

Measuring Time to Outbreak Detection

Background

The Skoll Global Threats Fund views the timeliness of outbreak detection, verification, and response (along with other associated measures of timeliness) as important measures of global health security; measures that complement existing frameworks and provide utility to Ministries of Health. These measures involve quantifying the time interval between *disease onset in the index case of a given outbreak* and:

- (1) the time the case was originally detected by a clinic, physician, or other means;
- (2) the time the case was reported to public health authorities;
- (3) the time of laboratory confirmation of the pathogen;
- (4) the time of implementation of control measures;
- (5) the time of public communication about the health threat; and
- (6) the time of reporting to the international community [IHR compliance].

We believe measurements provide some understanding the world's capacity to react to health threats in a quick and effective manner. Working with our partner organizations, the Skoll Global Threats Fund seeks to empower this type of measurement in all countries, based on an existing methodology¹.



Our Approach

The Skoll Global Threats Fund (SGTF) has provided support to field epidemiology training programs (FETPs) and their associated Ministries of Health in seventeen countries as they implement methods adapted from *Chan et al.* to examine their detection, verification, communication, and response timeliness to infectious disease outbreaks. Through TEPHINET, the umbrella organization for fifty-five field epidemiology training programs around the world, FETPs were encouraged to submit applications for grant funding to support the implementation of these methods in their own country. Seventeen awardees were selected in three rounds of funding over a two year period.

Desired Impact

Rather than using these data to evaluate performance against neighboring countries or other regions, nations that undertake the effort to establish their own "time to detection" baseline will learn whether changes to reporting policies, implementation of the IHR core competencies, use of novel disease reporting systems, or increased investments in disease surveillance have improved the speed of detection and response capabilities. Measurements can be stratified by several variables, including pathogen type, to gain insight into what approaches are most effective.

Lessons learned and best practices from the each round of grantees will inform the refinement of these additional studies. SGTF is engaged with the Mekong Basin Disease Surveillance network and launched a regional project in partnership with Cambodia, Laos, Myanmar, and Vietnam to quantify the same outbreak timeliness measures for each country. Ministries of Health will not only be able to assess progress to date, but identify programmatic or geographic gaps that can inform resource allocation and strategic planning. Governments, NGOs, and philanthropies will be able to better understand which investments have the biggest impact in the area of rapid detection and response, and can share these learnings to ensure efficient use of limited funds.