

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Washington Headquarters Service, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington, DC 20503.

PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.

1. REPORT DATE (DD-MM-YYYY) 01-05-2017		2. REPORT TYPE Research		3. DATES COVERED (From - To) 1918-present	
4. TITLE AND SUBTITLE USG Pandemic Response Team: An Integrated, Whole of Government Approach				5a. CONTRACT NUMBER N/A	
				5b. GRANT NUMBER N/A	
				5c. PROGRAM ELEMENT NUMBER N/A	
6. AUTHOR(S) MAJ Tiffany Bilderback & LCDR Kathleen Dagher				5d. PROJECT NUMBER N/A	
				5e. TASK NUMBER N/A	
				5f. WORK UNIT NUMBER N/A	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) USMC School of Advanced Warfighting Marine Corps University 2044 South Street Quantico, VA 22134-5068				8. PERFORMING ORGANIZATION REPORT NUMBER N/A	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A				10. SPONSOR/MONITOR'S ACRONYM(S) N/A	
				11. SPONSORING/MONITORING AGENCY REPORT NUMBER N/A	
12. DISTRIBUTION AVAILABILITY STATEMENT Unlimited					
13. SUPPLEMENTARY NOTES N/A					
14. ABSTRACT The rising and concentrated populations coupled with increasing global travel are all factors that should change the way humanity deals with preventing and treating epidemics. In order to protect its national interests and mitigate the increasing threat and risk of a pandemic, the United States should develop an interagency response team using a whole of government approach. A review of current capabilities, a case study on the EBOLA response and a recommendation for a way ahead are outline in this paper.					
15. SUBJECT TERMS Pandemic, government response, interagency response.					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT UU	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON Marine Corps University / School of Advanced Warfighting
a. REPORT Unclassified	b. ABSTRACT Unclassified	c. THIS PAGE Unclassified			19b. TELEPHONE NUMBER (Include area code) (703) 432-5318 (Admin Office)

United States Marine Corps
School of Advanced Warfighting
Marine Corps University
3070 Moreell Avenue
Marine Corps Combat Development Command
Quantico VA 22134

FUTURE WAR PAPER

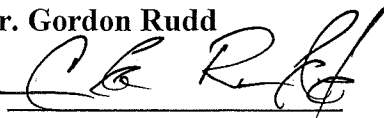
USG Pandemic Response Team: An Integrated, Whole of Government Approach

**SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF OPERATIONAL STUDIES**

MAJ Tiffany Bilderback & LCDR Kathleen Dagher

AY 2016-17

Mentor: Dr. Gordon Rudd

Approved: 

Date: 10 MAY 2017

DISCLAIMER

THE OPINIONS AND CONCLUSIONS EXPRESSED HEREIN ARE THOSE OF THE INDIVIDUAL STUDENT AUTHORS AND DO NOT NECESSARILY REPRESENT THE VIEWS OF EITHER THE SCHOOL OF ADVANCED WARFIGHTING OR ANY OTHER GOVERNMENTAL AGENCY. REFERENCES TO THIS STUDY SHOULD INCLUDE THE FOREGOING STATEMENT.

World War I was a devastating global event, which claimed 16 million lives from 1914-1918. In contrast, the influenza epidemic that swept the world in 1918 killed 40 million in one year alone.¹ Presently with greater population, urbanization, and global travel, the effects of a similar pandemic could be magnitudes greater. As per Dr. Larry Brilliant,ⁱ a pandemic today could result in 165 million deaths and cost the global economy one to three trillion dollars.²

Globally, there has been an unprecedented growth from 2.5 to 7 billion people since 1950, with an estimated world population of 11 billion by 2100.³ Additionally, as of 2014, 54 percent of the world's population is living in urban areas (populations greater than 50,000), which could rise to 66% by 2050.⁴ Furthermore, in 2015 there were at least 29 megacities with greater than 10 million people, and this could grow to at least 41 megacities by 2030, with 16 of them in Asia.⁵ The ease of global transportation is also vastly increasing. In an article published in December 2013, an average of eight million people flew daily, with more than three billion flying over the course of one year.⁶

The rising and concentrated populations coupled with increasing global travel are all factors that should change the way humanity deals with preventing and treating epidemics.⁷ In accordance with the United States National Security Strategy (February 2015),

The increasing interdependence of the global economy and rapid pace of technological change are linking individuals, groups, and governments in unprecedented ways...It also creates shared vulnerabilities, as interconnected systems and sectors are susceptible to the threats of climate change, malicious cyber activity, pandemic diseases, and transnational terrorism and crime.⁸

In order to protect its national interests and mitigate the increasing threat and risk of a pandemic, the United States should develop an interagency response team using a whole of government approach.

ⁱ Dr. Larry Brilliant currently serves as the acting Chairman of the Board of the Skoll Global Threats Fund whose mission is to confront global threats like: Pandemics, Climate Change, Water, Nuclear Proliferation and the Middle East Conflict. He is known known for overseeing the last case of smallpox through the World Health Organization (WHO) and curing blindness for over two million people through The Seva Foundation, his nonprofit organization.

Current Capabilities

There are several United States Government (USG) departments and agencies with capabilities to combat a pandemic: Department of Defense (DoD), Department of State (DoS), Department of Health and Human Services (HHS), and the United States Agency for International Development (USAID).

The DoD response to global health is extensive, as illustrated in Appendix 1. The primary means for the DoD to respond to a pandemic is through its military services. The geographic combatant commands (COCOMs) have global responsibilities, and the Army, Navy, and Air Force, each have respective service responsibilities with expeditionary medical capabilities that deploy in modular, tailorable platforms. In addition to medical assets, the military has several specialties that could assist in a pandemic outbreak: military police, public affairs, civil affairs, foreign affairs, logistics, and engineers.

The DoS, whose organization is depicted in Appendix 2, is a USG department with capability to assist with a pandemic. Its Bureau of Public Affairs engages domestic and international media to communicate timely and accurate information to further United States foreign policy and national security interests. Its Bureau of Medical Services advises the embassy and DoS management about health issues around the world. Moreover, each Embassy has an ambassador (Chief of Mission), Deputy Chief of Mission, and a country team, highlighted in Appendix 3. Country teams work to synchronize all agency programs and priorities within the context of the Embassy's Mission Strategic Plan for that country.⁹

The United States Department of Health and Human Services (HHS) contains several applicable subcomponents for combating a pandemic, depicted in Appendix 4. HHS, headquartered in Washington D.C., has the overarching mission to enhance and protect the

health of all Americans and is responsible for establishing United States' pandemic response and liaising with international organizations to establish global response plans. The HHS Office of Global Affairs (OGA) is the diplomatic voice to foster critical global relationships, coordinate international engagement, and provide leadership and expertise in global health diplomacy and policy.¹⁰ HHS is also capable of activating their Uniformed Public Health Service, a uniformed service of public health professionals and engineers that serve throughout the organization.¹¹

The Centers for Disease Control (CDC), headquartered in Atlanta, Georgia, is a subcomponent of HHS. CDC has an Office of Health Preparedness and Response (OPHPR) Division of Emergency Operations (DEO). When the DEO first receives information about a threat, experts from across CDC decide if it is necessary to establish an Emergency Operations Center (EOC). The EOC can swiftly deploy with scientific experts, coordinate the delivery of supplies and equipment, monitor the efficacy of response activities, and work with local public health departments. Since the inception in 2001, the CDC EOC has responded to over 60 public health threats.¹² The National Institutes of Health (NIH), an additional subcomponent of HHS located in Bethesda, Maryland, can also conduct testing and disease monitoring in concert with the CDC.

A small but globally renowned USG agency is the United States Agency for International Development (USAID), depicted in Appendix 5. USAID is an independent agency of the USG that works closely with DoS and receives overall foreign policy guidance from the Secretary of State. USAID is composed of geographical, functional, and central bureaus. In the event of a pandemic, USAID may provide assistance from its geographical and functional bureaus, to include but not limited to, the Bureau for Global Health; Bureau for Democracy, Conflict, and Humanitarian Assistance; and the Bureau for Foreign Assistance.

In addition to USG agencies and departments, international government organizations (IGOs) provide capabilities for combating a pandemic. World Health Organization (WHO), headquartered in Geneva, Switzerland, primarily serves as a repository and coordination center for international pandemic guidelines and response plans through their Department of the Pandemic and Epidemic Diseases (PED). WHO also coordinates Emergency Medical Teams (EMTs), groups of health professionals that treat patients affected by an emergency or disaster. The EMTs come from government organizations, non-government organizations (NGOs), militaries, and international organizations. These teams are trained and self-sufficient so they do not further burden a host-national system.¹³

Liberia Case Study-Operation UNITED ASSISTANCE

December 2013 - April 2015

In partnership with USAID, U.S. Africa Command (AFRICOM) has worked since 2008 to establish a Pandemic Response Program with the goal to assist African militaries to develop influenza pandemic response plans. In August 2012, representatives from sixteen African nations and the United States came together at the Kofi Annan International Peacekeeping Training Centre in Ghana for the largest pandemic conference ever conducted among African nations.¹⁴

This growing Pandemic Response Program and standing cooperation amongst African nations were tested with the Ebola outbreak in 2013. The Ebola outbreak serves as a case study to demonstrate a multilateral response integrating USG capabilities and illustrate, that despite the multiple organizations and associated plans, the USG response was inadequate and delayed.

In December 2013, a feverish young boy died in a jungle village in Guinea. Unbeknownst to anyone, Ebola spread to neighboring Sierra Leone and Liberia over the next

few months and was first positively identified in March 2014. Subsequently, on 09 July 2014, the CDC activated its EOC. On 24 July, WHO graded the Ebola outbreak at the highest level of health risk. During this first week of August, Chiefs of Mission in Liberia, Sierra Leone, and Guinea declared foreign disasters. Consequently, USAID established a disaster assistance response team (DART), normally used in natural disaster situations, to lead and coordinate USG response efforts. Simultaneously, DoD established the Ebola Task Force at the Pentagon. Normally, DoD would support DART missions with logistics and medical support, but since this was not a typical natural disaster with foreign humanitarian assistance, this did not initially happen.

Throughout August, there was no USG executive decision to commit military forces in response to Ebola. On 12 September, the Joint Staff issued an order for USAFRICOM to provide a 25-bed medical unit. This order was expanded three days later to include a robust operation totaling 3,000 personnel and placed the Army command element of AFRICOM (USARAF) in charge. Major General (MG) Williams (Commander, AFRICOM) whose original branch was Field Artillery, quickly formed the Joint Force Command – United Assistance (JFC-UA) and began evaluating the operational environment and making initial assessments with his team. In support of USAID, JFC-UA developed lines of effort to be command and control, engineering support, logistics supports, and medical training assistance. The end state was to set conditions for USG agencies, host nation, or international organizations to manage the Ebola response and to transition all training and support activities to these designated entities.¹⁵

The initial military formations included: a United States Navy construction battalion, United States Transportation Command (TRANSCOM) with port-opening teams, and the Marine Corps Special Purpose Marine Air-Ground Task Force-Crisis Response Africa (SPMAGTF-CR-

AF). The 101st Airborne Division (Air Assault) was then selected as the follow-on headquarters, so MG Gary Volesky (Commander, 101st Airborne Division (Air Assault)) assumed command from MG Williams after 40 days. WHO also responded with 72 Ebola treatment centers across three countries and over 40 organizations across twenty countries deployed EMTs. By March 2015, the outbreak no longer warranted a robust DoD presence. WHO declared Liberia Ebola-free on 09 May, and JFC-UA concluded operations on 30 June.¹⁶

The Joint Coalition Operational Analysis Division from the Joint Staff published Operation UNITED ASSISTANCE: The DOD Response to Ebola in West Africa in January 2016. While this study focused on the DoD response, several of the recommendations proposed DoD coordination and USG-wide action. The recommendations were extensive. Some DoD proposed actions include: examine the interagency decision-making process to expedite the whole of government response; review procedures for operating with CDC, HHS, USAID, and other key partners; participate with USG and key partners to develop a national-level, contagious biological outbreak plan for domestic and international responses; and examine the joint force command as used by USAFRICOM during Operation UNITED ASSISTANCE and, as appropriate, incorporate into joint doctrine.¹⁷ These lessons are used for the following proposed interagency approach.

The Plan - Integrated, Whole of Government Approach

Within the United States and around the world, there are several organizations that have capabilities and associated plans to combat a pandemic at some level. These organizations can be called upon in the event of a pandemic outbreak, and they will generate a response. However, this type of reactionary response tends to be ad hoc and insufficient. With the growing threat of a pandemic outbreak, a more effective design and process is in order.

The gap in the USG response to pandemics is an overarching structure that proactively synchronizes national efforts in a tailorable, interagency approach. The military can deploy manpower quickly, with civilian agencies providing longer-term assistance. Both civilian and military organizations have appropriate specialists. An interagency approach is necessary to synchronize the USG response and have a smooth transition through all phases from the initial response to returning responsibility to the host nation.¹⁸

A USG Pandemic Response Team should take advantage of personnel already in a country who understand the local security situation and the available infrastructure and combine rapidly deployable personnel that can test for the disease, diagnose the disease, train local medical personnel, and treat those infected. Such an interagency, whole of government approach would allow the United States to respond more effectively in a crisis, to assist the affected nation(s) with minimal delay, and to mitigate the spread of the pandemic.

DOTMLPF Implications

The Joint Capabilities Integration Development System is the formal DoD procedure to define acquisition requirements. After an analysis of current capabilities, one must develop considerations for solutions involving any combination of doctrine, organization, training, materiel, leadership and education, personnel and facilities (DOTMLPF). With the proposed USG Pandemic Response Team, organization and personnel are addressed in concert first as these categories provide the foundation for the subsequent recommendations for doctrine, materiel, training, and leadership and education.

Organization and Personnel

The organizational change begins with the command structure, which would keep with the construct of a military staff and command relationships. Organizations within the military

that are typically supporting efforts during wartime, such as medical, security, logistics and public affairs, would become the main effort in response to a pandemic outbreak.

The proposed structure for USG Pandemic Response Team would be an integration of applicable personnel from the DoD, DoS, HHS, and USAID (see Figure 1). This interagency approach allows for an effective whole of government response, eliminating redundancies and delivering a consistent national message.

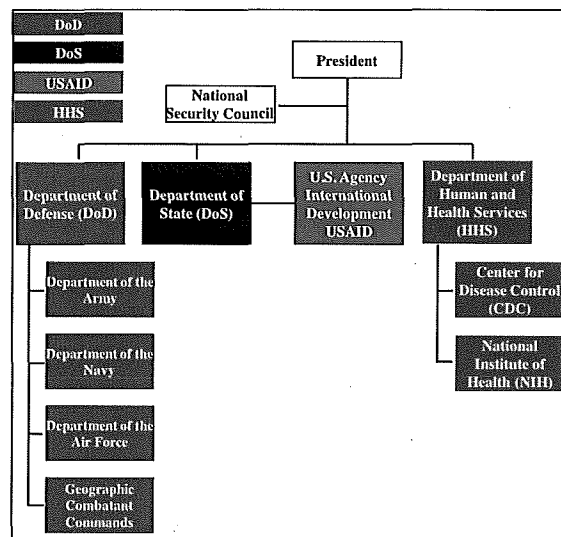


Figure 1: Current Governmental Structure that is applicable to proposed USG Pandemic Response Team

The command relationship of the USG Pandemic Response Team is situation dependent. The commander of the team would either report to the Ambassador or the geographic combatant commander (CCDR). If a nation requests assistance, the respective Ambassador might have the lead; however, in areas with complete government collapse, the CCDR may have the lead. Independent of the situation, it is paramount that the command relationship is clearly and immediately determined, understood, and respected for the duration of the mission. Both situations assume the host nation military and its military structure is not capable of handling the pandemic, and is, therefore, not integrated in the recommended command structure. If there is a

situation where this assumption is false, the host nation military could be integrated through an appropriate command relationship.

The basic structure for the USG Pandemic Response Team could include a commander, deputy, chief of staff, staff sections, and five sections to include medical, security, logistics, public affairs, and civil affairs, all of which integrate assets from DoD, DoS, HHS, and USAID.

Figure 2 illustrates the proposed basic composition of a USG Pandemic Response Team.

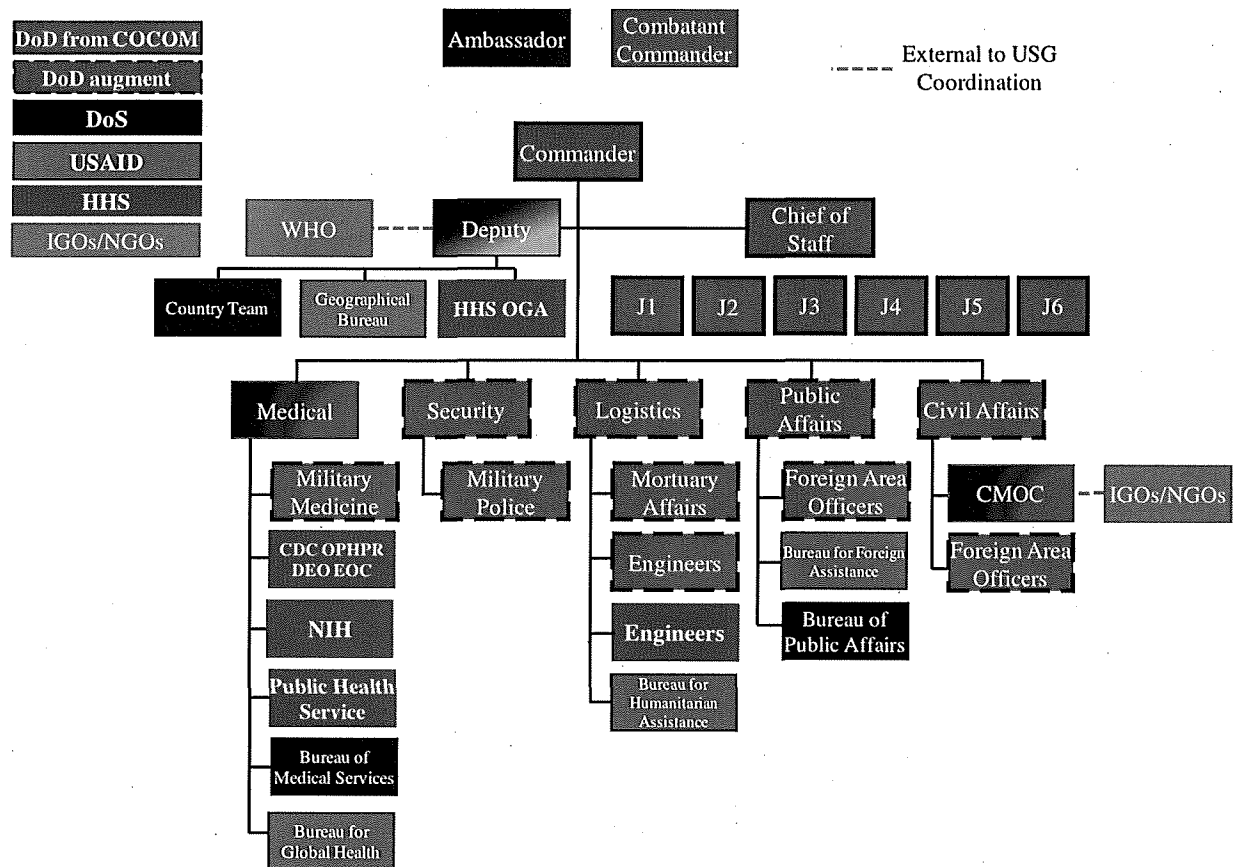


Figure 2: Proposed USG Pandemic Response Team

All six geographic combatant commands (COCOMs) should identify a commander, chief of staff, and primary staff sections, to serve as the skeleton team for a pandemic in their respective area of responsibility. The commander should be a military officer, with the rank of O7 or higher to appropriately represent the USG and indicate the level of importance. Such a

team might operate in remote, high visibility environments, and require extensive host-nation coordination. The chief of staff should be a military officer, with the rank of O6 or higher. The chief of staff would ensure synchronization for staff actions for the team. J1 would handle personnel and administrative requirements for the team members, J2 would handle intelligence requirements, J3 would handle current operational requirements, J4 would handle logistical and sustainment functions internal to the team, J5 would handle future operational requirements to include moving or redeploying the team, and the J6 would handle all internal communication requirements for the team. Each staff section could rely heavily on the service specific element of Staff Non-Commissioned Officers, rather than being officer centric.

The deputy should represent the civilian agencies, at the discretion of the Secretary of State. The deputy would coordinate actions amongst the Embassy country team, USAID geographical bureau, and the HHS OGA. The deputy would be responsible for overall external coordination with civilian organizations, most notably with WHO. WHO would most likely have subordinate assets, such as the EMTs, that are integrated within the sections.

The military personnel within the five sections (medical, security, logistics, public affairs, and civil affairs) should be identified by-name against an approved manning document, much like that of a Modified Table of Organization and Equipment (MTOE) or Table of Distribution and Allowances (TDA) in the Army, on a two-year, rotational basis. The personnel could be either active duty or reservists. Ideally, sections would be filled with personnel from various parent units, so that parent units could still function and accomplish their mission when the team is activated. This model is similar to the Professional Filler System (PROFIS) utilized by the Army Medical Department.

The medical section would rely heavily on military capabilities in the form of personnel, equipment, and logistics, augmented by HHS staff to include the CDC OPHRPR DEO EOC, NIH testing capabilities, Public Health service uniformed personnel; DoS Office of Medical Service; and the USAID Bureau for Global Health. The lead agent for the medical section would either be DoD or DoS, depending on the circumstances of the pandemic. Typically, the DoS will take the medical lead in pandemics where the host nation has requested support for a country specific outbreak. In the event of complete government collapse, regional outbreaks, or incidents caused by biological warfare, the military could assume the lead of the medical section. The modular structure of the military hospitalization packages allows for a scalable effort based on mission requirements. The initial task organization would rely heavily on infectious disease officers, public health officers, environmental scientists, microbiologists, laboratory officers and technicians, primary care providers, ward nurses, intensive care unit providers, phlebotomists, and medics/corpsman. HHS uniformed personnel would augment as needed and provide support particularly in the areas of public health and infrastructure engineering. The CDC and NIH would continue to monitor the affected areas and provide specialists for containment of the virus and oversight of proper handling of patients and remains.

Security would require host nation vigilance and support. Military Police could augment local security forces and training host nation personnel if existing security capabilities are not able to provide adequate services. Initially, a larger security contingent may be required to stabilize the affected areas. A contributor to unrest may be fear of the spread of the disease, leading to both Internally Displaced Persons (IDPs) and refugees, as they attempt to either flee the infected area or come to seek United States supported medical treatment. The IDPs and

refugees should be handled separately but with a unified effort from security and medical personnel.

Military logistics are integral for the response team, as none of the other agencies contain the same capability to efficiently transport people, equipment, and supplies. The logistics section should be flexible and tailorable depending on the location of the outbreak and would liaison with other supporting agencies such as USAID, CDC, and HHS for coordination and movement of required end items. Mortuary affairs teams should be prepared to augment local capabilities and respond to mass quantities of remains in accordance with local customs and religious requirements to prevent further destabilization and health concerns. Engineers may be requested for the repairing of existing infrastructure or the construction of additional medical or public health infrastructure. HHS could augment as necessary with a small engineering component for public health requirements. Contracted or host nation hires could augment engineer tasks. USAID's Bureau for Humanitarian Assistance could augment the logistics section.

Public affairs would be vital to the containment of the outbreak. Consistent messaging is necessary to combat the local fear of the outbreak and provide localized stability. Disseminating the proper information for identification and treatment of the disease in concert with other present organizations is paramount. Foreign Affairs Officers could assist in establishing the initial understanding of the environmental situation while also acting as interim linguists where necessary. USAID's Bureau for Foreign Assistance in combination with their respective field office, could assist with contracting, key leader interactions, and identification of significant cultural institutions and pre-existing needs of the community. The DoS Bureau of Public Affairs could engage with domestic and international media to communicate timely and accurate information.

The Civil Affairs primary mission would be to manage the Civil Military Operations Centers (CMOC). Civil Affairs Teams (CATs) are well trained for continuous coordination with DoS, HHS, USAID, IGOs, and NGOs. This synchronization would be vital in the transition phase. CATs are indispensable for public outreach and identifying essential basic needs. Foreign Area Officers could join these teams to expedite communication and increase understanding of the local populace customs as well as overall cultural sensitivity.

This interagency, whole of government structure would best employ the capabilities of the USG. The resourcing agencies will be responsible for providing both personnel and equipment specific to their capabilities. These teams will be identified and trained annually to meet rotational demand as required.

Doctrine

The overall authority for the USG Pandemic Response Team should come from the National Security Council. For the greatest efficacy of United States resources, interagency memorandums of agreement should be developed. These agreements would provide for integration of non-DoD personnel into the task organization of the response teams. Each of the positions for military and other federal professionals would be established with defined roles and responsibilities. Doctrinal changes specifying key performance parameters, capabilities, tactics, techniques, and procedures for DoD, DoS, and HHS personnel should be included in the memorandums to solidify the concept. An example of joint publication with extensive interagency cooperation is the Interagency Agreement between the DoD and the National Aeronautics and Space Administration (NASA) International Space Station Program (May 2010). In this agreement, NASA and the DoD share equipment and personnel with common training pipelines to meet strategic goals for the United States space program.

Materiel

Equipment currently in the inventory should be identified by each respective agency within DoD, DoS, and HHS. Any equipment or supplies that would deliberately remain in an on-order status (such as prescription medications with short expiration periods) for fiscal reasons should be available within three days of activation of the response team to maximize expediency in the response time. Further gaps in available equipment could be identified as training is conducted, at which time requests should be made to address such shortages to the respective unit or agency. Each agency would retain control of their resources and budgeting and be responsible for providing personnel with their associated equipment as directed through the Interagency Memorandums. Although the Adaptive Planning and Execution (APEX) system concentrates mainly on DoD capabilities, it could be used for interagency capabilities and could be used as a resource in planning pandemic responses.

Training, Leadership, and Education

Training, leadership, and education are imperative for the cohesion and capability of the response units. The first step is to develop an interagency course that provides a secondary military occupational specialty (MOS) or additional skill identifier (ASI) for military personnel and a civilian certificate for other participants. This education would capitalize on pre-existing expertise while setting a baseline of knowledge for a pandemic response. The course could be developed in concert with an existing University Public Health Response curriculum using the most up-to-date studies and biological threat information. Examples of such courses may include biological response threats, analysis of best practices for disease response, case studies in pandemics, disaster management, interagency coordination, pandemic response design, and food and water safety and distribution systems. The programs should be developed for professionals

with a minimum of a graduate level education. This secondary MOS/ASI or civilian certification would be required for the commander, chief of staff, deputy, and each section leader.

The second step would be team-level training, occurring twice annually with equipment and personnel. Training within the United States with coordination of state agencies would be beneficial in identifying strengths, weaknesses, opportunities, and threats of the USG Pandemic Response Team.

The third step would be to establish an international shaping phase with allied and partner nations that would be amiable to training for such a response. Pacific Command (PACOM) would be ideal as it has the highest probability for disease outbreaks as Asia has 16 megacities now and will have 30 megacities by 2030, as illustrated in Figure 3 below.

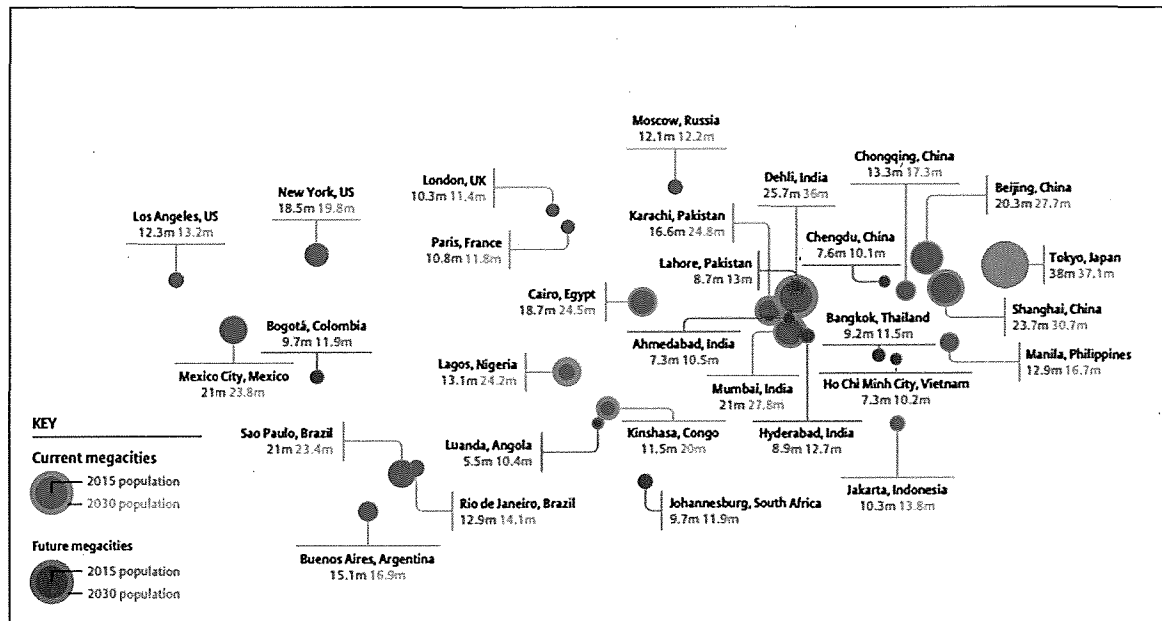


Figure 3: Selected current and future megacities 2015 to 2030¹⁹

This phase would allow for an undertaking of international regulations, host nation capabilities, multilateral integration of response, and coordination with NGOs and IGOs. Training would ideally lead to host nation cooperation and abatement of political hindrances if an outbreak did occur in any of those areas. The training would create a cooperative foundation

to easily build upon in a crisis. Training evolutions would lead to best practices and solidify the foundation for doctrinal guidance.

Transition to Host Nation

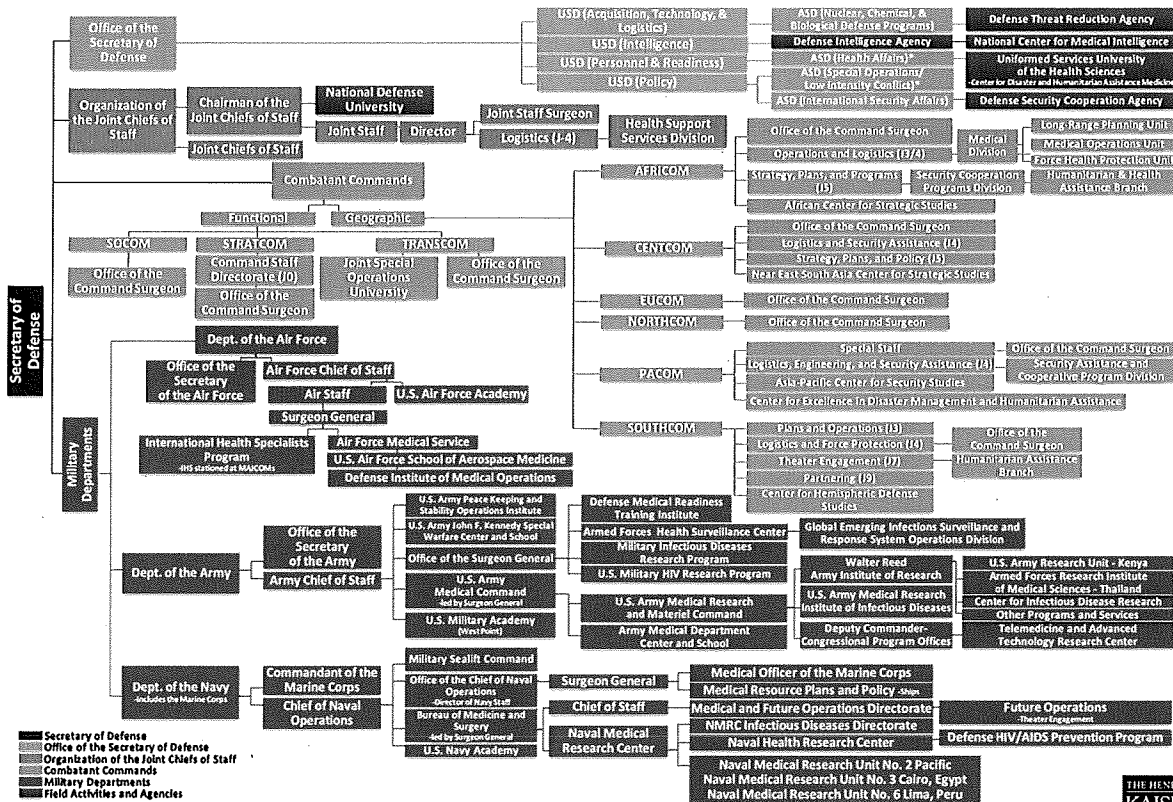
The goal of the USG should be to continue to stabilize and enable the host nation of an affected country to regain control of their population and governmental systems. Coordination amongst the host nation, the USG assets, the NGOs, and IGOs is imperative for the execution of combating the outbreak and event more important during transition after the outbreak is stabilized. Each organization brings value to combating outbreak, and it is important to provide a transition to avoid creating a vacuum when the larger USG elements depart the country. The CMOC could assist with this transition, as well as the steady-state presence of DoD and DoS personnel. The established NGOs and IGOs should be coordinated with to provide communications for the affected population in concert with the host government. The IGOs could levy additional resources and assist with displaced personnel. Since the amount of aid can be redundant and overwhelming, centralization of relief would be advantageous in both combating the outbreak and simplifying the transition.²⁰

Transition is a difficult task and should be planned and developed from the beginning. In a scenario where disease is rapidly spreading through a megacity, state infrastructure is collapsing, and local governments are struggling, the USG may be inclined to take ownership of the response. The goal of United States assistance should be to empower the affected state through support of the host government while working with existing NGOs and IGOs to allow for containment and stabilization. Once the determination is made that the pandemic is no longer a global or national threat, transition to the host nation should occur as soon as the host nation can assume self-governance and stability.

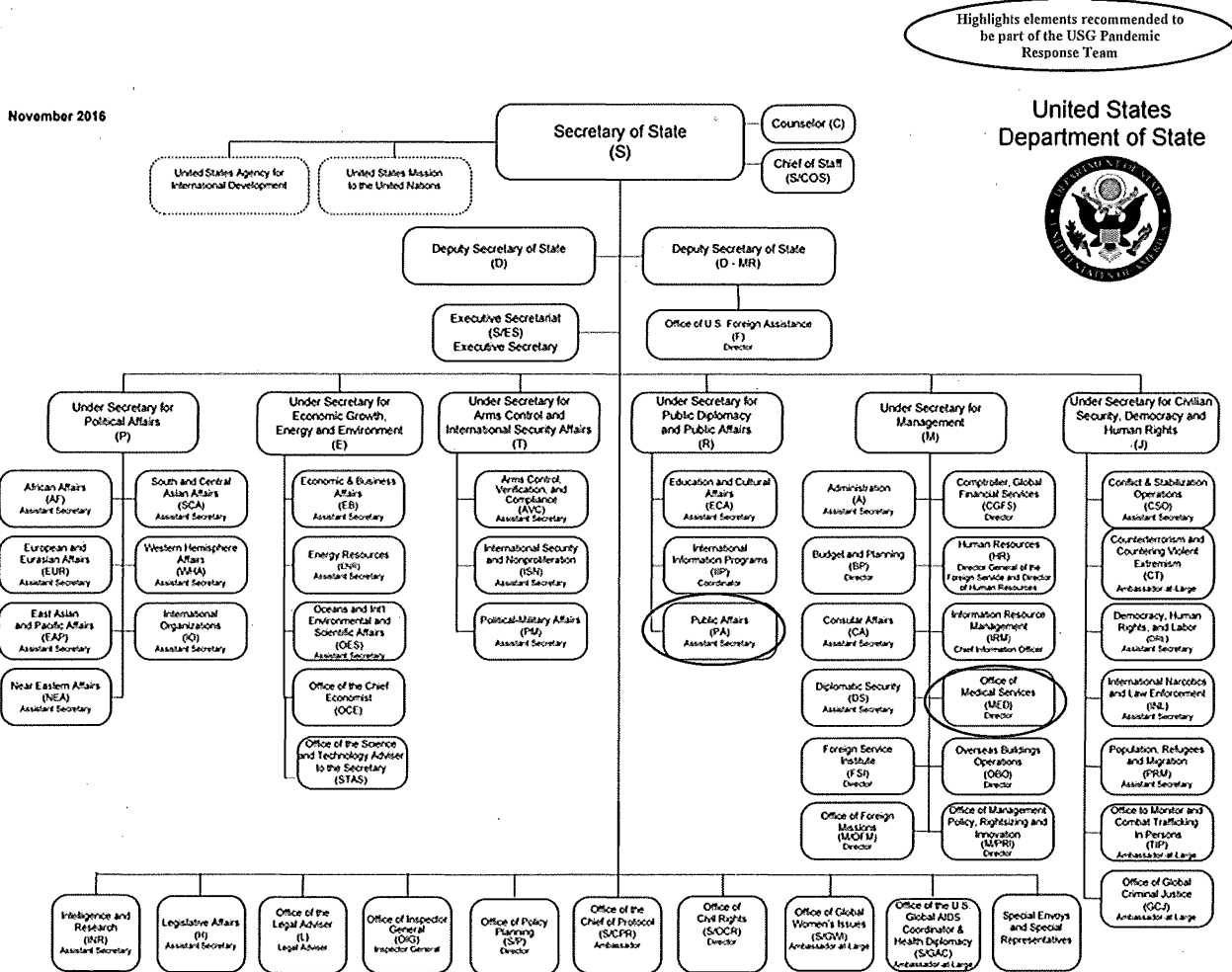
Conclusion

As President Obama stated in the most recent National Security Strategy, “America is the world leader in fighting pandemics, including HIV/AIDS, and in improving global health security.”²¹ The risk of a pandemic resulting from the combination of a growing world population, increased urbanization, and ease of global travel is a national security concern. In underdeveloped countries with poor health infrastructure such as Liberia, this risk is exacerbated. The best means to prepare for a pandemic from a military prospective is a proactive, interagency response.

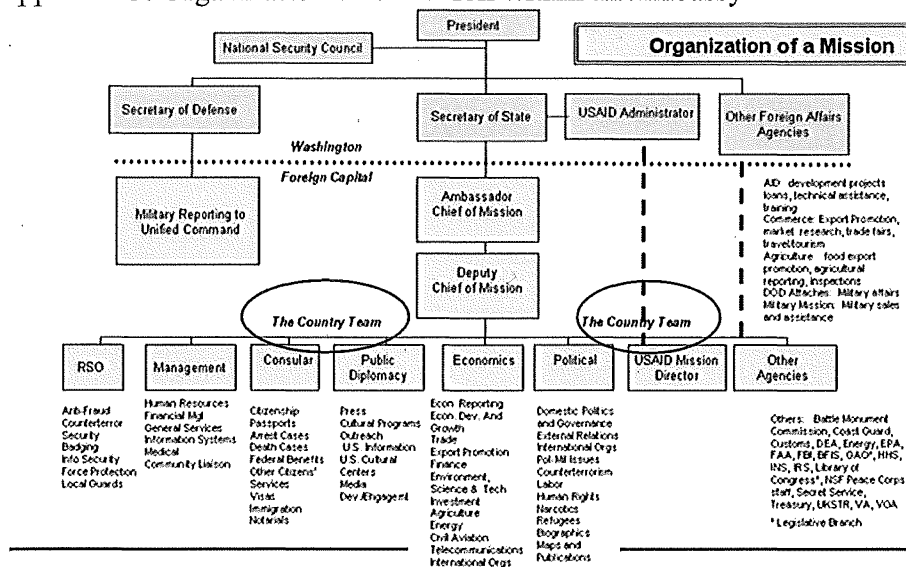
In further support of the National Security Strategy, the USG Pandemic Response Team is a method to strengthen “our ability to prevent outbreaks and ensure sufficient capacity to respond rapidly and manage biological incidents.”²² Through proper personnel identification, team training, assigned resources, and interagency agreements the United States can meet these requirements. As Bill Gates said in a speech at the Munich Security Conference in February 2017, “whether it occurs by a quirk of nature or at the hand of a terrorist, epidemiologists say a fast-moving airborne pathogen could kill more than 30 million people in less than a year, [with a] reasonable probability the world will experience such an outbreak in the next 10-15 years.”²³

Appendix 1: Department of Defense (DoD) Role in Global Health, as of September 2012²⁴

Appendix 2: Organizational Chart for Department of State (DoS), as of November 2016²⁵

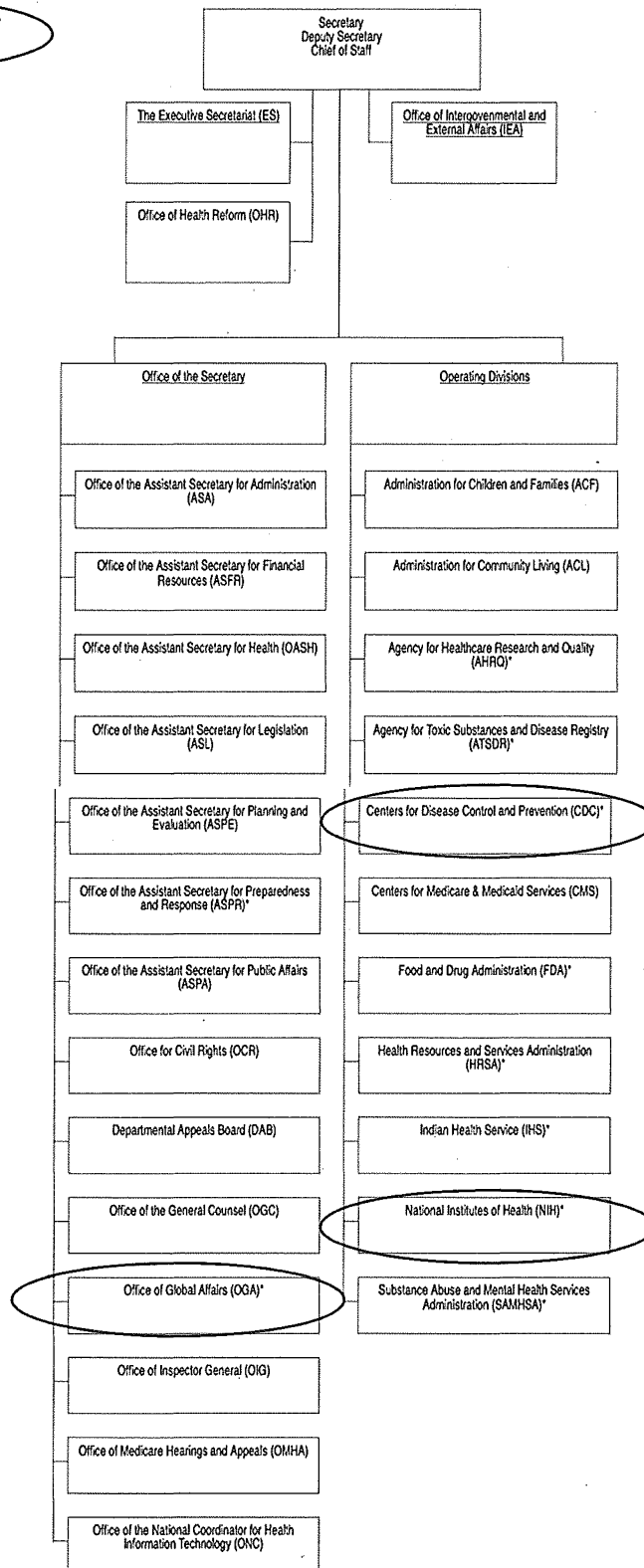


Appendix 3: Organization of a Mission within an Embassy²⁶



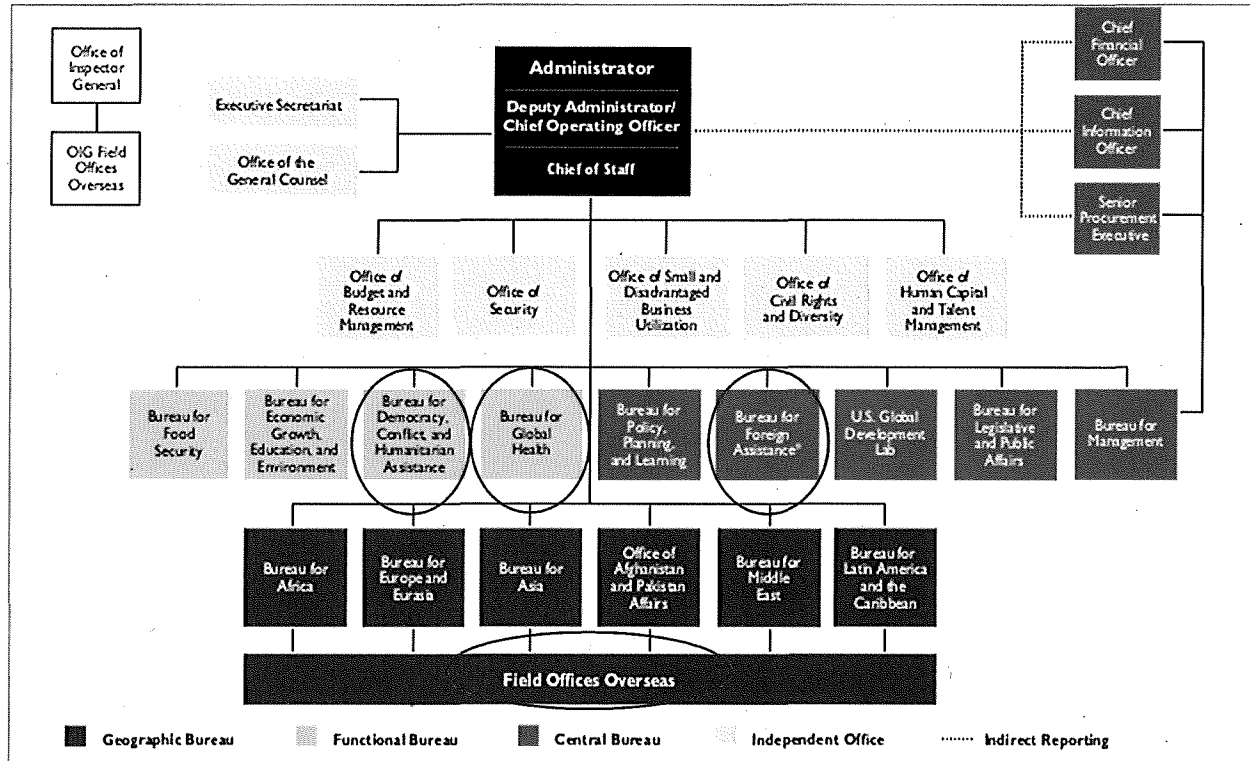
2016²⁷ Appendix 4: Organizational Chart for Health and Human Services (HHS), as of May 25,

Highlights elements recommended to be part of the USG Pandemic Response Team



Appendix 5: Organizational Chart for United States Agency of International Development (USAID), as of February 13, 2017²⁸

Highlights elements recommended to be part of the USG Pandemic Response Team



¹ Molly Billings, “The Influenza Pandemic of 1918,” last modified February 2005, <https://virus.stanford.edu/uda/>.

² Robyn Carlyle, “What are the Chances of a Devastating Pandemic Occurring in the Next 50 Years?” Huffington Post, last modified October 29, 2013, http://www.huffingtonpost.com/quora/what-are-the-chances-of-a_b_3839785.html.

³ Bahar Gholipour, “What 11 Billion People Mean for Disease Outbreaks,” *Live Science*, last modified November 25, 2013, <http://www.livescience.com/41479-11-billion-disease-outbreaks.html>.

⁴ United States Census Bureau, “Urban and Rural,” last modified December 8, 2016, <https://www.census.gov/geo/reference/urban-rural.html>.

⁵ Allianz, *The megacity state: The World’s biggest cities shaping our future* (Munich, Germany: Allianz, 2015). https://www.allianz.com/v_1448643898000/media/press/document/Allianz_Risk_Pulse_Megacities_20151130-EN.pdf.

⁶ IATA, “New Year’s Day 2014 marks 100 Years of Commercial Aviation,” last modified December 31, 2013, <http://www.iata.org/pressroom/pr/Pages/2013-12-30-01.aspx>

⁷ Gholipour, “What 11 Billion People Mean.”

⁸ The White House, *The National Security Strategy of the United States of America* (Washington, DC, 2015), https://www.whitehouse.gov/sites/default/files/docs/2015_national_security_strategy.pdf.

⁹ U.S. Department of State, “Introduction to Department of State Agency Culture – V1.0,” last modified https://www.state.gov/courses/rs401/page_25.htm.

¹⁰ U.S. Department of Health & Human Services, “Office of Global Affairs (OGA),” last modified June 14, 2016, <https://www.hhs.gov/about/agencies/oga/>.

¹¹ Commissioned Corps of the U.S. Public Health Service, “Mission and Core Values,” last modified February 3, 2014, <https://www.usphs.gov/aboutus/mission.aspx>.

¹² Center for Disease Control, “Emergency Operations Center,” last modified on September 1, 2016, <https://www.cdc.gov/phpr/eoc.htm>.

¹³ World Health Organization, “Emergency Preparedness and Response,” last modified December 27, 2106, <http://www.who.int/csr/alertresponse/en/>.

¹⁴ United States Africa Command, “Pandemic Response Program,” last modified n.d., <http://www.africom.mil/what-we-do/security-cooperation/pandemic-response-program>.

¹⁵ Joint and Coalition Operational Analysis (JCOA), *Operation UNITED ASSISTANCE: The DOD Response to Ebola in West Africa*, (Suffolk, VA: JCOA, 2016).

¹⁶ Ibid.

¹⁷ JCOA, 2016.

¹⁸ RAND Corporation, *How Should Air Force Expeditionary Medical Capabilities be Expressed?* (Santa Monica, CA: RAND Corporation, 2009).

¹⁹ Allianz, *The megacity state*.

²⁰ Cynthia Kao, “Haiti’s Multi-Billion Dollar Humanitarian Aid Problem,” last modified on September 28, 2016, http://www.huffingtonpost.com/young-professionals-in-foreign-policy/haitis-multi-billion-doll_b_8207494.html.

²¹ The White House, *The National Security Strategy*.

²² Ibid.

²² Bill Gates, “A new kind of terrorism could wipe out 30 million people in less than a year – and we are not prepared,” *Business Insider*, last modified February 18, 2017, <http://www.businessinsider.com/bill-gates-op-ed-bio-terrorism-epidemic-world-threat-2017-2>.

²³ Health and Human Services, “HHS Organization Chart,” last modified March 8, 2017, <https://www.hhs.gov/about/agencies/orgchart/>.

²⁴ USAID, “Organization,” last modified February 13, 2017, <https://www.usaid.gov/who-we-are/organization>

²⁵ United States Department of State, last modified November 2016, <https://www.state.gov/documents/organization/263637.pdf>.

²⁶ U.S. Department of State, “Introduction to Department of State Agency Culture – V1.0.”

²⁷ The Henry J. Kaiser Family Foundation, “DoD’s Organizational Involvement in Global Health,” last modified September 16, 2014, <http://sciencespeaksblog.org/wp-content/uploads/2013/05/DOD-GH-Chart.jpg>.

Bibliography

- Andrade, Dale. "Counterinsurgency Lessons from Vietnam for the Future." *Military Review*, March- April 2006. file:///Users/tiffanyrose/Downloads/milreviewmarch2%20(1).pdf.
- Allianz. *The megacity state: The World's biggest cities shaping our future*. Munich, Germany: Allianz, 2015. https://www.allianz.com/v_1448643898000/media/press/document/Allianz_Risk_Pulse_Megacities_20151130-EN.pdf.
- Chairman of the Joint Chiefs of Staff. *Joint Publication 4-02: Health Service Support*. Washington, DC: Chairman of the Joint Chiefs of Staff, July 26, 2012.
- Department of Defense. *Multi-Service Tactics, Techniques, and Procedures for Health Service Support in a Chemical, Biological, Radiological, and Nuclear Environment*. ATP 4-02.7, MCRP 4-11.1F, NTTP 4-02.7, AFTTP 3-42. Washington, DC: Department of Defense, March 2016.
- Homeland Security. *Pandemic Influenza Preparedness, Response and Recovery Guide for Critical Infrastructure and Key Resources*. September 19, 2006. <https://www.dhs.gov/sites/default/files/publications/cikrpandemicinfluenzaguide.pdf>.
- Joint and Coalition Operational Analysis (JCOA), Operation UNITED ASSISTANCE: The DOD Response to Ebola in West Africa, Suffolk, VA: JCOA, 2016.
- J3 JFC-UA. *Commander's Updated Assessment* PowerPoint presentation. Operation Unified Assistance, Africa, November 5, 2014.
- RAND Corporation. *How Should Air Force Expeditionary Medical Capabilities be Expressed?* Santa Monica, CA: RAND Corporation, 2009.
- The White House. *The National Security Strategy of the United States of America*. Washington, DC, 2015. https://www.whitehouse.gov/sites/default/files/docs/2015_national_security_strategy.pdf.
- USNORTHCOM. *Influenza Pandemic Response Plan*. CONPLAN 3591-09. August 13, 2009.
- World Health Organization. *PED: Pandemic & Epidemic Diseases*. Geneva, Switzerland: World Health Organization, 2014.