

Measles and Rubella Surveillance Integration in the Americas

The goal to eradicate measles in the Americas and the development of the Measles Eradication Surveillance System (MESS) have increased and enhanced epidemiological surveillance in the Region. Through MESS it has become evident that rubella virus is circulating widely in various countries in the Americas, with marked increases every year. It has been calculated that in non-epidemic years, approximately 20,000 children are born with congenital rubella syndrome (CRS) each year. This epidemiological situation makes rubella and CRS serious public health problems in the Region.

In 1998, there were 41 countries reporting 135,947 rubella cases: Argentina, Mexico and Venezuela accounted for 92% of these cases. In 1999, the information about rubella obtained through the MESS system showed that out of 33,633 laboratory analyses performed on samples from suspected measles cases, 26% (8,657) were confirmed as rubella. Ecuador, Brazil, Nicaragua, Dominican Republic and Guatemala accounted for 80% of those cases.

of a regional initiative to integrate rubella and measles surveillance and the strengthening of CRS prevention efforts already in place.

The objectives of rubella surveillance are to determine where the virus is circulating; to timely detect cases in order to carry-out outbreak control and CRS prevention measures; to help quantify the magnitude of the problem; and to provide evidence of the impact of interventions.

For the purpose of an integrated surveillance system, any patient in whom a health worker suspects measles or rubella infection is considered a *suspected* measles or rubella case. These patients generally present fever and a generalized maculopapular rash (Figure 1).

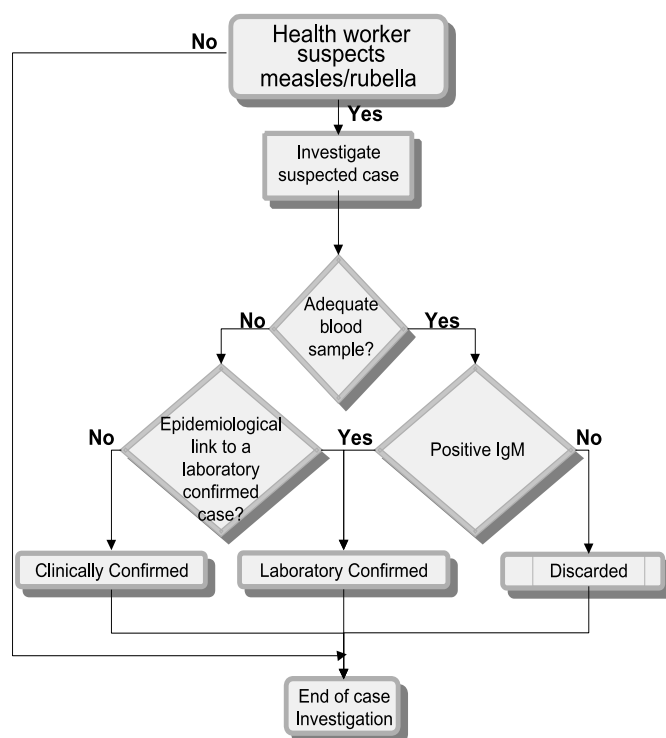
This seemingly simple change has had significant implications for the Measles Eradication Surveillance System, particularly in the classification scheme, clinical data and the way in which the data are analyzed.

To manage the surveillance of two diseases simultaneously, while maintaining the ability to analyze them separately, the concept of *initial* and *final diagnosis* were introduced. This allows to assign a classification to each case, and also segregate or group cases based on their initial or final diagnosis.

Case classification still includes the three options of the previous version: Suspect, Discarded and Confirmed. However, it is now necessary to be more specific and designate the type of suspicion, *measles* or *rubella*. Similarly, when confirming a case one has to specify that the case is either confirmed as *measles* or confirmed as *rubella*. When the classification assigned is *Discarded*, it is also necessary to specify a final diagnosis as either *dengue*, *vaccine reaction*, *other* or *unknown* (Table 1).

Figure 1

Investigation & Classification of a Suspected Measles or Rubella Case



In response to the threat for rubella epidemics, the resulting CRS burden and the current endemic course of the disease, the XIII Meeting of the Technical Advisory Group on Vaccine Preventable Diseases (TAG) of the Pan American Health Organization, recommended the implementation

Table 1

Classification	Initial Diagnosis	Final Diagnosis
A – Suspected	A – Measles	N/A
	B – Rubella	
B – Discarded	N/A	I – Dengue
		V – Vaccine Reaction
		Y – Other
		Z – Unknown
C – Confirmed	N/A	A – Measles
		B – Rubella

It is relevant to point out at this time the difference between the options of *Other* and *Unknown* as final diagnosis. Usually, when the final diagnosis is indicated as *Other*, it means that it is known that it is not dengue, and that there is also certainty about the other diagnosis. In these cases a

space is provided to allow for a specific description. In contrast, an *Unknown* final diagnosis implies that the case is not measles, rubella, or dengue, and that there is also insufficient information to make a final determination.

Another area that had an impact by the integration of measles and rubella surveillance was the section on clinical data. Here, fields were added to indicate the presence of arthralgia; whether the case is a pregnant woman and if so, the number of weeks into the pregnancy and probable place for delivery; as well as whether the case had contact with a pregnant woman. These data can be used as an early opportunity to take preventive or control measures regarding CRS.

It is important to keep in mind that the system now maintains both measles and rubella suspected cases, and that this greatly affects all reporting, listings, tables (such as the indicators) and their interpretation.

For reporting purposes, and when applicable, there is an option to specify which cases are to be included in the analysis, by means of different criteria such as classification, initial and final diagnosis among others. In this way the exact set of cases desired can be analyzed.

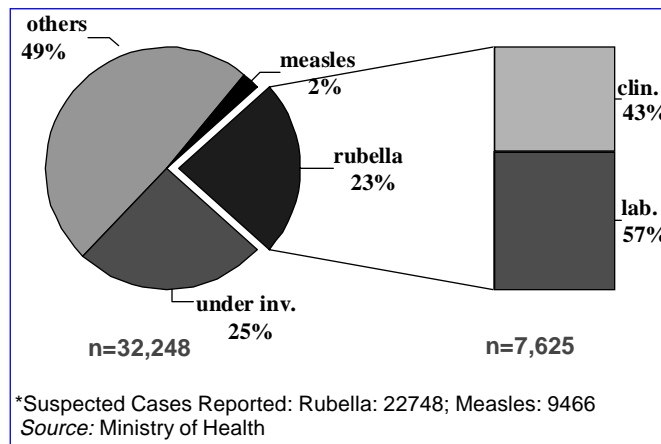
If for example a report is needed with the indicator about the investigation of cases (measles suspected only) within 48 hours following reporting, **Measles** needs to be specified as the initial diagnosis.

The initial initiatives towards the integration of measles and rubella surveillance are already contributing to increas-

ing the sensitivity of measles surveillance allowing the detection of all measles suspected cases that could possibly occur. This is critical at this stage of the eradication goal.

Countries like Brazil, which have implemented an integrated surveillance system, show an increased sensitivity in measles surveillance. In 1999, Brazil reported 32,248 measles and rubella suspected cases (about 23,000 rubella and 9,000 measles) of which 23% were confirmed as rubella. Of the cases reported as suspected rubella, 154 were confirmed as measles and of those reported as suspected measles, 246 were confirmed as rubella (Figure 2).

Figure 2
Measles and Rubella Integrated Surveillance
Supected Cases Reported, Brazil, 1999*



Source: Carlos Castillo, Fernando Vargas and Hector Izurieta.

Paraguay Supports Measles Eradication

Between April 24 and 31 May, Paraguay is carrying out a National Immunization Day in support of the measles eradication goal. The campaign is also being used to immunize over 500,000 children under the age of 5 years old with the oral polio vaccine, and to complete the schedules or initiate vaccination with other biologicals. A house-to-house active search for measles cases is also being conducted.

The First Lady of Paraguay, Mrs. Susana Galli de Gonzalez Macchi has been actively involved in the organization of the campaign, as Honorary President of the National Organizing Committee, which is led by the Minister of Health, Dr. Martin Antonio Chiola. PAHO is providing technical and financial support towards the implementation of the campaign. Other participating agencies include UNICEF, the World Bank, the Inter-American Development Bank, Plan International, the Ministry of Education, the Red Cross, the Armed Forces, Social Security and the Women's Secretariat. Most local governments have contributed with resources.



The First Lady of Paraguay, Mrs. Susana Galli de Gonzalez Macchi inaugurates the National Immunization Campaign with Dr. Martin Antonio Chiola, Minister of Health, and Mr. Diego Victoria, PAHO's Country Representative in Paraguay.