year olds and 10% in 5-9 year olds as long as susceptibility is below 5% for all older age groups.

² There are 1,235 Intermediate Zones in Scotland, each comprising an average 4,000 household residents (range 2,500 to 6,000).

measles elimination – but not high enough for sustained spread of disease, and indeed we are not seeing any significant transmissions amongst this group. However the concern is that once this cohort move out of school and are mixing more generally measles could re-emerge.

- **Young adults aged 18-24.** There is no centrally held information on vaccine uptake rates amongst this group. This age group is where many of the measles cases in Europe are currently being seen. Susceptibility of those aged 18-25 years in Scotland is likely to be higher than that recommended by WHO for measles elimination

5. In light of this data, and when considered against the high likelihood of measles entering Scotland in the future (through travel and contact with other parts of the UK and Europe), Scotland is likely to remain at intermediate risk of measles with sporadic cases appearing and small clusters mainly affecting those ages 18-24 years, but without consequent widespread transmission in the population.

6. If current levels of MMR1 and MMR2 uptake persist amongst infants, those aged between 2 and 9 years will continue to be at a very low risk of being infected with measles. Certain groups with customarily lower uptake of vaccine (such as Travelling Communities) will continue to be at risk. The risk in healthcare settings could increase. Babies under one year of age (who are not eligible for the vaccine), especially those who are born to unimmunised parents, will be at risk.

7. Any movement from intermediate risk of measles to low risk of measles (i.e. elimination) will largely depend on maintaining current coverage of MMR1 and MMR2 in children and **reducing levels of susceptibility in those aged 10-17 years by supplementary immunisation activities.**