Questions and Answers on Vaccine Safety

I. What adverse reactions are associated with mumps vaccine?

Different attenuated strains of mumps virus are used for the development of live attenuated mumps vaccines. The most common adverse reactions following mumps vaccination are parotitis and/or submaxillary gland swelling and low-grade fever. Moderate fever, local reactions and allergic reactions also occur. Aseptic meningitis has been reported at widely -varying frequencies following different mumps vaccines.

2. Is there evidence of different risks of adverse reactions with the different mumps vaccines?

WHO has recently commissioned an expert review of the safety of different mumps vaccine strains. The review showed that higher rates of aseptic meningitis and parotitis have been reported for the Urabe, Leningrad-Zagreb and Leningrad-3 strain vaccines compared to the Jeryl-Lynn strain vaccine. The review was presented to the Global Advisory Committee on Vaccine Safety (which advises WHO) which concluded that available data are insufficient to distinguish between the safety profile with respect to aseptic meningitis for Urabe, Leningrad-Zagreb and Leningrad-3 strains. The committee further concluded that the varying risk estimates between studies reflect to some extent differences in study settings and circumstances and the degrees of surveillance for adverse reactions. However, the committee noted that no data have been provided to support the occurrence of virologically proven aseptic meningitis following the Jeryl-Lynn strain vaccine. (Note: the review did not assess strain specific rates for the more common and milder adverse events.)

3. What is WHO's recommendation regarding the choice of mumps vaccine to be used in a vaccination program?

Countries select which vaccines will be licensed and used in their own vaccination programs. These decisions are made based on the epidemiology and public health importance of the diseases and the available resources for effective use of a specific vaccine in the programme. For example, insufficient childhood mumps vaccination coverage (below 80%) may result in an undesirable epidemiological shift in the incidence of mumps to older age groups. Currently 102 (53%) of 192 WHO member states include mumps in their routine childhood vaccination programmes, mostly as the combined measles-mumps-rubella (MMR) vaccine. Most of these are countries in Europe and the Region of the Americas. The Global Advisory Committee on Vaccine Safety (which advises WHO) has concluded that available data are insufficient to distinguish between the safety profile with respect to aseptic meningitis for Urabe, Leningrad-Zagreb and Leningrad-3 strains. The committee recommends that if Urabe, Leningrad-Zagreb and Leningrad-3 strain vaccines are being used in mass vaccination campaigns, national Immunization programmes need to take into account the potential for clustering of aseptic meningitis following the campaigns. This means countries should consider putting in place a monitoring system for possible vaccine associated meningitis and manage the patients appropriately. Information on the epidemiology of mumps disease during the campaign would be important for the understanding of reported rates of aseptic meningitis.

4. How do I know which mumps vaccine I or my child should be vaccinated with?

Parents considering mumps vaccination for their children (and others considering vaccination for themselves) should consult with the local health authorities in charge of the their national vaccination programme. Each country decides whether to include mumps vaccine in its vaccination programme on the basis of the epidemiology of mumps in the country and its public health importance as a disease, as well as the available resources for including mumps vaccine effectively in the programme. Further, the specific mumps vaccine

selected for the national programme is based on safety and availability considerations, taking into account recommendations from the WHO.

5. What is WHO doing to ensure that countries are able to choose the safest mumps vaccine(s) for their national programmes?

WHO's current recommendation to countries (see above) is based on the current evidence available. On the advice of the Global Advisory Committee on Vaccine Safety, WHO plans to establish an international reference laboratory for mumps virus isolates that will develop a mumps vaccine virus strain bank. In broad terms, this would allow us to study the genetic and molecular characteristics of mumps virus strains used to produce vaccines and to better define the safety of these vaccines to form the basis of recommendations for their use.