

# MONITORING & EVALUATION TOOLS

# Monitoring & Evaluation Tools

Under the cooperative agreements made between the U.S. Centers for Disease Control and Prevention's (CDC) Influenza Division and its partner countries, the Division supports the monitoring and evaluation (M&E) of activities associated with international Influenza program implementation. The purpose of M&E in this context is to:

- Demonstrate accountability for the resources used by programs to key stakeholders; CDC and the countries which receive funding.
- Document each country's capability and capacity for influenza surveillance, diagnostics and pandemic preparedness in order to:
  - » Identify program strengths and opportunities for improvement.
  - » Provide a mechanism to measure progress toward defined objectives and thereby demonstrate meaningful improvement in public health function over time.
- Guide ongoing investment in influenza surveillance, diagnostics and pandemic preparedness globally.
- Inform strategic and programmatic planning for countries and target technical assistance provided by CDC.
- Standardize and systematize practices.
- Identify good practices that can be shared between countries.

The Influenza Division has developed three tools which are described below. Countries participate voluntarily in these assessments.

## National Inventory of Core Capabilities for Pandemic Influenza Preparedness and Response (National Inventory)

**Purpose:** The National Inventory of Core Capabilities for Pandemic Influenza Preparedness and Response (National Inventory) is a comprehensive tool by which countries can systematically and quantitatively measure their capability and capacity to respond to an influenza pandemic.

**Structure and Content:** The National Inventory covers 12 distinct domains, defined as 'core capabilities' and each capability is assigned a composite score based on the quality, coverage and timeliness of four related indicators. For example, the core capability of 'Infection Control' is measured by determining performance in the following indicators (i) standards of infection control by level of health-care system (ii) integration of infection control training for staff (iii) availability of logistical resources for infection control and (iv) level of institutionalization of infection control efforts. The end-points for the core capabilities are not identical which allows for variation in public health priorities across countries with differing resource constraints. Countries repeat the assessment every two years to monitor changes in pandemic preparedness. For a copy of the National Inventory, please visit [www.cdc.gov/flu/international/tools.htm](http://www.cdc.gov/flu/international/tools.htm).

**Implementation:** In 2008, 40 countries completed baseline self-assessments, facilitated by CDC staff. A further 12 countries participated in late 2009 and early 2010 to establish baselines. By the end of 2010, 36 of the initial 40 countries completed a repeat assessment to monitor changes in their level of pandemic



preparedness since 2008. In 2012, 33 out of the 36 countries were able to complete a third assessment to continue to track changes in their level of pandemic preparedness. 10 of the 12 countries that established 2010 baselines also completed their first re-assessment in 2012.

**Outcomes:** All of the countries improved their scores between 2008 and 2012 indicating an overall improvement in pandemic preparedness for each country over the period.

- The biggest improvements in pandemic preparedness capabilities were made between 2008 and 2010 whereas between 2010 and 2012 four capabilities improved, six remained the same and two decreased although they remained higher than the 2008 level (Figure 1).
- Among the 12 core capabilities for pandemic preparedness, countries scored 'routine influenza surveillance' capability highest in 2008, 2010, and 2012, and scored 'health sector pandemic response' lowest in 2008, 2010, and 2012.

Further to this:

- The assessments in 2008 helped countries to identify and target areas for preparedness improvement which in turn strengthened their ability to respond to the 2009 H1N1 pandemic.
- At the same time, the 2009 outbreak offered an enormous opportunity for countries to test their pandemic response with the outcomes captured when they repeated the tool in 2010.
- The assessments in 2012 helped countries identify whether improvements in 2010 were sustained.
- Identifying areas for Influenza improvement is also enhancing capacity-building for other infectious diseases as well as encouraging compliance with International Health Regulations 2005 (IHR).
- Using the tool to document progress is helping countries to collaborate with different partners & advocate for continued support.

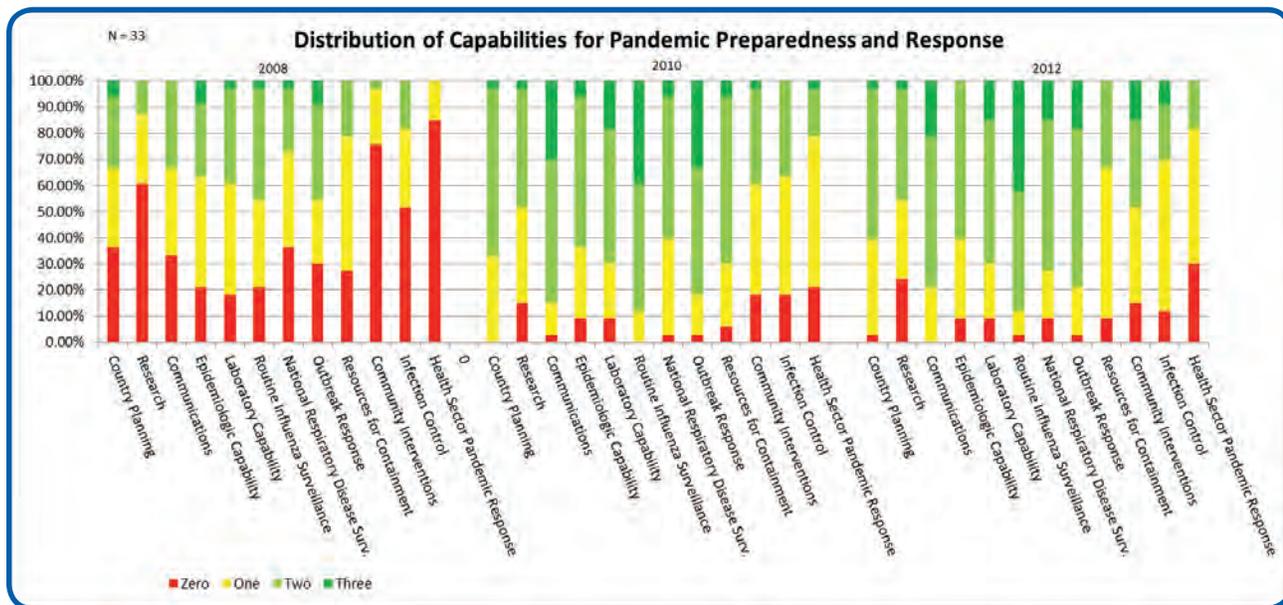


Figure 1. Change in Pandemic Preparedness Core Capability Scores between 2008 and 2012.

## International Influenza Laboratory Capacity Review Tool

**Purpose:** The goal of the International Influenza Laboratory Capacity Review Tool (Lab Tool) is to support good laboratory management and practice. It is designed for assessing the capability and capacity of an influenza laboratory to perform high quality influenza diagnostics.



**Structure and Content:** The Lab Tool is a series of questions divided into nine sections for assessing laboratories across a wide variety of influenza laboratory functions including, general laboratory functions, virology and molecular biology techniques, availability and maintenance of equipment, specimen handling, collection and reporting, staff training, laboratory safety and methods for quality assurance and quality control. The results from these sections form the basis of laboratory capacity summary reports and recommendations for countries. The structure and content of the tool was updated in 2011 based on a first round of assessments and comments gathered from assessors. For a copy of the tool, please visit [www.cdc.gov/flu/international/tools.htm](http://www.cdc.gov/flu/international/tools.htm).

**Implementation:** Between September 2009 and September 2013, 42 national laboratories in 39 countries completed laboratory assessments, facilitated by staff from CDC and the Association of Public Health Laboratories (APHL). Thirteen (13) of the 42 countries underwent repeat assessments in the same period.

**Outcomes:** The tool has highlighted overall laboratory strengths while recommendations are provided by reviewers where opportunities for improvement present themselves. For example, a training needs assessment based on the first 26 laboratories reviewed, identified six country laboratories in the Africa region that do not perform virus isolation; all expressed interest and readiness to receive technical assistance in these methods. Likewise, across all regions, many countries received specific recommendations for improving the biosafety of their laboratories. As a consequence, APHL, CDC, and the National Institute for Communicable Diseases in South Africa delivered a course on “Improving Influenza Laboratory Management Practices”, in Johannesburg in 2011. In 2012, a second course was delivered in Bangkok with the support of CDC, APHL, and The National Institute of Health in Thailand and the WHO Collaboration Center in Melbourne and China.

**Analytic Framework:** During FY 2011, CDC and APHL further developed the Lab Tool by adding a quantitative component to the analysis of data collected. A quantitative analysis can be presented visually allowing quick identification of the status of an influenza laboratory’s capacity. It can also provide a standardized approach to tracking changes in laboratory capacity over time. Approximately 150 questions have been selected for analyzing laboratory capacity across eight categories which have been identified as critical to the functioning of a national influenza laboratory. The eight categories for analysis include: National Influenza Center (NIC) Criteria, Laboratory Management, Biosafety, Quality Assurance and Quality Control, Molecular Biology, Virology, Specimen Handling, Collection, and Reporting and Equipment. Each selected question has been assigned one point. The points are aggregated by category and converted to a percentage performance measure. Beginning in 2012, the quantitative analysis will be included in summary reports. Data collected in 2009 through to 2011 was analyzed using the new analytic framework. Figure 2 shows aggregate scores for laboratory capacities among all participating countries from 2009 to 2011.

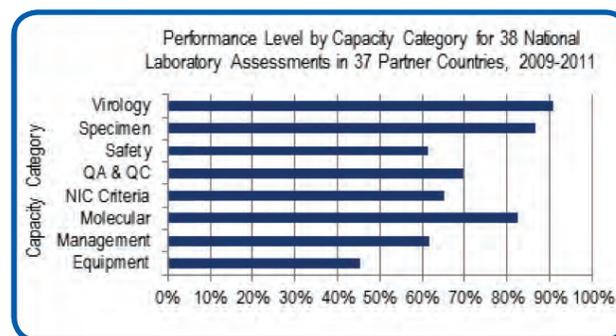


Figure 2. Performance level of laboratory capacities.

## International Influenza Surveillance Assessment Tool

**Purpose:** The International Influenza Surveillance Assessment Tool is designed to standardize and systematize the review of national surveillance systems. The tool helps CDC and partners to clarify the objectives and structure of their surveillance systems, such that recommendations and technical assistance can be targeted to meet system goals such as, conducting data quality checks and establishing built-in laboratory and epidemiologic data integration.



**Structure and Content:** The tool consists of six checklists covering national, central and sentinel site levels and covers all ILI and SARI related surveillance. For example, it includes a review of data management, analysis and reporting procedures. The tool uses a standard format for creating surveillance capacity summary reports where recommendations for countries can be provided. For a copy of the tool, please visit [www.cdc.gov/flu/international/tools.htm](http://www.cdc.gov/flu/international/tools.htm).

**Implementation:** Between March and September 2010, the surveillance tool was piloted in three countries by CDC staff, with an additional seven reviews completed later that year. In FY 2011, a further eight countries underwent surveillance reviews. That year, CDC's Influenza Division also entered into a cooperative agreement with the Council of State and Territorial Epidemiologists (CSTE) who have provided epidemiologists to assist with conducting reviews in partner countries. In FY 2012, 20 countries participated in a review of their surveillance system.

**Outcomes:** The tool has served to highlight overall surveillance strengths and challenges with recommendations for improvement in the 38 countries reviewed to date. Recommendations have included: weekly and quarterly analysis of risk factor data, dissemination of data to stakeholders, and better coordination between national staff and sites.