SPEEDIER: Surveillance integrating Phylogenetics and Epidemiology for Elimination of Disease: Evaluation of Rabies Control in the Philippines

Rabies, a horrific but preventable disease, kills over 200 people annually in the Philippines. The National Rabies Prevention and Control Program in the Philippines has catalysed control efforts with some provinces now aiming to declare freedom from rabies. However, outbreaks continue and human deaths still occur. While access to lifesaving post-exposure prophylaxis (PEP) for rabid bite victims has improved and has reduced mortality, it has proven expensive. Indeed rising PEP use has put a strain on local and national budgets, even as rabies circulation has declined, raising the question of how these efforts can be sustained. Meanwhile, routine rabies surveillance in the Philippines has shortcomings and is not sufficiently sensitive for international agencies to recognize rabies-free areas or to rapidly respond to incursions which remain a risk while rabies circulates in other provinces in the country. As a result, surveillance needs strengthening and use of PEP needs rationalizing for the Philippines to fully benefit from rabies control measures that are currently underway.

Integrated Bite Case Management (IBCM) has been identified as a potential strategy that can sufficiently enhance surveillance to enable verification of rabies freedom and rapid detection of incursions for effective outbreak responses to maintain rabies freedom. Operationalizing IBCM as a key component of enhanced surveillance should have immediately beneficial applications within the Philippines and could more broadly benefit the global campaign to eliminate human rabies deaths by 2030. SPEEDIER's aim is to deliver a cost-effective, epidemiologically robust, enhanced surveillance and response package to guide and sustain the elimination of rabies from the Philippines.

Specific objectives are to:

1. Assess the impact of IBCM on increasing case detection of rabies and thereby enabling rapid and effective outbreak responses to maintain rabies freedom;
2. Assess the potential for IBCM to improve patient care, by identifying and treating persons bitten by suspect rabid dogs who would otherwise be overlooked by the health system;
3. Assess the impact of judicious protocols for administration of rabies PEP and therefore the potential for generating cost savings
4. Determine whether IBCM and judicious PEP can be implemented as intended in different local contexts, identifying facilitators and barriers to successful implementation and sustainable roll out;
5. Develop best practices for delivering enhanced surveillance to support rabies elimination, bridging research to policy and implementation;
6. Develop decision support tools and guidance for risk assessment, outbreak response and maintaining rabies freedom in the Philippines.

The study design comprises a feasibility study followed by an implementation study of IBCM with an embedded stepped-wedge randomized controlled trial (RCT) of rationalized use of PEP in the low socio-economic class provinces of Romblon and Oriental Mindoro, that include geographically isolated and disadvantaged communities. Through this implementation research we will develop best practice for an enhanced surveillance approach using IBCM as a strategy to detect rabid animals, with risk assessment of bite patients triggering epidemiological investigations and informing PEP use.