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U.S. Centers for Disease Control and Prevention in China: Emergency Action Plan

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An abstract of
A thesis submitted to the Faculty of the
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Abstract

U.S. Centers for Disease Control and Prevention in China: Emergency Action Plan
By Daniel J. Brencic

Background: In the past few years, natural and man-made emergencies have impacted staff from the Centers for Disease Control and Prevention (CDC) working abroad, resulting in the death of one CDC staff, two large evacuations, and one sheltering of staff in place. These events and many others prompted growing concerns for the safety of CDC staff overseas which parallels the changes in the United States from a focus on emergency response to one on emergency preparedness.

Objectives: The purpose of this project is to develop an Emergency Action Plan that details the procedures U.S. CDC staff in China would follow to prepare for and respond to emergencies.

Methods: Over the course of seven weeks in Beijing, China, interviews of unit leaders from the U.S. CDC in China office were conducted. Lists of essential preparedness and response tasks for each unit of the office were drafted and Standard Operating Procedures were developed to outline the details of each task to aid in cross-training and continuity of operations.

Results: The lists of essential preparedness and response tasks for each unit and the Standard Operating Procedures were compiled into a 130-page Emergency Action Plan for the U.S. CDC in China office. Meetings were conducted with the CDC Division of Emergency Operations to make initial plans and identify priority areas for a table-top exercise to test certain components of the Emergency Action Plan.

Discussion: The development of an Emergency Action Plan for the U.S. CDC in China office in the summer of 2011 was one of the first preparedness plans to be developed for a CDC office abroad. The Emergency Action Plan will be updated during the summer of 2012 and expanded to include an evacuation annex. The updated Emergency Action Plan will be an operational document for the U.S. CDC office in China and will be shared with the U.S. Embassy. The biggest challenges of preparedness planning are making it functional and sustainable. Just as with other tools that are often taught in Master of Public Health programs, plans are a tool that can reduce morbidity and mortality in emergencies.

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Table of Contents

List of Tables and Figures

Figures:

Tables:

List of Acronyms

CDC	Centers for Disease Control and Prevention
CFETP	China Field Epidemiology Training Program
DEO	Division of Emergency Operations
DHS	U.S. Department of Homeland Security
EAP	Emergency Action Plan
EC	Emergency Coordinator
EID	Emerging and Re-Emerging Infectious Disease
EOC	Emergency Operations Center
FEMA	Federal Emergency Management Agency
GAP	Global AIDS Program
HHS	U.S. Department of Health and Human Services
HSPD	Homeland Security Presidential Directive
IEIP	International Emerging Infections Program
IEPT	International Emergency Preparedness Team
IHR	International Health Regulations
IT	Information Technology
MOH	Ministry of Health
MOH-HERO	Chinese Ministry of Health – Health Emergency Response Office
MOU	Memorandum of Understanding
NGO	Non-governmental Organization
NIMS	National Incident Management System
NRF	National Response Framework
NRP	National Response Plan
PPD	Presidential Policy Directive
PPE	Personal Protective Equipment
RCER	Risk Communication and Emergency Response
SARS	Severe Acute Respiratory Syndrome
SME	Subject Matter Expert
SOP	Standard Operating Procedure

1.0 Introduction

In the past few years, natural and man-made emergencies have repeatedly impacted staff from the Centers for Disease Control and Prevention (CDC) working abroad. In 2010 and 2011 alone, emergencies caused the death of one CDC staff, two large evacuations, and one sheltering of staff in place.

In January 2010, a 7.0 magnitude earthquake struck Haiti and its capital city, Port-au-Prince. Diane Caves, a CDC policy analyst on temporary assignment in Haiti, was killed. Later that year, during the violence after the presidential elections in Côte d'Ivoire, CDC staff members were forced to evacuate with minimal advanced warning. They had to leave behind possessions and pets, and were unsure how their programmatic activities would be sustained.

More recently, during the "Arab Spring" of 2011, protests erupted in and around Tahrir Square in Cairo, Egypt. Clashes between protesters and police escalated and the U.S. Embassy ordered the evacuation of all U.S. staff. The CDC office experienced difficulties remaining in communication with staff, evacuation procedures for contractors were uncertain, and belongings had to be abandoned. That same year, a few months later, the city of Bangkok, Thailand experienced some of the worst flooding in recent history. Many CDC staff members were unable to reach the office due to flooded streets, the shutdown of public transportation and damage to their own homes or vehicles. Flood waters encroached upon the CDC office raising concerns about the safety of the laboratory specimens. Additionally, staff did not have easy access to emergency supplies

of clean water or food, and had to reach out to CDC headquarters in Atlanta to fulfill this need.

These events and many others prompted growing concerns for the life and safety of CDC staff. This prompted efforts overseas that parallel the changes in the United States from a focus on emergency response to one on emergency preparedness.

2.0 Background

2.1 History of Emergency Preparedness and Response in the United States

Emergency preparedness and response has changed significantly in the history of the United States with the government transitioning from a fragmented hodgepodge of federal agencies providing basic assistance or monetary compensation for isolated events to the multi-sector, multi-faceted structure it is today. Emergency response in the U.S. has its roots in the Congressional Act of 1803. This first piece of United States disaster legislation provided assistance to a New Hampshire town after a widespread fire. In the following century, more than 100 pieces of legislation were passed in response to domestic hurricanes, earthquakes, floods and other natural disasters.[1] In the 1930s, the U.S. government's involvement in disasters continued to gain popularity and led to authority being given to the Reconstruction Finance Corporation and the Bureau of Public Roads for reconstruction after disasters.[1]

By the early 1970s, domestic emergency response and assistance was handled by a number of different U.S. federal agencies across sectors and in some disasters, involved more than 100 federal agencies.[1] Following a series of natural disasters that caused significant loss of life and property, the Disaster Relief Act was signed in 1974 to establish the process of Presidential disaster declarations.[1] Five years later, President

Jimmy Carter issued Executive Order 12127 to merge all disaster-related responsibilities into the Federal Emergency Management Agency (FEMA).[1] In 1988, The Robert T. Stafford Disaster Relief and Emergency Assistance Act was signed into law as an amendment of the Disaster Relief Act of 1974.[2] "The Stafford Act describes the programs and processes by which the Federal Government provides disaster and emergency assistance to State and local governments, tribal nations, eligible private nonprofit organizations, and individuals affected by a declared major disaster or emergency."[3] In 1992, the Federal Response Plan was added to the Stafford Act. The Federal Response Plan describes the organizational structure used and the services offered by the Federal Government to a State and its affected local governments impacted by a large scale disaster.[4]

Following the September 11th attacks in 2001, the U.S. Department of Homeland Security (DHS) was established through the Homeland Security Act of 2002. The Homeland Security Act consolidated emergency response agencies, including FEMA, into DHS, and established a coordinated approach for natural and man-made emergencies.[1,3] In 2003, President George W. Bush issued Homeland Security Presidential Directive-8 (HSPD-8). "HSPD-8 established national policies to strengthen the preparedness of the United States to prevent, protect against, respond to, and recover from threatened or actual terrorist attacks, major disasters, and other emergencies within the United States."[5] HSPD-8 directed the Secretary of Homeland Security to develop the United States national all-hazards preparedness in coordination with the heads of other appropriate Federal departments and agencies, and in collaboration with State, local, tribal, and territorial governments.[5] Soon after the Department of Homeland Security was established, the National Response Plan (NRP) was developed to replace the 1992

Federal Response Plan. The NRP integrated all levels of government in a common framework for incident management and incorporated coordination roles for Federal agencies as defined by several new laws and Presidential directives.[6] Many emergency response practitioners felt that the NRP did not focus enough on all components of a response but rather focused on the federal level. As a result, in January 2008, DHS developed the National Response Framework (NRF).[6] The NRF defines how responsibility is shared during a disaster by governments at all levels, the private sector, non-governmental Organization (NGOs), and individual citizens.[6] The document describes the doctrine that guides our national response, roles and responsibilities, response actions, response organizations, and planning requirements to achieve an effective national emergency response.[6] The vision for effective response at all levels of government is achieved through the National Incident Management System (NIMS). As outlined in the NRF, "this system provides a consistent, nationwide template to enable Federal, State, tribal, and local governments, the private sector, and NGOs to work together to prepare for, prevent, respond to, recover from, and mitigate the effects of incidents regardless of cause, size, location, or complexity."[6]

The most recent act of government relating to emergency preparedness and response was President Barack Obama's 2011 Presidential Policy Directive-8 (PPD-8).[7] PPD-8 aims to strengthen "the security and resilience of the United States through systematic preparation for the threats that pose the greatest risk to the security of the Nation, including acts of terrorism, cyber attacks, pandemics, and catastrophic natural disasters."[7] This directive provides the most updated guidance and direction for the national preparedness system and collaboration between levels of government. President Obama specifically directs that "all executive departments and agencies with roles in the

national planning frameworks shall develop department-level operational plans to support the interagency operational plans, as needed."[7] Based on this mandate from the President and its concern for the safety and well-being of both headquarters and overseas staff, CDC has taken steps to develop emergency operational plans not only at headquarters but also for its offices around the world. One of CDC's largest overseas offices is in Beijing, China.

2.2 Disasters and Emergency Situations in China

With just over 1.3 billion people[8], China is the world's most populous country and is home to nearly 20% of the world's population.[9] The People's Republic of China is divided into 34 province-level divisions.[10] Its three largest cities have a population of over 23 million, 19 million and 13 million people, respectively.[11,12] The population density in large urban centers is a major concern during natural disasters and epidemics.

According to a white paper released by the Chinese Information Office of the State Council: "More than 70 percent of Chinese cities and more than 50 percent of the Chinese population are located in areas vulnerable to serious meteorological, geological or marine disasters."[13] Two-thirds of China is threatened by floods with tropical cyclones impacting the eastern and southern coasts, and in some cases affecting areas further inland (see Figure 1).[13] Droughts occur nearly every year throughout the country.[13] Destructive earthquakes have occurred in all of China's provinces, and most recently in Sichuan Province in 2008 and Qinghai Province in 2010 (see Figure 2).[13,14] Additionally, the mountainous and plateau areas, accounting for 69 percent of China's total area, experience frequent landslides.[13]

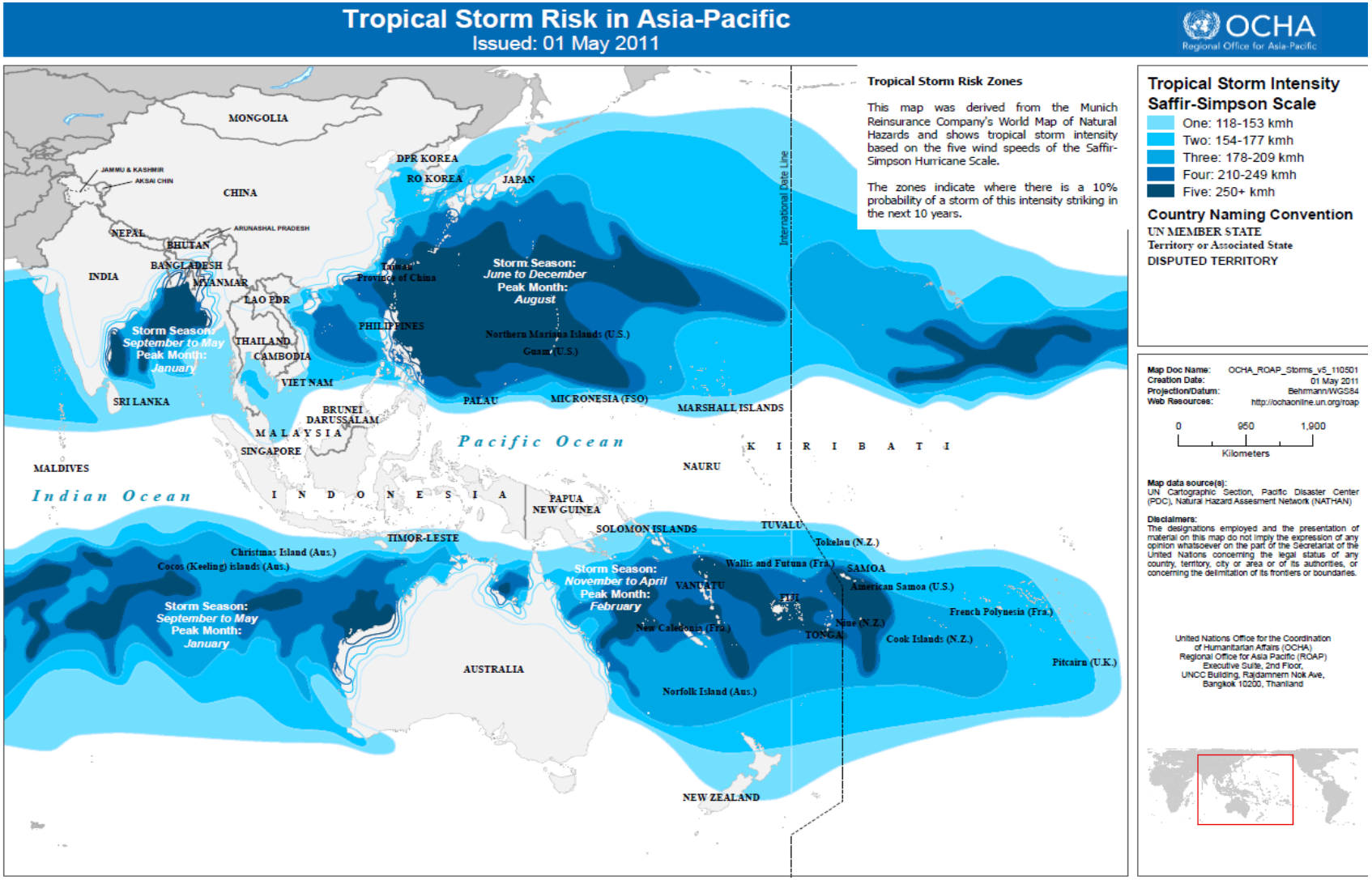

Figure 1: Tropical Storm Risk in Asia-Pacific (Data from OCHA Regional Office for Asia and the Pacific)[15]

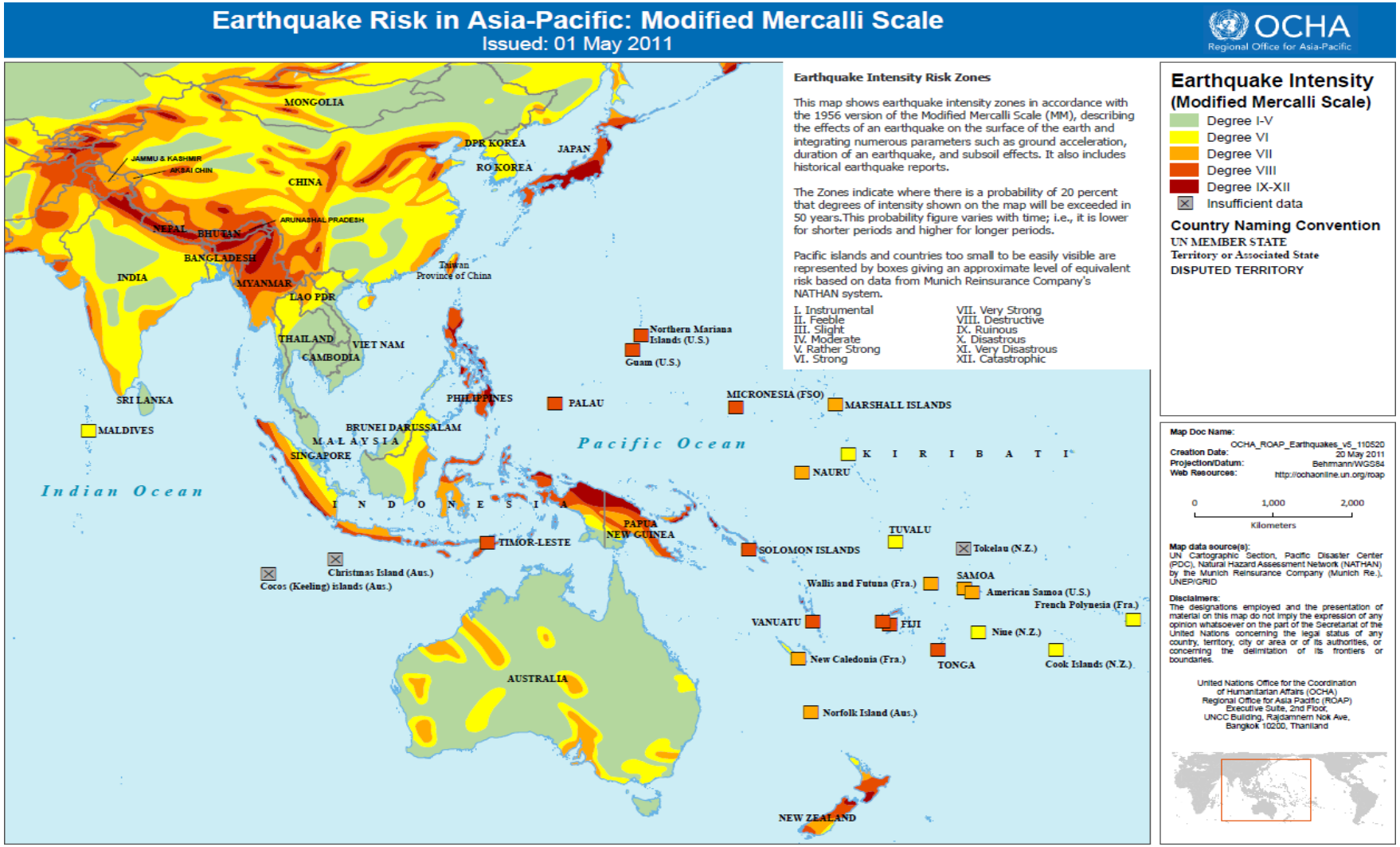

Figure 2: Earthquake Risk in Asia-Pacific: Modified Mercalli Scale (Data from OCHA Regional Office for Asia and the Pacific)[15]

2.3 U.S. CDC in China

Public health collaboration between the U.S. Department of Health and Human Services (HHS) and the Ministry of Health of the People's Republic of China began in 1979 with the signing of the Protocol for Cooperation in the Science and Technology of Medicine and Public Health.[16] The protocol has been updated and expanded every five years.[16]

CDC's collaboration with China started in 2005 with the creation of the China-U.S. Collaborative Program on Emerging and Re-emerging Infectious Diseases (EID). The program was established through the signing of a Memorandum of Understanding (MOU) between the Chinese Minister of Health, Gao Qiang, and the U.S. Secretary of Health and Human Services, Michael O. Leavitt.[17] The agreement between the two countries was the culmination of two years of cooperation between HHS and the People's Republic of China following the severe acute respiratory syndrome (SARS) outbreak. The agreement focuses specifically on surveillance, outbreak detection and response, and laboratory.[18] The Chinese government's public health research and technical arm is called the Chinese Centre for Disease Control and Prevention (China CDC). China CDC is the national office but there are also CDC's at the provincial and municipal level. In order to differentiate, the American CDC is referred to as U.S. CDC in China.

The U.S. CDC office in China focuses on a wider variety of public health issues including HIV/AIDS, emerging and re-emerging infectious diseases, immunization, workforce development, risk communications, emergency preparedness and response, birth defects, chronic diseases, and laboratory quality and safety.[19] The current country director is an epidemiologist from the U.S. CDC's Influenza Division and has been working in China since 2007.[17] U.S. CDC staff are located in five different offices in

Beijing. The Emerging and Re-emerging Infectious Diseases programs are housed within the Tayuan Diplomatic Office Building 1.25 miles from the U.S. Embassy. The Global AIDS Program (GAP) is housed within the Dongwai Diplomatic Office Building 2.2 miles from the U.S. Embassy. The China Field Epidemiology Training Program (CFETP) and Non-Communicable Disease program are co-located with the China CDC and Ministry of Health on the south side of Beijing, 10.5 miles from the U.S. Embassy. The Risk Communication, Emergency Preparedness and Response programs are located within the U.S. Embassy.

Since 2009, U.S. CDC in China has had an Emergency Coordinator (EC), Dr. Gao Xing, who oversees emergency preparedness and response activities. The EC works with emergency preparedness and response partners including the China-U.S. Collaborative Program on Emerging and Re-emerging Infectious Diseases, the Chinese Centre for Disease Control and Prevention (China CDC), and the Ministry of Health – Health Emergency Response Office (MOH-HERO).

In addition to programmatic activities, the EC is responsible for the safety and security of CDC staff and offices in China. In 2010, a gap analysis was conducted in Beijing by headquarters staff from the CDC International Emergency Preparedness Team (IEPT) and Division of Emergency Operations (DEO) to guide the development of an Emergency Action Plan (EAP). The EAP addresses the procedures CDC staff, both Americans and Chinese, should follow in preparation for and response to a wide range of emergencies.

3.0 Methodology

The purpose of the EAP is to detail U.S. CDC in China's preparedness and response activities for internal and external emergencies, not including evacuation of U.S. staff from the country. Activities related to evacuation of U.S. staff from the country will be compiled in a separate annex that will be developed in the summer of 2012. The objective of the EAP is to supplement the emergency plans and procedures of the U.S. Embassy. In the event of an emergency, especially because most CDC staff is not co-located in the Embassy building, the U.S. Embassy may not be able to reach and assist CDC staff immediately. It is important that CDC staff, both American and Chinese, can be self-sufficient for the first 24-48 hours of an emergency. The EAP explains the actions that should be performed by CDC staff to ensure their own safety and well-being, and continuity of operations.

Prior to traveling to Beijing, China, the student researcher was trained in plan development for three days in Atlanta, Georgia, by staff from the CDC International Emergency Preparedness Team (IEPT). During the training, the student researcher conducted background research including risks/hazards that affect Beijing, the CDC programs and activities in country, and information about the CDC office locations. A plan template that follows the format and organization of CDC Emergency Operations Center (EOC) plans and recommendations from the NRP and NRF was used for the EAP.

The student researcher spent seven weeks in Beijing, China collaborating with the EC to develop the U.S. CDC in China EAP. To assist in the development of the U.S. CDC in China EAP, the student researcher gathered information by interviewing unit leaders, compiling their responses, and generating suggestions for improved practice. Interviews were conducted with the unit leaders from Risk Communication,

Emergency Preparedness and Response, Global AIDS Program (GAP), International Emerging Infections Program (IEIP), Fire Wardens, Motor Pool, Information Technology (IT), and Leadership. Submission of Institutional Review Board was not required since the project was deemed to not be human subject research on the grounds of the EAP interviews being about the organization and plans and not about the respondents themselves.

To gather this information, the following process was executed:

1. Generate basic set of questions
2. Interview unit leaders
3. Compile initial interview content into the CDC EAP template
4. Re-interview unit leaders for clarification and agreement
5. Compile data (interview notes) into lists of necessary tasks and specific steps to complete in order to achieve the identified tasks for each unit within the U.S. CDC in China office
6. Draw conclusions and make recommendations for improved practice

Before initial interviews with each unit, based on previous knowledge and understanding, the student researcher and the EC drafted a list of tasks that the unit performs. The goal of the initial interviews with each unit leader was to build upon the draft list to compile a list of the tasks based on each unit's role. As often as possible, the interviews were conducted in the office of the unit leader. Meetings were conducted in each of the different CDC office locations in Beijing. Before each meeting, unit leaders were e-mailed the most recent version of the EAP so that they could see where the information they would be providing would fit and so that they had a better understanding of the goals and objectives of the plan development. The EAP was

constantly updated by the student researcher as information was gathered through the interviews.

During the interviews, the unit leaders were asked about essential tasks their unit's staff performed and were asked to provide documents or procedures they would like to be included in the plan. In some cases, unit leaders preferred to provide the physical location or location of documents on the shared drive instead of including them as an attachment to the plan. Unit leaders were encouraged to have both hard and digital copies of important documents. Since interviews were conducted with both American and Chinese staff, the interview was conducted in the preferred language of the unit leader. The EC served as a translator when meetings were conducted in Chinese.

The first round of interviews made it possible to finalize the list of activities. Collected information was also used to produce the initial draft of the standard operating procedures (SOPs). The SOPs included the tasks performed to complete each activity. Interviewees also provided important documents, contact information for key staff within the CDC and partnering agencies, as well as with whom and where pertinent information was stored.

The main objective of the second round of interviews was to clarify the sequence of the tasks within each unit, ensure that there weren't any steps missing, and to confirm that each unit was fairly and accurately represented. For several units, some information was missing or needed to be clarified, so a list of follow up questions was sent to the units along with the initial draft of the standard operating procedures. Some unit leaders preferred to exchange drafts via email while other units requested in-person meetings. During the second round of interviews each unit leader was provided a printed copy of the updated draft of the plan which allowed them to see both the updates for their unit

and for other units of the office. Clarification and additional edits for SOPs were made via email as needed.

Before leaving Beijing, the final working draft of the U.S. CDC in China EAP was provided to the U.S. CDC in China leadership and EC for a thorough review. Upon return to Atlanta, the draft of the plan was also provided to the lead of the CDC International Emergency Preparedness Team for edits, format changes and other suggestions.

The plan is designed to be dynamic and should be updated when appropriate, but will be revised at the minimum on an annual basis. Any edits that are made to the plan will be recorded in the U.S. CDC in China EAP Record of Changes. After the annual review of the EAP, it will be presented to the country director for approval.

4.0 Results

The 130-page EAP contains the following sections: 1) Executive Summary, 2) Situation, 3) Mission, 4) Execution, 5) Administrative, Resources and Funding, 6) Oversight, Coordination and Communications, and 7) Attachments. These are standard sections that can be found in most plans based on the NRF and NIMS. The Executive Summary provides a brief description of each of the five main sections of the EAP and attachments. The Situation section contains the Purpose, Background, Threats and Critical Assumptions. The Purpose describes the objectives of having an EAP for the U.S. CDC in China office. The Background provides a brief description of the programs U.S. CDC has in China, an overview of the population and geography of China, and provides details about the five U.S. CDC office locations in Beijing including the physical address, primary and secondary contacts, the number of staff in the office, a

description of the facility, distance to the U.S. Embassy, the evacuation rally point and any important resources that are housed within that location. The Threats outline the disasters and emergency situations that are most likely to affect the U.S. CDC in China office. An attachment provides a more in depth overview of threats. The Critical Assumptions lists the responsibilities, hierarchy and actions that are overarching assumptions for the EAP. The Mission describes U.S. CDC's mission of collaboration in China.

The Execution section of the plan includes a table that outlines the general responsibilities that each CDC office unit should meet in preparation for and in response to an emergency. The responsibilities have been assigned to be an extension of the regular operations performed by each unit and therefore tap into the already existing strengths and knowledge of each unit staff.

4.1 List of general emergency responsibilities for each unit of U.S. CDC in China

Table 1. General Emergency Preparedness and Response Responsibilities of each CDC Program

Unit	Emergency Preparedness and Response Responsibilities
RISK COMMUNICATION AND EMERGENCY RESPONSE (RCER)	Increase the emergency preparedness of all CDC offices in China
	Coordinate emergency preparedness activities with public health partners
	Provide emergency preparedness training
	Provide technical consultations to local and regional partners and other CDC offices in China
	Facilitate the coordination of emergency preparedness and response activities within CDC China
	Develop a communication plan for the press
	Provide technical assistance for message design
	Provide technical assistance for communication plans to China MOH and China CDC as requested
GLOBAL AIDS PROGRAM (GAP)	Provide technical support for evaluation of medical capacity after a disaster
	Provide technical support for establishing communication with health facilities

	Support the GAP sentinel sites to carry out surveillance and HIV testing upon request
	Data Analysis
	Surge capacity of trained physicians/lab tech
INTERNATIONAL EMERGING INFECTIONS PROGRAM (IEIP)	Provide logistics for importation and exportation of specimens, isolates and supplies
	Provide technical support for infectious disease outbreaks
	Conduct laboratory data analyses
	Design laboratory capacity programs
	Design quality assurance programs
	Provide surge capacity for partners
	Provide technical support for novel infectious disease surveillance systems
FIRE WARDEN	Organize fire drills
	Maintain fire equipment
	Coordinate staff evacuation from building
MOTOR POOL	Coordinate driver trainings and maintenance of vehicles
	Evacuate staff from the office
INFORMATION TECHNOLOGY (IT)	Back-up crucial information and data
	Provide technical support to staff
LEADERSHIP	Communicate information to staff and appropriate partners during emergency
	Coordinate internal and external resources
	Oversee command system

4.2 Emergency preparedness and response activities for each unit of U.S. CDC in China

The list of responsibilities is followed by what is considered by many to be the most important part of the plan: lists of activities that will need to be performed to meet these responsibilities. Activities are compiled into well-organized lists. One list defines all the activities that should be performed by all staff. Additional tables of activities were created for each unit to define the activities that concern only one unit. The following tables contain the emergency preparedness and response activities that should be performed by all U.S. CDC programs in China and by specific units.

Table 2. Emergency Preparedness and Response Activities

COMMON ACTIVITIES FOR ALL CDC PROGRAMS	
Preparedness	
	Participate in staff training and drills
	Cross-train staff for essential tasks
	Record attendance, absence and travel at front desk
	Review the shelter-in-place and external evacuation procedures with all staff
	Provide orientation training to new staff
	Re-familiarize existing staff with important documents
Response	
	Consult the posted emergency booklet based on the event
	Respond to emergencies
	Respond to traffic accident
	Respond to a robbery

RISK COMMUNICATION AND EMERGENCY RESPONSE (RCER)	
Preparedness	
	Maintain the Emergency Action Plan
	Maintain emergency response supplies
	Post evacuation routes out of the office to the rally point
	Develop evacuation route with Motor Pool for U.S. CDC staff from U.S. CDC offices to U.S. Embassy
	Develop emergency booklet
	Develop a communication plan for the press
	Develop a communication plan for US citizens traveling and living in China
	Provide communication assistance to China MOH and China CDC as requested
	Provide risk communication updates to US CDC staff in China
Response	
	Coordinate staff evacuation from building in conjunction with the fire wardens
	Send Situation Report to Emergency Operations Center at headquarters in Atlanta in conjunction with the U.S. CDC Country Director
	Coordinate emergency response activities with China CDC and MOH HERO

GLOBAL AIDS PROGRAM (GAP)	
Preparedness	
	Maintain contact information for staff in the field
Response	
	Contact staff in the field about their safety

INTERNATIONAL EMERGING INFECTIONS PROGRAM (IEIP)	
Preparedness	
	Collaborate with IEPT to develop a bioterrorism training course
	Provide technical support to U.S. CDC in China employees on personal protective equipment, anti-microbial agents, or other items included in the stockpile

FIRE WARDEN	
Preparedness	
	Develop and run fire drills in conjunction with Emergency Coordinator
	Maintain fire equipment
Response	
	Coordinate staff evacuation from building in conjunction with the Emergency Coordinator

MOTOR POOL	
Preparedness	
	Place and maintain an emergency kit in every vehicle
	Coordinate yearly training for all drivers
	Maintain vehicles
	Conduct road tests for the primary and secondary routes to the US Embassy
Response	
	Coordinate action in the event of an accident
	Evacuate staff from the office

INFORMATION TECHNOLOGY	
Preparedness	
	Maintain a copy of essential documents on an external site
	Prepare and maintain an alternate source of power for IT equipment
	Maintain alternate communication equipment
	Train staff on alternate communication equipment
	Conduct a power outage exercise
	Conduct an exercise about alternative sources of communication
	Provide information on what support IT can provide in remote location/ alternate site if called upon
	Develop SOP to deal with email failure
	Assess the availability of departmental spare laptops that can urgently be assigned to people
Response	
	Activate and monitor the alternate source of power for IT equipment during a power outage
	Maintain communication equipment (mobiles, satellite phone, two-way radios)
	Communicate with the U.S. Embassy IT, if necessary

	Contact IT equipment suppliers
	Back up data to alternate site

LEADERSHIP	
Preparedness	
	Make a list of essential functions and staff
	Develop guidelines for tele-work during an emergency
	Identify an alternate work site
	Develop guidelines for coordination of emergency response with US Embassy
Response	
	Maintain essential functions
	Review situational reports with Emergency Coordinator
	Activate the call down tree
	Order the move to an alternate work site
	Activate tele-work
	Ask Subject Matter Experts to provide updates or information on public health threats of international importance (International Health Regulations)

In addition, activities on all lists are supported with SOPs when deemed necessary by the staff. The unit leader's decision on developing an SOP or not was based on how common the knowledge of how to perform the activity is, how complicated the task is, and how likely a regular staff member would be available to perform the task during an emergency. Particularly complicated tasks required detailed SOPs to ensure continuity of operations. In some cases, the information needed to develop the SOP already existed in some of the staff files and simply needed to be reformatted to be consistent with the rest of the EAP. In other cases, staff who have the institutional memory had to be interviewed to document in writing the activity steps for the first time. The SOPs closely follow the order of the activity lists to allow for quick retrieval when using a paper copy of the plan. In addition, hyperlinks were built into the EAP to link each activity to its SOP in the electronic version.

The SOP below shows the level of detail that is generally included in the SOP. When possible, the information is presented in short bullets and tables to allow for quick reference during an emergency.

4.3 Standard Operating Procedure Example:

1) GLOBAL AIDS PROGRAM

Operational Procedures

PREPAREDNESS

Task #1: Maintain contact information for staff in the field

Description

- Update GAP provincial contact coordinator list when changes are made (see below table)
- Update contact information for GAP staff annually or when new staff are hired
- If staff are traveling to the field, travel arranger should check that the contact information for the province is current in the GAP provincial contact coordinator list

Travel Arranger:
Name
Office:
Email:

- If the Provincial CDC contact information has changed, make the appropriate updates
- If staff are traveling to a new province or area, establish a primary point of contact and record this in the GAP provincial contact coordinator list before leaving
- On Monday morning, GAP travel arranger will send a weekly update to the Emergency Coordinator (------@cn.cdc.gov) with the whereabouts of staff in the field

Table 1. GAP Provincial Contact Coordinator List

Provincial CDC	Coordinator Name	Tel	Email
Xinjiang			
Anhui			
Jiangsu			
Heilongjiang			
Shandong			
Yunnan			
Ningxia			
Henan			
Beijing			

The Administrative, Resources and Funding section outlines how financial mechanisms are handled differently during emergencies including finance and procurement, personnel and deployment, demobilization of resources, and information technology and information security. The Oversight, Coordination and Communications section describes the flow of information between U.S. CDC in China, CDC Atlanta and the U.S. Embassy during internal and external emergencies, information about situation reports, and communications capabilities. The EAP is accompanied by 19 attachments including a list of acronyms, important contact information, the call-down tree, maps of CDC office locations and detailed procedures for specific emergency response situations.

The final working draft of the EAP was provided to the U.S. CDC in China EC in August 2011 to be implemented as an active operational plan for the office. The goal is for the plan to serve as a mechanism for helping new and current staff become familiar with emergency preparedness and response activities in addition to being a functional reference tool for important information and protocols during an emergency.

5.0 Discussion

5.1 Reflections on the EAP Process in Beijing

A comprehensive EAP has the potential to protect lives and valuable resources in the event of an emergency by clarifying responsibilities and addressing gaps in preparedness. Through the process of developing an emergency preparedness plan, pre-existing protocols may be refined, new procedures may be developed, and staff may become aware of safety procedures of which they were not previously aware.

The most important aspect of developing an EAP is that the plan fits the country office's needs and will be a functional document. The original scope of the EAP was to

outline the procedures the staff in the U.S. CDC in China office would follow to prepare for and respond to emergencies, including responding to emergency requests for assistance from Chinese partners. During the initial phase of plan development, the U.S. CDC in China office leadership expressed concern about documenting in a plan that U.S. CDC would participate in emergency responses at the request of Chinese partners. Since it would be rare for the Chinese government to request U.S. CDC's assistance, and due to the political sensitivity of U.S. CDC working in China, the country office leadership requested to narrow the scope of the EAP to just activities addressing the safety and security of the U.S. CDC staff, both American and Chinese.

Since the U.S. CDC offices in China must abide by U.S. Embassy safety and security regulations, steps were taken in the development of the EAP to ensure that nothing in the plan went against these regulations. Pictures of the inside of the office had to be limited and could not show certain exits or any security measures. Pictures, diagrams and any other illustrations were shared with the country office leadership for approval since they were familiar with Embassy regulations.

At the beginning of the plan development process, it can sometimes be difficult to convince people of the importance of planning. The focus has traditionally been on response, so people are not as familiar with preparedness concepts. Many scientists or technical experts have never been engaged in such a process and may not understand at first the objectives of having a plan and are hesitant that documenting will make them responsible or accountable.

One additional challenge of the EAP development was navigating cultural differences and language. Interviews were conducted with both American and Chinese unit leaders. There were vast differences with familiarity and understanding of

preparedness planning. In general, preparedness is a relatively new concept in Chinese culture, so this required a lot of promotion and education through both formal meetings and informal discussions with Chinese staff about how they could be more prepared for emergencies by planning ahead. Also, even if Chinese staff were very cooperative and agreeable, additional probing was often necessary to ensure comprehension. The concept of "saving face" is a pillar of Chinese culture, so it was important to avoid causing embarrassment or shame when discussing taking actions to be more prepared for emergencies. In addition to these cultural differences, interviews were conducted in the preferred language of the interviewee. Therefore, the EC had to provide translation. At times, this created challenges because certain concepts or specific terminology do not easily translate and require additional explanation.

5.2 Moving Forward

In the fall of 2011, while the EC was in Atlanta for meetings, the student researcher and EC met with staff from the CDC DEO to make initial plans for a table-top exercise to test certain components of the EAP. Five priority areas were identified that U.S. CDC China will focus on in exercise development:

1. Fire evacuation
2. Continuity of operations
3. IT functions, back-up power, power outage
4. Communications between different U.S. CDC China office locations
5. Transportation

The EAP is in the process of becoming an active operational document for the different office locations of the U.S. CDC in China in Beijing. Once the plan is updated, it will be shared with the U.S. Embassy in Beijing. Due to consolidation of two offices in

April 2012, the EAP will be updated to reflect the new evacuation procedures, contact information and other appropriate changes. These changes will be made by a graduate student from Emory University's Rollins School of Public Health in summer 2012 who will be following up with the work that was conducted during the previous summer. In addition to updating the EAP, future activities include developing an evacuation plan as an annex to the EAP and a table-top exercise.

The development of an EAP for the U.S. CDC in China office in the summer of 2011 was one of the first preparedness plans to be developed for a CDC office abroad. During the same summer, EAPs were also developed by Emory University students working in collaboration with ECs in CDC offices in Kenya, Thailand and Kazakhstan. This project will be expanded for the summer of 2012 to include Egypt and Guatemala with the goal of having operational EAPs and evacuation plans in all six country offices.

5.3 Public Health Implications

In the field of emergency preparedness, one of the most important areas for planning is ensuring the sustainable long-term commitment of stakeholders. With the current state of the global economy, organizations are experiencing budget cuts and staff reductions at all levels which makes it difficult to ensure resources will be available to continue maintaining plans. Decision makers are faced with investing already limited funding and resources in preparedness versus scientific and programmatic activities. Staff reductions or turnover may lead to gaps in preparedness training or in the assignment of responsibility for emergency response tasks.

There are debates about how plans should be used. The goal is for plans to be functional and operational documents, but they often end up being done to simply fulfill a requirement and are rarely if ever referenced. There are practical issues with making sure

that staff members are using the plan. The plan is not meant to be only seen by the person who created it, but each staff member should be aware of the plan, how they fit into it, and their individual responsibilities. Sometimes, to save paper and to have quicker access to the part of the plan that is relevant to them, staff members choose to only print their unit's activities and SOPs. This can lead to staff referencing outdated versions of the plan without realizing that it is outdated. One way to remedy some of these issues is to incorporate the plan into exercises for the office, like what will be done in the U.S. CDC in China office. In doing so, the plan is part of a tool to quantitatively measure preparedness levels and address gaps.

6.0 Final note

Because of the sensitive nature of the work completed/conducted by the student researcher with the U.S. CDC in China office, the complete EAP cannot be included in this Special Studies Project. A dilemma exists between documenting procedures so that staff knows what to do and making an organization more vulnerable by doing so. In the current climate of terrorism, detailed information about what an office or organization is planning to do; including maps, evacuation routes, etc., can be used against the organization if in the wrong hands. Task lists and an example of an SOP were included in this thesis, but contact information and procedural details were removed so as to not jeopardize the safety of staff by being publicly available.

For further information or questions about the EAP, to review the Plan, or for inquiries about the role of the researcher in the development of the EAP, please contact Dr. Lise Martel at lmartel@cdc.gov.

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