MEASLES FACT SHEET FOR TSUNAMI AFFECTED POPULATIONS

Failure to deliver at least one dose of measles vaccine to children under 15 years of age in emergency settings remains one of the main reasons for high child mortality and morbidity

1. Measles disease:

Measles is a highly infectious RNA viral infection transmitted by aerosol drops. Humans are the only reservoir.

Incubation period: 10–12 days and measles is communicable one to three days before the onset of fever, rash and cough. Secondary attack rate I sup to 80% in susceptible household contacts.

Complications: Up to 75% children may develop complications which include diarrhoea, otitis media, pneumonia, laryngo-tracheal bronchitis (croup) and encephalitis. Measles also depletes Vitamin A status that results in severe eye complications and blindness. Measles can lead to longer term brain damage and deafness. Low vitamin A status is associated with an increased risk of complications.

Death: Case–fatality ratios for children under one in emergency settings: 3–30%. The three major causes of high case–fatality rates are pneumonia, diarrhoea and croup. Children may also die from measles infection or its sequelae including encephalitis and malnutrition. Measles infection often leads to a prolonged suppression of the immune system, increasing susceptibility to secondary bacterial and viral infections.

Increased risks: Crowding, displacement, exposure at a young age and malnutrition.

Treatment: There is no specific treatment for uncomplicated measles infection, other than supportive care including fluids, antipyretics and nutritional therapy. However, antibiotics may be indicated for secondary bacterial infections such as pneumonia.

Vitamin A: Administration of vitamin A has been demonstrated to reduce measles mortality by 30–50%.

2. Measles vaccine:

Vaccine: A safe and effective monovalent measles vaccine is made from live attenuated virus. It costs about US$ 0.26 per dose (including safe injection equipment). Vaccine effectiveness is estimated to be 85% when administered at nine months of age. It comes as a freeze dried form and must be reconstituted with measles diluent / solvent from the same manufacturer.

Storage and reconstitution: Vaccine should be kept at temperatures below 8°C and sheltered from light. Central stores should store the vaccine (not the solvent) at – 20°C. At room temperature (22–25°C) reconstituted vaccine loses about 50% efficacy in one hour; at 37°C inactivation occurs within one hour. It is therefore extremely important to keep reconstituted measles vaccine cool and protected from sunlight. The vaccine, once reconstituted, should be used by the end of the session or within six hours, which ever is soonest.

Dosage and administration: The vaccine is given subcutaneously as a single dose of 0.5 ml, in the outer part of the upper arm. It should be administered from the age of nine months, but in high risk situations such as overcrowded camps, the vaccine could be given from six months.

Contraindications: Measles vaccine can safely be given to children with mild febrile illnesses and malnutrition. There are only three main contraindications to measles vaccine a) Previous severe allergic reactions (hives, swelling of the mouth or throat, difficulty in breathing, hypotension, shock) following a prior dose of measles vaccine or vaccine component (e.g., gelatin, neomycin); b) severely immunocompromised for any reason should not be given measles vaccine; and c) pregnancy.

Reactions: Commonly observed adverse events following immunization (AEFIs) include 1-2 days of fever after 7-12 days (temp>37.6ºC) in 8% vaccinees and a maculopapular rash lasting for 1-2 days after 6-14 days in 1-2% vaccinees. There may also be some transient slight enlargement of cervical and occipital lymph nodes.

Very rare AEFIs include convulsions, encephalitis and subacute sclerosing panencephalitis. It is important to note that the rate of serious AEFI is very low compared to that of complications observed after measles disease or natural infection.

3. WHO position on measles control:

Delivery of measles vaccine, together with vitamin A supplementation, to all children aged 6 months – 14 years is a priority health intervention during and after emergencies. This is regardless of previous vaccination or disease history. At a minimum, children 6 months through 4 years of age should be immunized.

Coverage: It is essential that high coverage (more than 90%) be achieved.

Safety and disposal: Auto-disable syringes and safety boxes should be used. A plan should be drawn up to adequately dispose of used injection materials by incineration, burning (combustion without complete destruction) or burying.

Logistics: Trained personnel, vaccines, cold chain equipment (refrigerators, freezers, cold boxes, vaccine carriers, ice-packs), other supplies (auto-disable syringes, safety boxes, monitoring forms: vaccination cards, tally sheets etc.), vaccine administration sites, surveillance system, other activities (e.g. nutritional supplementation and Vitamin A, treatment of complications), health education and social promotion materials. Vaccine doses required = target population x 1.18; AD syringes required = target population x 1.18; reconstitution syringes required = amount of vaccine doses required x1.18/10; safety boxes required = total no: of AD syringes + disposable reconstitution syringes required x 1.18/100.

Measles outbreak: The presence of several cases of measles in an emergency setting does not preclude a measles immunization or vitamin A supplementation campaign. Even among individuals who have already been exposed to, and are incubating the natural virus, measles vaccine, if given within three days of infection, may provide protection or modify the clinical severity of the illness. Isolation is not indicated, and should be treated symptomatically. Cases should receive two doses of vitamin A 24 hours apart.

Clinical case definition: Any person in whom a clinician suspects measles infection or any person with fever and maculopapular rash (ie. non-vesicular or without fluid) and cough, coryza (ie. runny nose) or conjunctivitis (ie. red eyes).

Laboratory criteria for diagnosis: At least a fourfold increase in antibody titre or isolation of measles virus, or presence of measles specific IgM antibodies.

4. Further WHO website references and guidelines:

http://w3.whosea.org/EN/Section23/Section1108/Section1835_8188.htm#coMMMDIS
WHO guidelines for epidemic preparedness and response to measles outbreaks:
http://www.who.int/csr/resources/publications/measles/WHO_CDS_CSR_ISR_99_1/en/