eSURVEILLANCE IMPLEMENTATION IN THE CONTEXT OF INTEGRATED DISEASE SURVEILLANCE AND RESPONSE IN THE WHO AFRICAN REGION

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The unacceptably high burden of communicable disease and the emerging threat of noncommunicable disease (NCD) are serious threats to Member States in the WHO African Region. These threats require urgent action at local, national and regional levels to address the deeply entwined health, economic and social challenges, with an emphasis on availability and accessibility of required services.

Every year, there are more than 100 acute public health events reported in the Region and 95% of these events are infectious. Although some countries are using electronic systems for data collection, compilation and reporting, most African countries are still using only paper based tools, especially at the peripheral and intermediate levels.

This frequently leads to inadequate data management and suboptimal use of information for action. In addition, lack of policy on standardization of electronic tools makes it difficult to easily generate and share country and regional profiles of Integrated Disease Surveillance and Response (IDSR) priority diseases, conditions and events.

One way of optimizing timely collection of data and translating it into immediate response for decision making is through a platform called eSurveillance. eSurveillance is the use of electronic systems to facilitate public health surveillance functions of prevention, prediction, detection and response for any acute public health event.

Benefits of eSurveillance

The potential benefits of eSurveillance include: timely reporting, investigation, and response to outbreaks; improved data quality; virtual, near real-time disease monitoring capability; reduced system costs; flexibility; generation of automated alerts; improved interoperability; standardization and portability. In addition, information can be more easily stored and accessed.

eSurveillance can facilitate the work of every staff member in a health system but the main target is data management personnel at all levels, supervisory and disease specific programme personnel at intermediate levels, and decision makers at national levels. This is also in alignment with the IDSR framework where each category of health workers has a role to play in producing information for action.

Additionally, IDSR takes into account the One Health approach which is a strategy that addresses events at the intersection of human, domestic animal, wildlife, and ecosystem health. For example, 75% of recently emerging and re-emerging diseases affecting human health are of animal origin (e.g. avian influenza). eSurveillance is taking into account intersectoral linkages to facilitate efficient utilization of scarce resources, effective and prompt leveraging of various sectors capabilities for better disease prevention and control.

In 2006, Member States recommended that the International Health Regulations (IHR 2005) be implemented using the IDSR framework, especially in strengthening core capacities for surveillance and response. The IDSR framework illustrates the functions, activities and skills required to implement a coordinated, comprehensive surveillance and response system. To date, 44 out of 47 countries in the African Region are implementing IDSR.

eSurveillance strengthens health systems

eSurveillance is critical to fulfill IHR 2005 requirements and the revised IDSR Technical Guideline and training modules will enhance capacity of health workers at all levels of a health system within a country. Activities for each level have been identified to facilitate disease detection, reporting, analysis, investigation, response, communication, monitoring, evaluation and preparedness.

The current IDSR guidelines target 44 priority diseases, conditions and public health events. The goal of these guidelines include strengthening surveillance and response capabilities at each level of the health system by building local capacities and leveraging strengths and areas of expertise through partnership and coordination. Partnerships are very useful in coordinating inputs to health and avoiding duplication and fragmentation of resources and efforts.

Getting maximum return on partnerships calls for efforts from the partners, governments and non-state actors within countries to engage with each other. Key partnerships help build capacity to scale-up implementation of the IHR 2005 and IDSR through networking of public health research institutions, communicable disease risk assessment, and improvement of information management systems.

Inadequate implementation of IDSR has shown to lead to delays in outbreak reporting and response resulting in high morbidity and mortality and adverse economic implications locally, regionally and internationally. These effects have been most notably seen in countries affected by the Ebola virus disease epidemic.

In response to the Ebola crisis and other emergencies, the WHO Regional Office for Africa has created a Health Security and Emergencies (HSE) Cluster to lead, coordinate and support all actions related to public health events. The Cluster will help reduce the adverse effects of these events through prevention, early warning, early detection, and rapid and effective response operations in acute and protracted emergencies arising from any hazard with health consequences.

In line with the above, the WHO Regional Office for Africa has been closely collaborating with Defense Threat Reduction Agency (DTRA), US Centers for Disease Control and Prevention (CDC), US Agency for International Development (USAID), Public Health Practice - LLC, African Field Epidemiology Network (AFENET), amongst others in rolling out eSurveillance in the context of IDSR, IHR 2005, One Health approach and eHealth in the African Region.

ASIGB and SITAG established to support eSurveillance

In order to successfully implement eSurveillance, it was critical to ensure the establishment and optimal functioning of the following two structures: i) the African Surveillance Informatics Governance Board (ASIGB) which provides Member States strategic guidance on eSurveillance implementation; and ii) the Surveillance Informatics Technical Advisory Group (SITAG) which provides guidance and support for assessment of the status of eSurveillance.

The interim ASIGB and SITAG boards were established through the critical work of key stakeholders at two consultative meetings, one held in Pretoria, South Africa in 2013 and the other in Brazzaville, Congo in 2014. In addition, a concept note on eSurveillance was developed and disseminated to Ministries of Health in the WHO African Region.

An eSurveillance assessment tool was developed and multisectoral working groups trained on how to conduct assessments in country specific contexts. WHO Country Representatives have identified Disease Prevention and Control Officers from selected countries to serve as focal points on eSurveillance in their respective countries.

Assessment reports on the status of disease surveillance systems in the context of eSurveillance are currently being finalized in Burkina Faso, Cameroon, Kenya, Nigeria and Uganda. These assessments will provide information to inform the ASIGB on future planning of interoperable systems within the various structures in each country.

Steps for establishing eSurveillance in the context of IDSR at the country level include:

1. Establish/strengthen country level eSurveillance coordination structure: Using the existing national IDSR and/ or IHR task forces. National authorities are encouraged to set up a coordinating body comprised of all key stakeholders required for coordinating eSurveillance implementation. This task force should include national public health informatics experts and representatives of the Ministry of Health, Agriculture and or Wildlife.

2. Develop country-specific eSurveillance implementation plans: The national plans of action will be developed using the WHO generic regional strategic planning guide. All the relevant government ministries should be involved during the planning process.

The WHO Regional Office for Africa will continue to play a critical role in **Leadership**, **Technical support**, and **Advocacy** to implement eSurveillance. **Leadership** through leading stakeholders to establish and operationalize ASIGB and SITAG; providing leadership on policy matters and developing relevant standards; and promoting national political commitment to eSurveillance within the context of IDSR.

Technical support by developing standardized tools for assessing the current status of eSurveillance in countries in the African Region; developing a strategic planning guide for eSurveillance; supporting Member States to build sustainable institutional capacity for the data management of public health events, in line with IDSR and IHR 2005, and promoting the systematic development of workforce capacity; and supporting ASIGB to establish monitoring and evaluation systems to measure progress and make improvements.

Advocacy by providing technical support and resources to Member States that serves to establish national political commitments to implement eSurveillance. WHO in close collaboration with partners will continue to support Member States in implementing eSurveillance, documenting good practices and advocating for additional resources at national and international levels for the sustainability of this initiative.

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