

RAPID HEALTH ASSESSMENT IN EMERGENCIES: VIETNAM EXPERIENCE

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Abstract. Over the last 4 years, World Health Organization in collaboration with Ha Noi School of Public Health had conducted four Rapid Health Assessment (RHA) after major natural disasters in Vietnam: The typhoon Damrey in North of Vietnam, October 2005; the typhoon Xangsane in Central Vietnam October, 2006; The typhoon Lekima October 2007 and the typhoon Kammuri August 2008. This paper focuses on discussion of the importance of conducting Rapid Health Assessment after emergencies. One Rapid Health Assessment conducted after the Xangsane typhoon hit Central Vietnam in October 2006 will be used to illustrate the process, the importance of conducting Rapid Health Assessment. The methods and the results of the assessment will be discussed. Though RHA after emergencies has been recommended by the WHO and tools for RHA are available, the policy on Rapid Health Assessment in emergencies, guidelines, assessment tools were not available for use by the health sector of Vietnam. As a result, Rapid Health Assessment has not been implemented as a regular activity in emergencies and disasters. Therefore, the Ministry of Health should develop Emergency Health Policy including policy on Rapid Health Assessment in emergencies and take necessary action to ensure Rapid Health Assessment will be implemented in every emergency.

INTRODUCTION

Every year, Vietnam is hit by several natural disasters such as typhoons, floods and flash floods. As a result hundreds of people has been killed and thousands others affected. In recent years, the numbers of tropical storms have increased in number and severity. Each year from 2005 to 2008, there was one devastating typhoon followed by floods and flash floods that killed hundreds of people and affected other thousands: Damrey in 2005, Xansane in 2006,

Lekima in 2007 and Kammuri in 2008. These typhoons caused huge damage to human lives and infrastructure, including health facilities. While the information management system in emergency conditions is still very weak, response of the central and local governments are mostly based on the routine reporting system that often works ineffectively during emergencies. Under the impact of disasters, common means of communication and transportation from the most affected areas are often disrupted while the affected population continues to need urgent support.

Damage and need assessments are reported after every emergency, however, there is little health information on these reports. Rapid Health Assessments (RHAs)

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are therefore considered as the most effective and timely way to collect health information in disasters. In line with this, the World Health Organization–Emergency and Humanitarian Action Unit (WHO-EHA) in Vietnam has supported a group of experts that can conduct RHAs when needed. Four RHAs have been conducted in eight provinces after the devastating typhoons of 2005–2008.

This report uses the 2006 RHA to illustrate the Vietnam experience on conducting RHA. This RHA was conducted in three provinces most affected (Quang Nam, Da Nang, and Thua Thien Hue) by typhoon Xangsane that hit the central region of Vietnam on 1 October 2006 (Ha and Le, Report on rapid assessment on damage caused by Xangsane typhoon (unpublished).

MATERIAL AND METHODS

Rapid assessment approach, including direct interview, field observations, and analysis of relevant documents, reports, etc. was applied.

Interviews

Questionnaires developed by the team with reference of the WHO Rapid Assessment Tools were used. Interviews were carried out from 9 to 13 October 2003 which was 8 to 12 days after the Typhoon. Interviews were conducted with Provincial, District and Commune health authorities and lasted from 30 minutes to one hour. The following health authorities were interviewed:

- Directors and/or Vice-Directors of the Provincial Health Service (PHS)
- Heads of Planning and Technical Departments of the PHS
- Director Board of PHS for Disease Prevention (DCDP)
- Director and/ or Vice-Director of district hospitals

- Head of Planning and technical department of district hospitals
- Heads of Commune health station and health staff.

Collection of available data

The team collected as much data related to the Typhoon as possible. This included reports on damages caused by the Typhoon made by the Provincial Committee for Floods and Storm Control, the Provincial Health Service (PHS), District Health Facility (DHF) and Commune Health Center (CHC). Reports produced by the UNDP, the MoH and from Central Committee for Floods and Storm Control (CCFSC) as well as Damage and needs assessment reports of Disaster Management Working Group (DMWG) were also collected (Central Committee for Floods and Storm Control Vietnam. Summary of damages caused by Typhoon number 6 (Xangsane) as of 5.00 PM October 2006 (unpublished).

Observation

Direct observations were made by the team to all health facilities visited. Photo documentation of damages was done.

RHA Conducting in the field

The assessment team made field visits to the most affected areas, where the team met with local government authorities and health authorities to collect available reports (official and draft reports), interview provincial health officials to collect general information of the affected areas, and interview key informants of relevant sectors to consolidate information such as the Red Cross, education department and social organizations. The team also visit affected health facilities to assess damages to the health infrastructure, medical equipment, and medicines.

Data analyzing and report writing

Quantitative data collected was not

Table 1
General information on the affected provinces.

Province	Population ^a	Districts ^b	Districts affected ^b n (%)	Total no. of com ^b	Communes affected ^b n (%)	People evacuated ^b n (%)	Estimated population affected	
							N	%
Da Nang	764,500	8	8	55	55	15,000	764,500	100.0
Quang Nam	1,452,400	17	6	233	76	68,000	473,744	36.6
Thua Thien Hue	1,119,800	9	9	150	85	50,690	671,000	59.8
Total	3,336,700	36	23 (63.9%)	438	226 (51.6%)	133,690 (4.0%)	1,909,244	57.2

^aMinistry of Health, Health statistics yearbook 2004; ^bProvincial Health Service, estimation of affected area and population

Table 2
District health facilities and commune health center affected by level of damage and by province.

Province	District Health Facility (DHF)			Commune Health Center (CHC)		
	Total	Destroyed(%)	Damaged(%)	Total	Destroyed(%)	Damaged(%)
Da Nang	6	0.0	100.0	41	0	100.0
Quang Nam	17	0.0	70.6	233	0.9	32.6
Thua Thien Hue	9	11.1	66.7	150	2.0	54.7
Total	32	3.1	75.0	424	1.2	46.9

complicated and therefore Microsoft Excel was used to analyze it. Qualitative data was coded and analyzed by themes. Relevant quotes were used to illustrate the collected data.

RESULTS

Overview of the impact of the typhoon

Table 1 presents number and percentage of districts, communes and the estimated population affected by the typhoon. Some 2 million people, accounting for 57.2% of the population of Quang Nam, Da Nang and Thua Thien Hue, were affected by typhoon Xangsane. More than 133,000 people were

evacuated before the typhoon hit the province. Sixty-three point nine percent of the districts and 51.6% of communes of the three provinces were affected. The most seriously affected province was Da Nang, where all communes were affected.

Damage to the health facilities

Damage to health facilities were observed and reported at all levels, from province to district and commune. There was not any provincial health facility (PHF) was completely destroyed, but 18 of 49 (36.7%) were partly damaged by the typhoon. Da Nang was the most affected with 100% PHFs were partly damaged. Unroofing and collapse of surrounding fences were the most

common damages.

DHFs and CHCs damages were summarized in Table 2 which shows that 75.0% DHFs in the three provinces were partly damaged. In all cases it was roofs, surrounding walls and ceilings that were damaged rather than the main part of the buildings. All of the damaged DHFs have kept functioning with some difficulties, except one district hospital in Thua Thien Hue which was almost destroyed and had been moved to other buildings of other organization to continue service.

One hundred ninety-nine of 424 (46.9%) CHCs of the three provinces were damaged. Da Nang was the most affected province in terms of numbers of CHCs damaged, where 100% of the CHCs were damaged. Thua Thien Hue was the next most affected with 82/150 (54.7%) CHCs damaged and 3 CHCs destroyed. Seventy-six of 233 (32.6%) CHCs in Quang Nam were damaged and 2 CHCs were destroyed. Though 5 CHCs were destroyed by the typhoon, none of them experienced loss of function.

Estimated costs for repairing health facilities

Total estimated cost to repair all the damaged DHFs and CHCs is USD 4,512,625. The estimated costs of damage to the health facilities in Thua Thien Hue, Da Nang and Quang Nam are USD 3,437,500; 969,500 and 105,625, respectively. This includes cost of damage to infrastructure of Nam Dong District Hospital and damage to costly medical equipment such as x-Rays and ultrasound scans. The main expenses were the cost to repair collapsed walls, leaking roofs, windows, doors and degraded rooms. Costs to replace furniture and medical supplies were not estimated separately. At the time of the assessment, there was no cost estimation for medical equipment and/ or medicine available. There was no urgent need to replace

medical equipment and medicine reported by most districts and provinces visited, except at Nam Dong Hospital in Thua Thien Hue, Dien Ban District in Quang Nam Province and in Hoa Vang District in Da Nang City.

Immediate health consequences of the typhoon in the affected population

Morbidity and injuries. According to the Central Committee for Flood and Storm Control (CCFSC), the total number of deaths was 69 (up to 5:00 PM, 5 October 2006), including 31 people directly killed by the typhoon and the other 38 people killed by flooding following the typhoon. Total number of deaths in the three provinces was 44 and accounted for 63.8% of the total number of deaths.

A total of 1,872 people were reported injured in the three provinces. The numbers of injuries were 1,207 (64.5%); 513 (27.4%) and 152 (8.1%) in Da Nang, Quang Nam and Thua Thien Hue, respectively. It is noted that, though there were a considerable number of injuries reported, all of the injuries were treated at health facilities without difficulty because the health sector had prepared well before the Typhoon. There was no shortage of medicine, medical equipment or health staff reported.

Epidemic and illnesses

There was no epidemic outbreak reported. Generally, there were statements made by the health authorities that "there were no epidemics that occurred because of the typhoon and the number of people seeking care or admitted to the hospital is unchanged in comparison with that before the typhoon" were the common answers of health authorities at all levels of the health sector (province, district and commune).

Most of the respondents reported that there was a little increase in incidence of some common diseases but the situation was

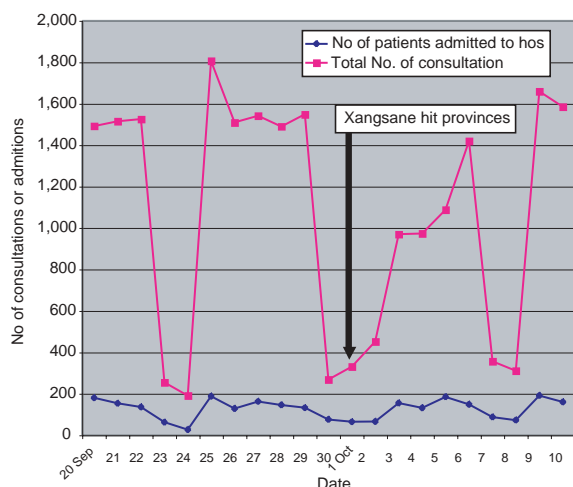


Fig 1—Number of consultations and patients admitted to the 5 district hospitals, 20 September to 10 October 2006.

under control. The data collected from DHFs shows that none of the affected DHFs experienced increased demand for services. When looking at total number of people seeking care and number of patients admitted to 5 district hospitals in the 3 provinces 10 days before and 10 days after the Typhoon, no difference was observed (Fig 1).

Though there was not any epidemic outbreak reported, the increased risk of outbreaks of dengue fever, acute diarrhea, influenza, acute upper respiratory tract infection and conjunctivitis due to the prevailing weather condition (hot and rainy) and the polluted environment after the typhoon and floods has concerned health staff at some districts such as Lien Chieu District in Da Nang City, Phu Loc in Thua Thien Hue Province, and Dien Ban District in Quang Nam Province.

DISCUSSION

It has become common practice to conduct general damage and needs assessment

after a disaster. However, information on health received from these assessments is very limited and is untimely. While emergency health information system has not been institutionalized in Vietnam, Rapid Health Assessment is necessary to provide information on damage to health facilities and the disaster's impact on the health. This information is essential for making right decisions ensuring timely and effective response to the health needs of the affected population. Health policy and guidelines for RHA have not been developed in Vietnam. As a result, RHA has not been routinely conducted in every emergency and reporting was not done in a uniform format. Recent RHAs conducted by a team supported by the WHO have provided the Ministry of Health (MoH) with important information on damage to health facilities and impact on health of the affected communities that has been used for planning of response to the needs of affected communities. This has led to the increased awareness of the MoH about the importance of RHA in an emergency. As a result, the MoH started to develop Emergency Health Policy, including guidelines on RHA, since the middle of 2009.

Though risks of communicable diseases did exist in the affected areas, no epidemic was reported. This was explained by the effectiveness of prevention interventions implemented by the health sector right after the Typhoon. While many people may believe that disease outbreaks after floods are inevitable, other researcher have proved that disease outbreaks often do not spontaneously occur after floods, particularly when disease prevention interventions are effectively implemented (Noji, 1997).

Cost estimation of damage to health facilities was unreliable. Results of this assessment showed that the main expense were for repairs and reconstruction of infrastructure of health facilities, rather than for medi-

cines and/or medical equipment. This assessment also revealed that there was no standard guideline on health facility damage assessment. Each province has its own method for estimating these costs and therefore all estimations were subjective as they relied only on estimation of health authority. It is important to note that this estimation might be overestimated as health authorities thought that doing so would yield more support. In addition, costs of damage to medical equipment such as ultrasound, autoclaves, and x-ray machines have not been estimated separately from cost of damage to infrastructure of health facilities. In other districts, some medical equipment and medicine was reported damaged (Dien Ban District, Quang Nam Province). However, the estimated cost of these damages was not available at the time of the assessment.

This assessment has showed that local health staff have not been trained in making damage analysis and health need assessments after a disaster. There were no guidelines and standard forms for collecting information and reporting on health needs, making compilation and comparison of data difficult. The results of this RHA provided clear evidence of the need for training local health staff in conducting RHA after a disaster.

Assessment tools used in RHAs in Vietnam were adapted from available tools developed by the WHO and other organizations (Michael, 2007). The assessment tools include open questionnaires (for qualitative data), data collection form (for quantitative data). The form for collecting data should be simple, comprising key information that is needed for immediate decisions of responses (as suggested below). RHA should be implemented as soon as possible after an emergency/disaster and results should be shared not only within the Ministry of Health but other relevant organizations,

such as national and international non-government organizations.

We recommend that an emergency health policy and guidelines, including Rapid Health Assessment in emergencies, should be developed and institutionalized. This would ensure that RHAs will be conducted after a disaster as a part of routine response work of local health authorities. Emergency health information should be integrated in the current Health Information System, this will facilitate the process of collecting, and providing relevant health and health related information in emergency situation for health authorities to make appropriate and timely decisions. Available assessment tools and guidelines developed by the WHO should be adapted and/ or developed to be utilized in every emergency. The key information that is recommended to be collected and reported in any RHA is as follows:

General information

Type of disaster

Affected area

Time of occurrence: Hour..... date..... month.....year.....

Time of assessment: Date..... month.... year....

Content of assessment

1. Health situation

Number and % of people affected

Deaths and cause of deaths

Causes of deaths	Total deaths (n)	Age (years)		
		0-4	5-16	16+
Drowning				
Landslides				
Electrocution				
Snake bite				
Burns				
Wounds				
Disease				
Other				

Total
 Number of missing
 Epidemic (what, when, where)
 Changes in mortality of communicable diseases (what kind of diseases, where and when),

2. Damage/loss of health facilities

Loss of health staff. No. and type health staff lost

Infrastructures

- Damage to building
- Loss of access
- Ambulance
- Loss of supplies or equipment
- Loss of water/electricity/fuel

3. Environment health

- Water supply source
- Excrement disposal
- Solid waste disposal
- Air pollution
- Possible health risk

4. Capacity assessment

4.1 What has been done for health issue?

- Search and rescue
- Provide drinking water
- Provide food/food hygiene and safety
- Mass casualty management
- Medical treatment
- Prevention activities
- Health environment protection
- Recover health facilitators
- Provide necessary drug
- Provide medical equipment
- Other activities

4.2 What is going to be done?

5. Need assessment

- Victim transportation
- Access to health service
- Drinking water
- Health education
- Medicine
- Health professionals

- Medical equipment
- Energy
- Shelters
- Death management
- Other

6. Recommendations for immediate Action

It is necessary to train local health staff, with priority for training of those working in disaster-prone areas, in conducting health needs assessment in emergencies. This will contribute to the development of disaster management capacity of local health staff. Also, the timely conduction of RHAs can then be done at a lower cost, requiring little or no assistance from the MoH and WHO.

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