

Improving Disaster Preparedness and Mitigation for a More Resilient Health System in Indonesia under NGOs-Government Partnership

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Research Question

How do we improve disaster preparedness and mitigation, under NGOs government partnership, for a more resilient health system response to a natural disaster in a high-risk area of Indonesia?

Objectives:

1. Identify key challenges in the current disaster preparedness, mitigation and response mechanisms by the NGOs and local health systems, with a focus on overlapping services in past disasters.
2. Facilitate collaboration between local health systems, government and NGOs in disaster planning at the local health system level.
3. Propose an operational response framework which will provide a uniformed measurement of improved health outcomes.
4. Evaluate the response with drills in high risk areas.

Justification:

When a disaster occurs, the Indonesian National Board for Disaster Management (BNPB) at the National level is at the core of operations to coordinate different government departments (including Ministry of Health) and comes under the authority of the Vice President of Indonesia.[1]. In the decentralization era, the disaster risk reduction (DRR) fall under the authority of either the governor and at the local level, the mayor.[1, 2] At the local level, there are two levels of governments in relation to health services provision: provincial and district/city municipality levels. Provincial governments are responsible for the provincial hospitals and Provincial Health Offices (PHO).[3] The provincial government cannot direct the district municipality government which result in an almost independent authority in terms of mandate. [3] That includes disaster planning and preparation. The role of each sector and community include Non-Government institution in DRR were not clear

The proposal aims at strengthening the existing evidence base on public health by covering the 'operational' gap between the local NGOs and government, through collaboration, in providing the local health systems with appropriate support through disaster mitigation, preparedness and thereby improving disaster response. Using a triangulation method [4, 5], the evidence to build an operational framework will be based on previous disaster responses (including the acute phase), as well as prospective field data collection on disaster preparedness and mitigation in high risk areas, by all parties. The recent Central Sulawesi and Sunda Strait post-tsunami assessments highlighted the significant impact on the local health systems and functions due to limited or minimal preparedness in the local health systems. Humanitarian services of NGOs in health-related settings were under-utilized but with limitations. These are part of the gaps highlighted in the Humanitarian Health Evidence Review. [6]

Humanitarian Focus:

The proposed context is relevant to Indonesia and other Low- and Middle-Income Countries [LMICs] within the region, due to the lessons learnt from last two tsunamis which occurred in 2018, along with the Boxing Day Indian Ocean tsunami in 2004. Even with the 2004 tsunami, the disaster preparedness and mitigation plans were still poor in other high—risk areas. This is evidenced by both 2018 tsunami-related disasters where there were surveillance, surge capacities (manpower) and structural problems within the local health services which ultimately impacted on their health care delivery services. The local NGOs were critical in providing humanitarian coverage, including mental support, for victims. However, the cooperative mechanisms involving distribution of assistance, including health services, were skewed and could not reach the areas of most urgent need. The proposed context will assist the local health systems and NGOs to respond with greater effectiveness.

Impact:

The research will show that the NGO-government partnership in disaster responses will lead to improved health outcomes in an LMIC country. By fulfilling objective 1, we will identify the gaps and challenges in the local health system during the acute disaster phase to open the discussions of where the NGOs can assist. This information will allow forward planning for the NGOs in disaster preparedness and mitigation. It will form the basis of objective 2, to facilitate discussions between the local health system, government and NGOs on how to formulate a better disaster response plan in preparation for future disasters. From objective 1 and 2, we will use the suggestions to draft an operational response framework which will provide a uniformed measurement of improved health outcome as laid out in objective 3. Objective 4 will be to test the response using disaster drills. This will enable us to refine the framework and identify further issues to address.

Methodology:

The research will be undertaken in high risk areas (including post-disaster areas) that were identified based on the past history of disasters in the last ten years. For the purpose of this research, the priority natural disasters of focus are earthquakes and tsunamis due to the coastal spread of Indonesia. Indonesia has syndromic surveillance system, known as SKDR, and a health management system (DHIS 2) which can be used to track and monitor communicable diseases as well as selected non-communicable diseases (NCDs) in disaster areas. Phase 1: Both retrospective and prospective data as well as prospective data will be collected use a Vulnerability Mapping method [7, 8]. Retrospective data will be extracted from previous Indonesian studies, grey literature, SKDR and DHIS 2 (first week-acute). Prospective data will include interviews of the Indonesian NGOs and local health services based on the past disaster; and assessment of policies and protocols related to disasters. We will conduct the Social Impact Assessment to the community and NGOs as well [9]. Phase 2: Triangulation of the data will inform the coordination challenges between the NGOs and government in relation to the local health system. The focus will be on PHCs/evacuation centers, information management, manpower deployment, monitoring and surveillance, communicable disease prevention and management, mental health, management of non-communicable diseases (NCDs). Geospatial radius of health services and capacities for disaster preparedness will be estimated together with estimation of impact based on BNBP assessment. [7] Phase 3: Based on the results, a draft operational response framework during the

acute phase of the disaster will be formulated with inputs from all stakeholders. Local health services and the NGOs will be guided on formulating their disaster preparedness and mitigation plans according to the proposed framework. Phase 4: The effectiveness in response will be evaluated by performing disaster drills, or if a disaster actually occurs again in the area.

Challenges:

The availability of retrospective data during the acute phase (1 week) for the last ten years may be limited in some provinces. However, there are enough data collected in the last five years to perform the research. Time management may be an issue if venturing into more remote provinces due to the travelling modes. As the areas are high risk and geologically active- there are plausible chances of an earthquake/tsunami/volcanic eruption which will impact on the project. It cannot be prevented and that also means that the researchers must be prepared to assist in the acute phase of the disaster, should transportation infrastructure be cut off. While a naturally occurring disaster cannot be mitigated, only experienced researchers will be deployed in assisting with the operations according to their affiliated status if necessary. Most, if not all, of the research team have previous training or practical experience in disaster management. Emergency equipment may be provided if

Research experiences:

I, my team and Indonesia Epidemiology Association (PAEI) colleagues have collaborated on the WHO-funded proposals for disaster assessments of the Central Sulawesi and Sunda Strait Tsunamis. We have performed field work in other Indonesian disasters and public health emergencies overseas while Dr Kong from City University of Hongkong have previously volunteered in disasters (floods) overseas, well as participated in surge capacity/ public health emergency drills under the Australian Government.

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