HKJCDPRI CENTER OF EXCELLENCE IN DISASTER TRAINING AND RESPONSE:

FORGING A COLLABORATIVE REGIONALLY-FOCUSED AND COMMUNITY-CENTRIC AGENDA

FXB CENTER FOR HEALTH AND HUMAN RIGHTS
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Key Message

This policy brief proposes a detailed agenda for the HKJCDPRI Center of Excellence in Disaster Preparedness and Response. Acknowledging the growing global shift from top-down emergency response systems to contextualized community-specific approaches, and the WHO-led coordination and standardization of Emergency Medical Teams, this brief outlines a research and training agenda that prioritizes community resilience. The brief recommends that HJKCDPRI leverage its vast network of regional and international partners to lead multi-disciplinary, simulation-based training in disaster preparedness and response.

Introduction

The Hong Kong Jockey Club Disaster Preparedness & Response Institute (HKJCDPRI), launched in 2014, has focused on establishing an evidence base in support of "effective disaster preparedness and response, both for Hong Kong and the Asia Pacific region." This concept was discussed during HKJCDPRI's Annual Conference on Disaster Preparedness and Response, held in Hong Kong from 30 October to 1 November 2015. At this conference, a wide range of disaster experts from across the Asia-Pacific along with world recognized disaster experts helped define the priorities for improved community risks and awareness, hospital preparedness for disaster related infrastructure failure, and the building of community resilience.

Among the global partnerships of HKJCDPRI is their key collaboration with Harvard University, the University of Hong Kong (HKU) and the Collaborating Center for Oxford University at the Chinese University of Hong Kong (CCOUC). In 2015, researchers at Harvard and HKU conducted an expansive Scoping Study[1] to illuminate the stated disaster training and response needs of Hong Kong's response agencies and its residents. This Study was followed by a more detailed Policy Brief[2] that highlighted recommendations for Hong Kong's community engagement agenda in disaster planning and response. Finally, in early 2016, a White Paper[3] was submitted that put forth suggested operational and programmatic priorities for HKJCDPRI.

This document, with a focus on establishing the agenda for a Center of Excellence in Disaster Training and Response, is designed to provide more detailed recommendations for HKJCDPRI based both on accepted policy and current research findings. Two main topics of immediate relevance are discussed: 1) The shift from top-down emergency response to community engagement; and 2) The new intent of the World Health Organization to organize and manage

the training and deployment of Emergency Medical Teams (EMTs) to major disasters around the world.

I. Community Engagement in Disaster Planning, Response and Resilience Enhancement

Community Resilience

The shift towards community engagement takes into account recent worldwide advances in disaster risk reduction strategy and management research.[4,5,6] Authorities in the field of disaster management, guided by 21st century benchmark criteria in disaster resilience, promote a full spectrum strategy across the entire disaster cycle:

1. Prioritize local, national, and regional stability;
2. Encourage good governance;
3. Support human rights and social justice with multi-dimensional equity;
4. Restore public health protections;
5. Strengthen community resilience;
6. Support sustainable development; and
7. Apply advances in science and technology to promote all-around well being.[7]

Community engagement is central to the expanded use of the term "resilience" in disaster planning and response. Resilience is "the capability of a system to maintain its functions and structure in the face of internal and external change."[8,9] In the disaster context, this concept is invoked to focus efforts on helping communities to "adapt" to many threats such as rising sea levels from climate change, drought, rapid urbanization and population expansion, and the health consequences of industrialization.[10,11,12,13,14] Factors that increase the urgency to develop community-specific "crisis resilience profiles"[15,16] are:

- Increased severity and frequency of natural and technological disasters;[17]
- Increasing risk as public health infrastructure capacity declines;[18] and
- Increasing scientific knowledge about the underlying causes and precipitants of these disasters.[17,19]

The resilience profile contains three fields that require both individual and coordinated community effort.[20]

- Building competence in emergency management;
- Promoting community development; and
- Engaging in risk reduction for crises and disasters.

These resilience-based efforts feature three main aims:

- To prevent unacceptable mortality, morbidity, and suffering;
- To reduce costs of emergency response; and
- To develop within the community the ability to adapt.

Community Engagement

It is evident to all that more knowledge is needed about how to begin the transition to a community-focused model of disaster response and how best to achieve results and document their success. Community capacity building is one area where multi-disciplinary and trans-disciplinary partnerships are crucial as no one discipline or area of government has all the solutions. Demand is increasing for expertise in evolving shared models of community engagement, especially on a) how this new approach affects domestic local, national and regional response and on b) how to integrate response efforts offered from outside the region.

Disaster management capacity at the community level is currently modeled after the antiquated response-focus that continues to dominate policy planning in most developed countries. The traditional "top down" approach to managing these potential crises has dominated thinking and research for several decades.

During the Swine Flu epidemic in Victoria, Australia, in 2009, it was evident that the frontline general practitioners would be the key drivers of community health services. Yet their ability to deliver timely and effective care was significantly hampered by implementation constraints of the Australian Health Management Plan for Pandemic Influenza (AHMPPI) resulting in "resource supply failures, time-consuming administrative burdens, delays in receiving laboratory test results and drug approvals, and a lack of clear communication about policy changes."[21] An analysis of 35 national preparedness plans from Africa revealed that, at the community level, the health care sector was ill-prepared. Case management, triage procedures, identification of health care facilities for patient treatment were poorly addressed. The authors concluded that the plans lacked "operational clarity."[22] These examples illustrate the incongruence between centralized top-down response plans and their manifestation at the community level.

This earlier strategy was also based on the classical disaster cycle elements: Prevention (including mitigation) preparedness, response and recovery (PP-RR). These elements have been expanded to include two new phases critically important to community enhancement, that of *anticipation* and *assessment* (AA-PP-RR)[23] In the era of increasing population density in at-risk areas and of intensifying climate change it is becoming critical to promote community capacities to anticipate the risks they know or recognize and to assess essential risk-reduction needs.[24]

"Prepared Communities"

The very significant shifts in understanding the overall approach to disaster resilience and response presents the HKJCDPRI Center of Excellence with an excellent research and training

opportunity. It is recommended here that HKJCDPRI adopt the AA-PP-RR disaster management cycle as the common language framework for its future work. This framework is understood across most countries and cultures that China and HKJCDPRI will engage with. It is increasingly acknowledged that long-term solutions must focus more on mitigation (prevention) and preparedness. The cycle illustrates the ongoing process and framework by which government, businesses, and civil society plan and reduce the impact of disasters. The framework also shapes public policies and plans that HKJCDPRI may recommend to mitigate the effects of disasters on the population, property or essential public health infrastructure. To date, the most effective and efficient manner to realize the scale and content of the change ahead is that promoted by the "Prepared Community Concept" which shifts from the traditional "top down" to a "bottom up" management approach.[24]

The science behind the Prepared Community concept has shown that every individual community lives with risks that are specific to it and susceptible only to the mitigation and management efforts of local leaders within engaged communities. Even though communities may be geographically adjacent, each and every community's risks are specifically "discrete and unique" to that community.[23] Many current disaster plans, unfortunately, fail to recognize this uniqueness. The impact of Hurricane Sandy on the adjacent but diverse neighborhoods of New York City varied widely. While much has been reported globally about the power outages in lower Manhattan, relatively little was written about the thousands of homes that were destroyed and the tens of thousands that were stranded without power in other parts of the city. Restoration of power and recovery efforts in underserved communities were delayed and much criticized in subsequent investigations.[25]

Developing community disaster management leadership and authority to anticipate and assess specific local characteristics and risks at the community level has revealed that considerable information was not known through the traditional top down assessments. These tended to be too generic in content and lacked necessary granular, contextual details and insights into the particular community in question.

Were the HKJCDPRI Center of Excellence to decide to implement this community focused disaster risk reduction model, it may consider supporting research, advocacy and policy interventions to:[26]

1. Recognize and integrate current recommendations for community engagement with the facilitation of assessment teams within and by the community leaders, first performed in the most disaster prone areas; and, if required, under the auspices of the Chinese National authorities.
2. Facilitate dialogue with community leaders that would properly explain the process of community-level assessments gained from local anticipation of the risks throughout each disaster management cycle phase.
3. Share the evidence-based risk reduction information with national authorities according to country-level priorities and national health plans, to ensure that the determined resources would be provided immediately without further assessment.

4. Utilize competency-based planning teams that will focus on prevention and preparedness capacity-building projects and work with official agencies to align appropriate staffing and resources to meet these defined activities.
5. HKJCDPRI would develop documentation gathering and data analysis capability to ensure that outcomes from capacity-building activities are measured during each phase of the disaster management cycle, and that they are compatible with WHO reporting requirements.

II. The Standardization of Emergency Medical Teams (EMTs)

In December 2015, at the Global Meeting for Emergency Medical Teams held in Panama, and jointly organized by the Pan-American Health Organization (PAHO) and the WHO, it was determined that the term "foreign medical team" was outdated and would no longer be used. The term "Emergency Medical Team" was considered more appropriate - EMTs could be comprised of either domestic (national) or international teams, and could be identified by a pre-fix when necessary (N-EMT, I-EMT).[27]

EMTs continue to be defined by the "WHO Classification and Minimum Standards for Foreign Medical Teams in sudden onset disasters guidance," that discuss the principles and core standards of how registered EMTs must function and declare their operational capabilities.[28]

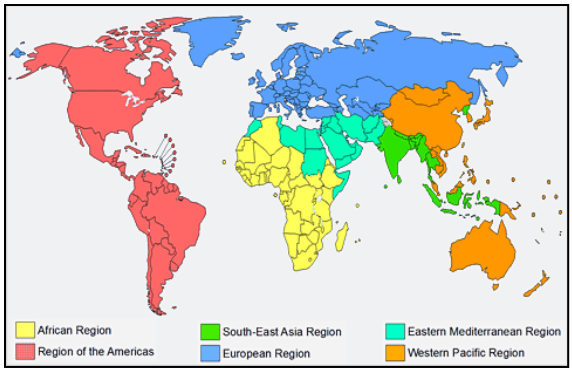
In 2014, the WHO set up a new EMT (FMT) unit in the Department of Emergency Risk Management and Humanitarian Response. The Unit has played a key role in supporting EMT coordination across WHO world regions, collaborating closely with other UN agencies, and in building a global registration system for EMTs.

The WHO's Global EMT Registry includes all teams that meet WHO eligibility criteria to provide time-limited surge clinical capacity to populations affected by a wide range of sudden onset disasters. The Registry "allows a country affected by a disaster or other emergency to call on teams that have been pre-registered and quality assured."[29]

China's Position within the WHO Western Pacific Regional Organizational Framework

China is well positioned in the WHO's Western Pacific Regional Organization Framework to play a lead training and coordination role. HKJCDPRI's Center of Excellence, in collaboration with regional partners like the National Critical Care and Trauma Response Center at the Royal Darwin Hospital in Australia, and influential regional organizations like ASEAN,* can drive a community-focused resilience and response model in Asia. The next section elaborates on three focus areas for development along this path.

* The ASEAN Agreement on Disaster Management and Emergency Response (AADMER) came into force in December 2014, and paved the way for the establishment of the ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA Center) in Jakarta. See AHAcenter.org



WHO WESTERN PACIFIC REGION

Australia, Brunei Darussalam, Cambodia, China, Cook Islands, Fiji, Japan, Kiribati, Lao People's Democratic Republic, Malaysia, Marshall Islands, Micronesia (Federated States of), Mongolia, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Philippines, Republic of Korea, Samoa, Singapore, Solomon Islands, Tonga, Tuvalu, Vanuatu, Viet Nam

As part and parcel of the Emergency Medical Team (EMT) development and classification, China already has positioned itself to launch the first surgical team; Russia will follow within the month. Of the 60 EMTs that are planned, China will have 15 fully sustained teams and additional internal teams. These include Public Health Teams ready to provide assistance to the anticipated public health emergencies that are becoming increasingly common.[30]

III. Areas of Focus for the HKJCDPRI Center of Excellence

The White Paper called for HKJCDPRI to pursue its training mandate with an initial focus on training medical personnel in Hong Kong. This Policy Brief calls for an increased awareness of the need for multi-disciplinary, community-cognizant approaches to be incorporated into the Center's training and research agenda.

A) Multi-disciplinary Research in Complex Public Health Emergencies

Dense urban populations, fragile ecosystems and an increasing frequency of natural disasters are expected to intersect in ways that put millions at risk around the world.[31] Effective partnerships with local institutions like the Hong Kong Observatory and universities; with regional partners including governments, universities and response agencies from the WHO Western Pacific region; and with its existing and new international partners will allow the Center to pursue a broad research agenda to include risk modeling, community resilience mapping and impact evaluation, all of which, in turn, should inform the Center's training programs.

The strategic placement of HKJCDPRI requires that its mission include response to a major potential crisis in Guangdong Province. Guangdong faces unique public health challenges, many of which can rapidly escalate into a public health emergency. Guangdong's population density, rapid and largely unplanned urbanization with its permanent versus migrant population mix, and already stressed essential infrastructure will greatly affect the capacity of the province to manage any crisis across the entire disaster cycle. In the adjacent region, the persistent drought

and depletion of aquifers have left millions of people and livestock without access to drinking water, placed five million hectares of agricultural fields at risk, and raised the potential for unprecedented heat related illnesses, particularly among urban dwellers. In an extreme drought crisis, people might leave the land and migrate into Guangdong, creating further stress on the province's disaster response capacity.

These environmental challenges with anticipated emergency scarcity of food, water and energy will compound the complexities of preparing to respond to regional crises. In this regard we recommend that alliances be developed with other global Institutes to share research agendas and data analyses in order to best mitigate these potential crises. Disaster risk reduction and management must be shared across borders.

HKJCDPRI is positioned well to provide:

- Public health skill set training
- Surveillance and epidemiological skill training
- Data analysis
- Multidisciplinary programmatic skill and leadership training

HKJCDPRI should consider developing an "International Adaptation Course" for WHO's EMT program to provide needed technical assistance curricula to all the China teams. HKJCDRPI has a wide network of international partners including Harvard and the University of Manchester to help with content development, if so needed.

HKJCDPRI might consider a WHO Western Pacific Region Disaster Newsletter, similar to the Oceania Chapter Newsletter of the World Association of Disaster and Emergency Medicine (WADEM) that is published monthly from New Zealand, Australia and Oceania countries every month. All these countries are part of the WHO Western Pacific Region and well positioned to collaborate and coordinate on a number of shared disaster and public health issues.

B) Disaster Simulations in Complex Systems Crises

A growing body of evidence points toward the necessity of community-focused, multi-disciplinary, all-hazards training. The potential exists for the proposed Center of Excellence to serve as a region-wide training and simulation center focused on multi-disciplinary approaches to 21st century disasters, the vast majority of which are likely to occur in increasingly complex environments. Multidisciplinary work is considered "crucial by scientists, policy makers and funders," and especially so in global health because it "incorporates broad fields such as public health and social aspects of medicine."[32] The Scoping Study also revealed a strong interest in greater inter-agency and multi-disciplinary training.[1] These trainings must focus on:

A) Community resilience and preparedness, and on community-specific disaster response implementation.

B) The mobilization and coordination of diverse assets—public health experts, environmental technical authorities, teams of emergency medical personnel including those with expertise in community engagement and disaster mental health.

HKJCDPRI has an opportunity to lead the way in designing, testing and conducting multi-disciplinary simulations that move beyond standardized top-down protocols to address contextual community needs. As Hong Kong is not likely to have its own EMTs in the immediate future, the Center could provide a key role in providing sophisticated community-centric simulation based training to EMTs deployed from the Mainland, and to EMTs from elsewhere in the WHO Western Pacific Region.

Conclusion

HKJCDPRI will be called upon, through its Center of Excellence, to practice a form of disaster diplomacy with a number of local, regional and global constituents. The development of this role is a necessary consequence of the severity of natural and technological disasters and the increasing risks to large numbers of people in the region as public health infrastructure fails to keep up with population growth and demand for all forms of life-support systems.

In meeting these complex needs, there will be a demand for more models of international and inter-regional support using the AA-PP-RR disaster cycle as a common language framework for continuing education, research and analysis.

The White Paper recommended that HKJCDPRI become a Center of Excellence in Disaster Preparedness and Response. This policy brief builds on that recommendation by identifying domains of expertise that HKJCDPRI may consider developing to find its unique but collaborative place among similar institutes in the region and in the world.

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