Medical Evacuation of Patients with Highly Contagious Diseases:

Update to Current Options, Capabilities, Policy Challenges, and Resource Gaps

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Introduction

At the request of the National Security Council, this paper was developed as an update to the 22 October 2014 White Paper "Medical Evacuation of Patients with Highly Contagious Diseases". In preparing this report, several products from each contributing agency were reviewed, and abstracted to address significant factual changes from the original document, resolution of stated policy challenges, development of new business processes, and fielding of new international capability.

Population at Risk

In addition to official Americans and DOD personnel, the Department of State is signatory to 18 Foreign Assistance Act agreements (Annex A), making the medical evacuation services on contract to the Department available for the majority of the international community, and essentially all of the international healthcare workers, in the Ebola affected countries. There are currently no estimates available on the actual number of personnel within that risk pool, but what is clear is that number has risen by thousands since late September. Nonetheless, both the number of medical evacuations and the number of healthcare worker infections continues to drop since October, attributable in part to the redesign of Ebola Treatment Units in the region, with engineering controls emplaced to tightly control accidental contamination and exposure.

System Performance to Date

At the time of this update, the Department of State medical evacuation program has transported fifteen patients with confirmed Ebola infection, and an additional six high risk contacts. All U.S. Citizens and Lawful Permanent Residents (hereafter USPERS) of the US have been transported to hospitals in the United States. All non-USPERS have been transported to hospitals in Europe. There has never been a case of simultaneous requirements that required a triage decision. These transports can be further characterized as follows:

USPERS with Ebola infection:	8
Non-USPERS with Ebola infection:	7
USPERS with high risk contact:	6
August 2014 Missions:	4
September 2014 Missions:	4
October 2014 Missions:	7
November 2014 Missions:	2
December 2014 Missions (To Date)	3
Origin – Sierra Leone:	14
Origin – Liberia:	5

Origin – Dallas, TX:	2
EVD (+) Destination – Atlanta:	4
EVD (+) Destination – Omaha:	3
EVD (+) Destination – Bethesda:	1
EVD (+) Destination – Europe:	Geneva
	Paris (2)
	Amsterdam
	Hamburg
	Leipzig
	Frankfurt

Status of Contracting Actions

The current contract with Phoenix Air Group was awarded on August 7, 2014, and has undergone several modifications necessary to incrementally expand the USG medical evacuation capacity. Expansion of the DOS medical evacuation capacity was necessary to keep pace with an increasing population at risk in West Africa, and mitigate the risk of domestic cases within the United States. The latest modification will place a total of four aircraft at the disposal of the USG, with three configured for biocontainment medical evacuations, and the fourth positioned in Accra, Ghana, to address a critical need for medical evacuation of non-Ebola patients. The current period of performance ends February 6, 2015. DOS is currently in the process of negotiating a multiple year contract to assure this capability remains available to support USG efforts beyond the current crisis.

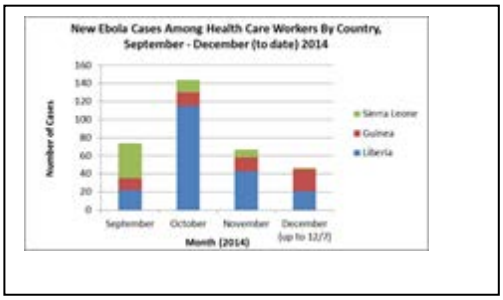
Key Dates:

Date of Service for Exclusive Use of First ABCS Aircraft:	August 7, 2014
Date of Service for Exclusive Use of Second ABCS Aircraft:	October 30, 2014
Date of Service for Forward Deployed Non-Ebola Aircraft:	October 30, 2014
Expected Date of Service for Third Ebola Aircraft:	January 01, 2015

Emerging Capabilities: Non-USG Medical Evacuation Resources

While USG medical evacuation resources have thus far been more than sufficient to meet requirements, the Department of State and Health and Human Services have nonetheless worked closely with their international counterparts to share best practices and engineering developments in hopes that partner nations would rise to meet the challenge. That response has been slow, but new capabilities are emerging. A summary of known foreign capabilities can be found in Annex B.

Quantifying the Requirement: Healthcare Worker Infection Rates in West Africa



The international response to the Ebola outbreak in West Africa has been robust and multi-faceted. DOD has been training hundreds of health care workers, the NGO community has been successfully mobilized, and international partners have been deploying international healthcare workers to West Africa. While the population at risk for requiring medical evacuation has increased dramatically, the utilization of medevac resources has not. As depicted in the adjacent graph, which trends with our medevac data described above, the infection rate of healthcare workers in West Africa has shown a downward trend since October, despite rapidly increasing numbers of healthcare workers at risk.

Role and Relationships Amongst Key Departments

The experience of our first five months of this mission has shown that clear and concise communications is difficult but essential in managing these highly complex cases. The key Departments and Agencies involved have worked diligently to streamline communications while protecting patient confidentiality and assuring all stakeholders maintain a common operating picture throughout the mission cycle. A list of interagency points of contact, broken out by their email distribution list used by the Department of State, in included in Annex C.

The Department of State is the lead agency for the medical evacuation of eligible persons with Ebola virus disease or high risk contacts from outside the continental United States. All other Departments and Agencies are supporting that effort. The mission flow diagram for an OCONUS mission can be found in Annex D.

The Department of Health and Human Services is the lead agency for the medical evacuation of eligible persons with Ebola virus disease within the United States and its territories. All other Departments and Agencies are supporting that effort. The mission flow diagram for a CONUS mission can be found in Annex E.

The Department of Defense holds responsibility for the medical evacuation and care of its service members. When the Department of Defense is providing the medical evacuation assets to a DOD requirement, they are the lead agency, and all others are supporting. If the Department of Defense requests the assistance of HHS for a CONUS requirement, HHS becomes the supported element. If the Department of Defense requests DOS support for an OCONUS requirement, the DOS becomes the supported element. The mission flow diagram for a DOD requirement can be found in Annex F.

The Centers for Disease Control and Prevention play a key role in providing technical advice regarding clinical care, guidelines for biocontainment, communication with public health officials, and coordination of access to experimental therapies.

The Department of Homeland Security plays a key role in processing flights arriving from West Africa, including all entry documents, visa requirements, and verification of citizenship status. All flights will route from West Africa through Dulles International Airport for processing before onward movement to the destination hospital in the United States. The Standard Operating Procedure for flight clearance through Dulles International Airport is included as Annex G.

The Department of Transportation plays a key role in the management and interstate transportation of biohazardous waste, and the regulation of aircraft biocontainment capabilities and coordination of airspace and flight plans through the Federal Aviation Administration.

Quantifying the Requirement: Air Medical Transport of Cases within the United States

At the time of distribution of the original paper, there were three medical centers capable of treating patients infected with the Ebola virus. Since then, HHS has worked tirelessly to add national capacity, resulting in the addition of 44 Ebola-ready Treatment Centers nationwide with 65 treatment beds available. Because of this approach, more than 80 percent of travelers returning from West Africa are now within 200 miles of a Treatment Center—and would be transported via ground ambulance and would not require the services of the Department of State's air medical transport mechanism. For those hospitals outside of ground ambulance transport range, consideration of the use of Patient Isolation Units rather than ABCS units may be warranted, given the short flight times involved. A graphic depicting the new Ebola Treatment Centers with an overlay of a two hour flight time is provided in Annex H.

Addressing Policy Gaps Identified in the Original Paper

Policy Gap #1: Use of DoD aviation resources to support Chief of Mission requirements, including support for U.S. citizens.

In the original paper, a lack of authorities and clarity regarding DoD policy in this regard was flagged for future effort. Given the non-pandemic nature of the current outbreak, and the development of the Transportable Isolation System by DOD, existing policies were reconsidered and adapted to allow, under certain circumstances, through an official request, and on a reimbursable basis, the use of DOD assets to move non-DOD beneficiaries. Additional work is needed to clarify and operationalize the process, including request format and the flow of reimbursement funding.

Policy Gap #2: Use of DoD medical resources to provide care to non-DoD personnel

While the Department of Defense has developed capability to care for Ebola patients in several of its medical centers within the continental United States, including Walter Reed National Military Medical Center and others, their intent is to continue to leverage the collective experience and expertise of the three civilian Ebola treatment centers unless that resource becomes overburdened. Given the success of HHS in building national capacity, the requirement to leverage DoD medical facilities as a surge capacity seems to be resolved.

Policy Gap #3: Access to U.S. medical treatment facilities by non-U.S. persons infected with Ebola

This topic remains under discussion. The Department of State leads an interagency working group that is exploring the policy implications of these very difficult decisions, centering around articulation of differing categories of patients based on their role in combatting Ebola, their employment relationship with the USG, and other case specific details. At present, there has been no resolution, and no test case to force a decision, allowing careful deliberation to continue.

Addressing Resource Gaps Identified in the Original Paper

Resource Gap #1: Movement of multiple patients infected with a highly contagious pathogen while maintaining biocontainment.

In addition to an expanded single patient movement capacity under the Phoenix Air Group contract, both the Department of Defense and the Department of State are developing multi-patient isolation capabilities.

In response to a Joint Urgent Operational Needs Statement (JUONS) by U.S. Transportation Command (USTRANSCOM) to meet contingency requirements identified in the Operation UNITED ASSISTANCE (OUA) execute order for aeromedical evacuation of DoD personnel, the Department has contracted for construction of a Transport Isolation System (TIS). The TIS is a bioisolation system, constructed on standard 463L NATO pallets and patient support pallets, and capable of transporting 4-8 patients, depending on care requirements, in a C-17 or C-130 aircraft. The Department views the TIS as a contingency supplement to the commercial MEDEVAC service offered through the Department of State contract and as a capacity gap-filler in the event of large-scale MEDEVAC necessitated by the infection of a cluster of patients. The TIS is undergoing operational utility evaluation (OUE) through December 2014. Assuming successful OUE, three systems will be available for operational use by the end of December, 2014. An additional 22 systems will be produced for the Department through mid-February, 2015.

The JUONS contract with Production Products is proprietary to the Department, and DoD owned 463L pallets and patient support pallets were provided to the contractor as government furnished equipment for systems involved in Research, Development, Test & Evaluation activities. As delivered by the vendor, a TIS will consist of one 463L pallet with the enclosures, air filters, and other material packed on that pallet. DoD standard patient support pallets will be provided separately through DoD medical channels and configured for each mission. Upon completion of

a movement, the enclosure (tent structure) will be disposed of as hazardous material (HAZMAT) while other components, including the pallets, the blower motors, and light set will be cleaned or decontaminated and will be available for additional missions with a new enclosure.
Upon completion of the DoD contract, the contractor will be free to market the TIS to other customers. Although the vendor has advertised that they can produce several TIS per week, that timeline does not include lead time of up to ten weeks to order subcomponents from other suppliers. Only four other countries (UK, Spain, Poland, and Finland) currently have patient support pallets; any other country would make separate provision to obtain those pallets prior to employing a TIS.

While the DOD has worked diligently to develop a palletized solution, the Department of State, in collaboration with the Department of Health and Human Services, the Federal Aviation Administration, and the Defense Threat Reduction Agency, is developing a containerized solution. With assistance from the Paul G. Allen Foundation, DOS has entered into a design-build contract with MRI Global, manufacturer of many of the containerized BSL 3 labs currently deployed in West Africa, to design, fabricate, and certify two containerized biocontainment systems. Each system is built within a 40 foot transmodal shipping container, designed to contain both bloodborne and airborne Category "A" pathogens, and transport up to four litter patients each aboard a number of possible aircraft types. Fabrication and biocontainment testing will be completed in February, 2015, with final flight safety certification expected in March, 2015 in cooperation with the Department of Defense Air Transportability Test Loading Agency.

Resource Gap #2: Organized hospital bed allocation across the Member States of the European Union

At the time of distribution of the original paper, no formal process had been set in place by our European partners, and all non-USPERS medical evacuations were being managed informally through the Chief Medical Officer at the World Health Organization. Since that time, the Department of State has provided technical advisors to the WHO in both Geneva and West Africa, accelerating the development of an organized mission validation process, while HHS/FEMA, USAID, and DOS representatives in Brussels have worked closely with their European Commission counterparts to develop a European resource control point. While there is much work to do yet, lines of effort have been established (Annex I, J), wherein the WHO provides initial mission request intake and validation, DG ECHO coordinates air medical resources for evacuation (Annex B), and DG SANCO facilitates hospital bed assignment (Annex K). While there continue to be challenges, the model shows promise for this outbreak and future similar crises.

Emerging Policy Gaps Since Original Publication

Emerging Policy Gap #1: Establishing standing interagency agreements

Based on a Review of Concept drill hosted by the NSC on December 17, 2014, an interagency group identified the requirement for standing Requests for Assistance (RFA) between the Department of Health and Human Services and the Department of Defense for contingency

medical evacuation capability. The mid-sized jet capability maintained by the Department of State will remain the primary mechanism for CONUS Ebola transports, but a strategic reserve capability is required, and significant work is needed in advance to resolve standing authorities and funding hurdles.

Emerging Policy Gap #2: Funding of CONUS medical evacuations

As stated above, the Department of Health and Human Services is the lead agency for these missions, and must identify both the funding and the authorities to use those funds in order to support movements within the CONUS. All air missions, whether supported by the DOS or the DOD, will be done on a reimbursable basis, through an interagency transfer from HHS.

Emerging Policy Gap #3: Access to hospitalization in the United States by other than USPERS

Access to hospitalization in the United States for employees infected with Ebola has been raised as a mission critical requirement by CDC, DOS, USAID, and other USG agencies. While current plans are to seek hospitalization in Europe for USG employees that are not American citizens or legal permanent residents, recent experience suggests that access to hospitals in Europe may come with significant and possibly unpredictable caveats. Absent solid assurance that these critical employees will be accepted without delay, Departments and Agencies are understandably reluctant to deploy them to the affected regions, significantly detracting from the overall USG effort.

Emerging Resource Gaps Since Original Publication

Emerging Resource Gap #1: Ground ambulance support with biocontainment

With the development of expanded Ebola Treatment Center (ETC) capacity within the United States, HHS estimates that 80% of travelers returning from West Africa are within 200 miles of an ETC, and would be transported by ground. Unlike Emory, the University of Nebraska, or NIH, however, these new ETCs likely lack a support ambulance service with policies, procedures, and experience in providing biocontainment during transport. HHS/ASPR is working to develop a standard approach, with consideration toward a single contract with a large national provider, to address that gap in the coming months. The current recommendations for set up of a ground transport unit, developed by the DOS in consultation with Omaha Fire Department and Grady EMS, can be found in Annex L.

Emerging Resource Gap #2: Ground transport Strike Team to support movements from non-ETC hospitals

As a recommendation from the December 17, 2014 Review of Concept drill hosted by the NSC, there was interagency agreement that U.S. hospitals without a supporting regional ETC would likely face significant challenges in safely moving a symptomatic patient from their facility to a nearby airfield for onward air medical evacuation within CONUS. That group proposed the

development of a small and rapidly deployable strike team, with specific expertise in the preparation of the ground ambulance, training of the ambulance crews (or performance of the direct patient care in place of the crew), coordination of local supporting agencies, and interaction with airfield management. Without such a deployable capability, logically task organized under HHS/ASPR, there is a high risk for inadvertent contamination and secondary spread of infection to the ambulance crews or others involved in the transport.

Annex A: EBOLA MEMORANDUM OF UNDERSTANDING BETWEEN THE DEPARTMENT OF STATE, FOREIGN COUNTRIES, AGENCIES, ETC.

Country	MOU Signed By	Date
World Health Organization	Dr. Penner/Mr. Ian Smith Executive Director, Office the Director General	08/25/2014
Canada	Dr. Penner/Claire Caloren, Associate Assistant Deputy Minister Acquisition Branch, Public Works and Government Services Canada	09/05/2014
Norway	Dr. Penner/Ms. Lajla Brandt Jakhelln, Minister/Deputy Chief of Mission, Royal Norwegian Embassy, DC	09/19/2014
Netherlands	Dr. Penner/Mr. Rudolf Bekink, Ambassador of the Kingdom of the Netherlands to the USA	09/25/2014
Switzerland	Dr. Penner/Ms. Helene Budliger Artieda, Ambassador/General Director, Directorate for Resources	09/30/2014
Australia	Dr. Penner/Mr. Mauro Kolobaric, Minister/Counsellor (Management) And Consul General	10/02/2014
European Commission	Dr. Penner/Mr. Claus H. Sorensen Director General ECHO	10/16/2014
Samaritan's Purse	Dr. Penner/Mr. J. Kenneth Isaacs, Vice President, Programs and Government Relations	10/24/2014
Japan (Rep by Japan International Hospitality Conference Service Assoc.)	Dr. Penner/Mr. Yoichi Kojima President	10/24/2014
Korea	Dr. Smith/Mr. Tae-jin Kim, Minister Counselor for Korea	11/13/2014
Mexico	Dr. Smith/Mr. Eduardo Medina Mora, Ambassador of Mexico to the US	11/05/2014

SIM USA	Dr. Smith/President of SIM USA	11/12/2014
Danish	Dr. Penner/Mr. Lars BO Moller, Danish Ministry of Foreign Affairs	11/21/2014
World Vision	Dr. Penner/Mr. Kent Hill, Senior VP of World Vision US	11/25/2014
International Rescue Committee, INC	Dr. Penner/Mr. George Biddle, Executive VP	12/03/2014
ACDI/VOCA	Dr. Penner/Mr. Drew Luten, Executive VP	12/10/2014
International Medical Corps	Dr. Penner/Mr. Rabih Torbay, Senior VP	12/09/2014
Govt. of Sierra Leone	Amb. John Hoover/Palo Conteh, CEO	12/13/2014

United States Department of State

Office of Medical Services
Department of State and the Foreign Service

Washington, D.C. 20522

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SENSITIVE BUT UNCLASSIFIED

ANNEX B - Ebola Virus Disease Medical Evacuations: US and International Capabilities

SUMMARY:

- The medical evacuation of patients infected with a CDC Category A (Highly Contagious) pathogen, such as the Ebola Virus Disease (EVD), requires specifically engineered and approved isolation capabilities.
- The current EVD outbreak in West Africa has shown a very high infectivity rate, and a mortality rate of greater than 60%.
- That mortality rate dramatically drops to less than 10% when EVD-infected patients are evacuated to specialized hospitals in United States and Europe.
- The United States and 5 European partner nations currently possess certified, airworthiness-tested medical evacuation capabilities.

CURRENT CAPABILITIES:

- **United States**—Currently, the only such U.S. capability, referred to as an Aeromedical Biological Containment System (ABCS), resides with Phoenix Aviation Group, Inc.
    - Phoenix Aviation Group operates two Gulfstream III mid-sized jets, each outfitted with its own ABCS.
    - The ABCS creates a negative pressure patient care environment within the aircraft cabin.
    - Once within the ABCS unit, the patient is able to sit, stand, lie down, or use a small disposable toilet. The full spectrum of life support measures is available to care for the patient.

Figure 1. ABCS inside the aircraft

Figure 2. G-III cargo door view

- Because there are two aircraft, each with its own ABCS, Phoenix Aviation Group is able to conduct two missions simultaneously. Each mission takes approximately three days and follows the below general timeline:

Notification + 12 hours	Phoenix Air Group departs the U.S. for West Africa
Notification + 36 hours	Phoenix Air Group picks up the patient
Notification + 48 hours	The patient arrives at the designated treatment hospital
Notification + 72 hours	Phoenix Air Group's aircraft has returned to the U.S., is decontaminated, and is ready for the next mission

- To date, the U.S. has conducted 17 missions including 6 to Europe and 2 domestic.
- Eligibility for MEDEVAC via Phoenix Aviation Group extends to the following:
  - Chief of Mission (COM) personnel under the authority of the Department of State Medical Program, as outlined in 22 U.S.C. § 4084 (d)
  - Department of Defense personnel under COCOM authority in accordance with OSD's request for assistance dated October 17, 2014.
  - Private American Citizens evacuated through consular authority and a promissory note as outlined in 22 U.S.C. §2670(j).
  - International health care workers pursuant to agreements established under Section 607 of the Foreign Assistance Act. Signatories: Canada, Norway, the Netherlands, Switzerland, Australia, Japan, Mexico, the EU/ECHO, Samaritan's Purse and World Health Organization.

- **Germany**—On November 27, 2014, Germany's Health Minister Hermann Gröhe and Foreign Minister Frank-Walter Steinmeier announced that through a partnership with Lufthansa, they have converted an Airbus A340-300 into their first specially-adapted Ebola evacuation aircraft.

Figure 3 German Ebola Airbus A340-300 "Robert Koch"

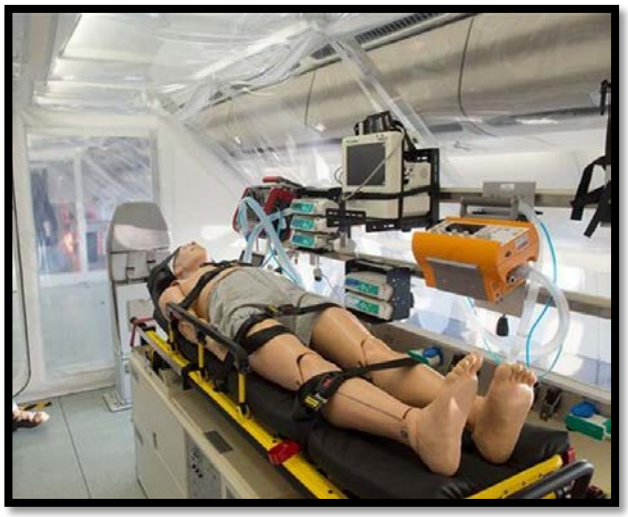


Figure 4 Inside Germany's patient transport isolation unit

Figure 5 Inside Germany's patient transport isolation unit

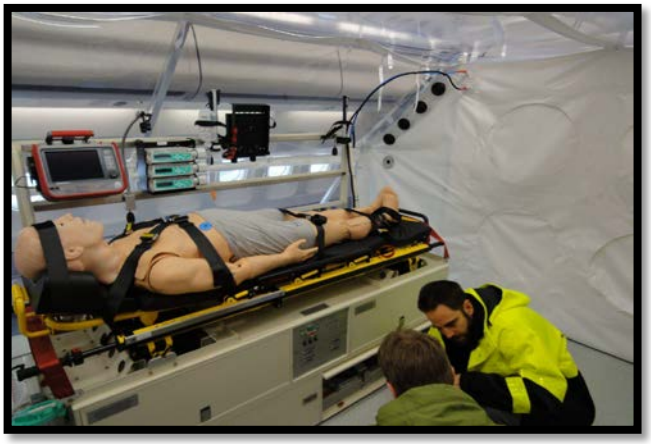


Figure 6 Inside Germany's patient transport isolation unit

  - The aircraft is based out of Frankfurt International airport.
  - The aircraft has an airtight, negative pressure patient isolation unit inside the cabin.
  - One EVD-infected patient can be transported at a time.
  - This patient isolation unit provides the full spectrum of life support measures for the patient. The Germans consider it to be a flying intensive care unit.
  - The medical flight crew includes up to 11 specially trained doctors, nurses, and paramedics from around the country.

- According to ECHO, the German government is paying 1M Euro/month to Lufthansa for exclusive use of this capability
- Germany has stated its intention to receive patients of all nationalities; however, ECHO estimates the cost of a single flight at $600,000 and says that while the German option is sophisticated, its cost makes it less likely to be a go-to option for the EU.
- As 19 DEC 14, the capability is operational and ready for use; however, ECHO has not signed an official agreement under the European Commission Civil Protection Mechanism because of the cost.

- **Italy**— The Italian Air Force maintains the capability to perform aeromedical evacuation of EVD confirmed and symptomatic patients.
  - Italy most recently evacuated an EVD patient on November 25, 2014.
  - Italian air platforms are the C-130 Hercules, C-27J Spartan, and the KC 767A
  - The Italian patient transport isolation unit is the Aircraft Transit Isolator (ATI). They have two airworthiness tested ATIs. For the evacuation conducted on November 25th, the patient was transported in one of these ATI.
  - Airflow is filtered in and out of the ATI pod. From a biocontainment perspective, the ATI is excellent. From a patient care and practicality perspective, however, there are several design constraints that make it of limited use for extended flight times such as those between the west Africa and the US. Most importantly, once the patient is placed in the ATI, containment is contingent on keeping the bag sealed. The patient is not able to sit, stand, or use a toilet until they are delivered to a receiving hospital. This option is manageable for flight between west Africa and Europe, but clinically inappropriate for longer transatlantic flights.
  - The Italian government has stated that they will consider moving non-Italian nationals on a case by case government. They are primarily concerned with reimbursement because their ATIs have a single-use plastic envelope. These envelopes are manufactured in Italy by Technoline Concordia and cost approximately 25,000 Euro a piece, according to the Italian AF.

Figure 5 Italian Air Force KC 767A

Figure 6 Italian Aircraft Transit Isolator (ATI)

- **Spain**— On August 5th and September 21st the Spain government evacuated two patients that had contracted EVD. They used an A310 belonging to the Spanish Air Force's 45 Group.
    - Little is known about these evacuations, but from the pictures, it appears that the patients were transported in pod-like, patient isolation units (PIUs).
    - These PIUs are the least desirable for aeromedical evacuation because en route patient care is even more restricted and the patient is in a very small, enclosed space.
    - It is unknown at this time if the Spain government has offered up this capability to other nations.

Figure 7 Spanish PIU inside Airbus A310

Figure 8 Spanish Airbus 310

Figure 9 Spanish priest being moved from the aircraft to a ground ambulance. AUG 2014

- **United Kingdom**—The Royal Air Force evacuated one EVD-infected patient on August 24, 2014.
  - The aircraft platform was a C-17 Globemaster
  - The patient was transported in patient isolation unit very similar to the Italian ATI.
  - This patient isolation unit did allow for limited patient care during the flight via the unit's portholes.
  - It is unknown at this time if the UK is willing to utilize this capability to transport other nationals.

Figure 10 British C-17 Globemaster used for EVD MEDEVAC

Figure 11 British nurse evacuated inside a PIU

- **Luxembourg**—As of a Department of State Cable dated November 28, 2014, Luxembourg's Ministry of Foreign Affairs, confirmed on November 26 that the Government of Luxembourg

(GoL) is making two Learjet XR45 planes from Luxembourg Air Ambulance (LAA) available for medical evacuations from January 19, 2015 to December 2016.

- The offer is for up to 24 missions per year to transport infected patients from "disaster hit zones to safe places where medical treatment can be provided."
- Between the dates January 19-28 February 2015, only missions will be able to performed due to a lack of disposal plastic liners used in their biocontainment system.
- Each Learjet can transport 1 patient at a time; deployable 12 hours after notification.
- The GoL is not offering treatment for Ebola in Luxembourg.
- Evacuations will be coordinated through the Emergency Response Coordination Centre (ERCC) "Voluntary Pool", in the context of the European Civil Protection Mechanism.
- The planes will be available for use by the United Nations, one of its agencies or any other country.
- The Luxembourgers are able to transport symptomatic EVD-infected patients.
- As of 19 December 2014, this capability is not fully operational. Rescue Services Agency reports that installation is on-going and that the aircraft will be available after the January 19, 2015.
- Luxembourg has established agreements with La Palma, Canary Islands, Spain for landing and refueling permissions and Ouagadougou, Burkina Faso for crew rest stops.

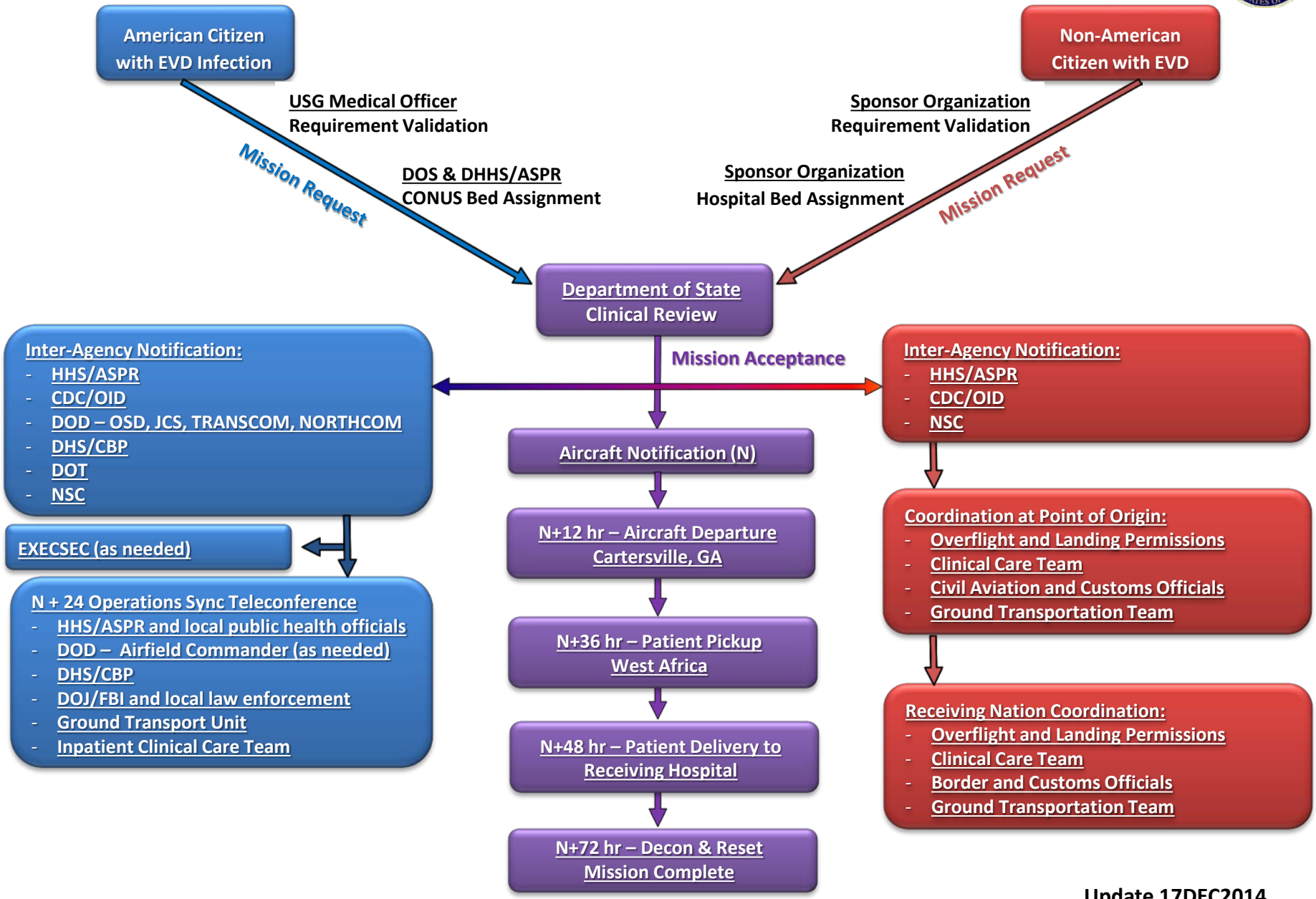
Figure 12 Learjet 45 provided by the Government of Luxembourg

Annex C: Inter-Agency Notification Process for OCONUS Ebola Medical Evacuations

Distro List	Department	Bureau/Office	Name	Position	Email Address
EbolaEvac	DOS	MED	MED/OM Distro List	Group Distro List	MED-OM-DL@state.gov
EbolaEvac	DOS	MED	Dean Smith	Deputy Director	SmithDL3@state.gov
EbolaEvac	DOS	MED	Richard Otto	Chief, Foreign Programs	OttoRD@state.gov
Senior Leader	DOS	MED	DOS Ebola MEDEVACS	Group Distro List	EbolaMedevacs@state.gov
Senior Leader	White House	NSS	Richard Reed	White House Homeland Security Council	Richard_A_Reed@nss.eop.gov
Senior Leader	HHS	ASPR	Dr. (ADM) Nicole Lurie	Assistant Secretary for Preparedness and Response	Nicole.Lurie@hhs.gov
Senior Leader	HHS	CDC	Sherri Berger	Chief Operating Officer	sob8@cdc.gov
Senior Leader	DOD	OASD (HD&ASA)	James Stahlman	Director CBRN and Preparedness Policy	James.E.Stahlman.civ@mail.mil
Senior Leader	DHS	OHA	Dr. Kathryn Brinsfield	Assitant Secretary OHA & Chief Medical Officer (Acting)	Kathryn.Brinsfield@hq.dhs.gov
Senior Leader	DHS	CBP	Mitchell Merriam	OFO Operations Executive Director	Mitchell.M.Merriam@cbp.dhs.gov
Senior Leader	DOS	D-MR	Heather Higginbottom	Deputy Secretary of State for Management and Resources	HigginbottomHA@state.gov
Senior Leader	DOS	M	Patrick Kennedy	Under Secretary of State for Management	KennedyPF@state.gov
Senior Leader	DOS	M/MED	Dr. Gary Penner	Director, Office of Medical Services	PennerGD@state.gov
Senior Leader	DOS	M/MED	Dr. Charles Rosenfarb	Regional Medical Manager	RosenfarbCH@state.gov
Senior Leader	DOS	S/ECU	Steve Browning	Coordinator	BrowningSA@state.gov
Senior Leader	DOS	OES/IHB	Robert Sorenson	Deputy Director	SorensonRA@state.gov
Senior Leader	DOS	S/ECU	Andrew Weber	Deputy Coordinator	WeberAC@state.gov
Interagency	DOS	MED	DOS Ebola MEDEVACS	Group Distro List	EbolaMedevacs@state.gov
Interagency	White House	NSC	Dr. Richard Hunt	Director for Medical Preparedness Policy	Richard_C_Hunt@nsc.eop.gov
Interagency	White House	NSC	Rand Beers	Senior Advisor to POTUS	Robert_R_Beers@nsc.eop.gov
Interagency	White House	NSC	Suzy George	Deputy Assistant to the President & NSC Executive Secretary	Sgeorge@nsc.eop.gov
Interagency	HHS	OPS	HHS Ebola Watch Desk	Group Distro List	EbolaSitRep@hhs.gov
Interagency	HHS	ASPR/OEM	Joe Lamana	Director, Regional and International Coordination Division	Joseph.Lamana@hhs.gov
Interagency	HHS	ASPR/OEM	Ken Hopper	HHS Ebola SA Section	Ken.Hopper@hhs.gov
Interagency	HHS	CDC	CDC OPS Watch Desk	Group Distro List	EOCReport@cdc.gov
Interagency	DOT	Intel, Scty & Emerg Resp	Dr. (CAPT) Lynn Slepski	Senior Public Health Advisor	Lynn.Slepski@dot.gov
Interagency	DHS	CBP	CBP Operations	Group Distro List	ofo-ops-cat@cbp.dhs.gov
Interagency	DOS	M	Kathleen Austin-Ferguson	Executive Assistant, M	AustinKT2@state.gov
Interagency	DOS	AF/PDPA	Anita Doll	Press Officer, Africa Desk	DollAK@state.gov
Interagency	DOS	AF/PDPA	Rodney Ford	Press Officer, Africa Desk	FordRD@state.gov
Interagency	DOS	PA/PRS	Katy Bondy	Press Officer covering Ebola Issues	BondyKW@state.gov
Interagency	DOS	A/LM/AQM/IT	Anna Garcia	Contracting Officer	GarciaAM@state.gov
Interagency	DOS	CA/OCS/ACS	Philip Skotte	American Citizen Services Director	SkottePJ2@state.gov
Interagency	DOS	CA/OCS/ACS/AF	Uzma Javed	ACS Country Officer (AF)	JavedU@state.gov
Interagency	DOS	CA/OCS/WHA	Robyn Prinz	ACS Country Officer assisting with Ebola Issues	PrinzRK@state.gov
Interagency	DOS	DIA	COL William Hampton	Defense Attache, Lisbon	HamptonWG@state.gov
Azores	DOD	USAF	Pentagon AF-A3-5 AFWATCH	Group Distro List	usaf.pentagon.af-a3-5.mbx.afwatch@mail.mil
Azores	DOD	Joint Staff	J3 Operations	Group Distro List	js.pentagon.j3.mbx.njoic-chops@mail.mil
Azores	DOD	USAF	MAJ Cory Waldroup	USAFE 65 OSS/DO	Cory.Waldroup.1@us.af.mil
Azores	DOD	DIA	USDAO Lisbon	Group Distro List	USDAOLisbon@state.gov
Azores	DOD	DIA	COL William Hampton	Defense Attache, Lisbon	HamptonWG@state.gov
WashDC/Dulles	DOS	MED	DOS Ebola MEDEVACS	Group Distro List	EbolaMedevacs@state.gov
WashDC/Dulles	HHS	OPS	HHS Ebola Watch Desk	Group Distro List	EbolaSitRep@hhs.gov
WashDC/Dulles	HHS	ASPR/OEM	Joe Lamana	Director, Regional and International Coordination Division	Joseph.Lamana@hhs.gov
WashDC/Dulles	HHS	ASPR/OEM	Ken Hopper	HHS Ebola SA Section	Ken.Hopper@hhs.gov
WashDC/Dulles	HHS	ASPR/OEM	Glenn Blanchette	National Capitol Area Representative	Glenn.Blanchette@hhs.gov
WashDC/Dulles	HHS	CDC	CDC OPS Watch Desk	Group Distro List	EOCReport@cdc.gov
WashDC/Dulles	HHS	CDC	Miguel Ocana	OIC CDC Quarantine Station	fpn2@cdc.gov
WashDC/Dulles	HHS	CDC	Maria Flores	CDC Quarantine Station	wre7@cdc.gov
WashDC/Dulles	DHS	CBP	CBP Operations	Group Distro List	ofo-ops-cat@cbp.dhs.gov
WashDC/Dulles	DHS	CPB	Jerry Ficklin	Assistant Port Director, Passenger Division	Jerry.Ficklin@cbp.dhs.gov
WashDC/Dulles	DHS	CPB	Jason Jalbert	IAD CBP	Jason.A.Jalbert@cbp.dhs.gov
WashDC/Dulles	DHS	CPB	Patrick Orender Jr.	IAD CBP	Patrick.OrenderJr@cbp.dhs.gov
WashDC/Dulles	DHS	CPB	Sandra Rios	IAD CBP	Sandra.Rios@cbp.dhs.gov
WashDC/Dulles	DHS	CBP	Wayne Biondi	IAD CBP	Wayne.R.Biondi@cbp.dhs.gov
WashDC/Dulles	DHS	CBP/OFO	Nikki Thomas	Agriculture Safeguarding Director	Nikki.Thomas@dhs.gov
WashDC/Dulles	MWAA	IAD	Matthew Crosman	Senior Airport Duty Manager	Matthew.Crosman@mwaa.com
WashDC/Dulles	MWAA	IAD	Bill Hall	Airport Operations	Bill.Hall@mwaa.com
WashDC/Dulles	MWAA	IAD	Dana Pitts	Airport Operations	Dana.Pitts@mwaa.com
WashDC/Dulles	IAD	Signature Flight Svcs	Robert Grant	Area Director (IAD, DCA, BWI)	Robert.Grant@signatureflight.com
WashDC/Dulles	IAD	Signature Flight Svcs	Adam Marymee	Duty Manager, IAD	Adam.Marymee@stgnatureflight.com
WashDC/Dulles	IAD	Signature Flight Svcs	Stacey Armstead	Duty Manager, IAD	Stacey.Armstead@signatureflight.com
Bethesda/NIH	DOS	MED	DOS Ebola MEDEVACS	Group Distro List	EbolaMedevacs@state.gov
Bethesda/NIH	HHS	NIH	Dr. Cliff Lane	NIAID Director, Clinical Research	Clane@niaid.nih.gov
Bethesda/NIH	HHS	NIH	Dr. Richard Davey	NIAID Deputy Director, Clinical Research	Rdavey@niaid.nih.gov
Bethesda/NIH	HHS	NIH	Jeff Potts	NIH BioRisk Manager	PottsJ@mail.nih.gov
Bethesda/NIH	HHS	NIH	Chief Jonathan Mattingly	NIH Fire & EMS	MattingJ@mail.nih.gov
Omaha/UNMC	DOS	MED	DOS Ebola MEDEVACS	Group Distro List	EbolaMedevacs@state.gov
Omaha/UNMC	HHS	OPS	HHS Ebola Watch Desk	Group Distro List	EbolaSitRep@hhs.gov
Omaha/UNMC	HHS	ASPR/OEM	Joe Lamana	Director, Regional and International Coordination Division	Joseph.Lamana@hhs.gov
Omaha/UNMC	HHS	ASPR/OEM	Ken Hopper	HHS Ebola SA Section	Ken.Hopper@hhs.gov
Omaha/UNMC	HHS	ASPR/OEM	CAPT Dana Hall	Region 7 Regional Administrator	Dana.Hall@hhs.gov
Omaha/UNMC	HHS	ASPR/OEM	CAPT Chris Kates	Region 7 Rep	Chris.Kates@hhs.gov
Omaha/UNMC	HHS	ASPR/OEM	CAPT Scott Lee	Region 7 Rep	Scott.Lee@hhs.gov
Omaha/UNMC	HHS	CDC	CDC OPS Watch Desk	Group Distro List	EOCReport@cdc.gov
Omaha/UNMC	DHS	CBP	CBP Operations	Group Distro List	ofo-ops-cat@cbp.dhs.gov
Omaha/UNMC	UNMC		Dr. Phil Smith	Medical Director	PWSmith@unmc.edu
Omaha/UNMC	UNMC		Dr. Shawn Gibbs	Biocontainment Coordinator	Sgibbs@unmc.edu
Omaha/UNMC	UNMC		Dr. John Lowe	Biocontainment Coordinator	JJLowe@unmc.edu
Omaha/UNMC	State of NE	Public Health	Dr. Joe Acierno	Chief Medical Officer	Joseph.Acierno@nebraska.gov
Omaha/UNMC	State of NE	Public Health	Karen Berry	Assistant to the CMO	Karen.Berry@nebraska.gov
Omaha/UNMC	City of Omaha	Fire Department/EMS	Chief Lloyd Rupp	Battalion Fire Chief	Lloyd.Rupp@cityof omaha.org
Omaha/UNMC	OAA		Tim Schmitt	Omaha Airport Authority Operations Manager	Tim.Schmitt@flyoma.com
Omaha/UNMC	OAA		Steve McCoy	Omaha Airport Authority Assistant Airport Operations Mgr	Steve.McCoy@flyoma.com
Omaha/UNMC	DOJ	FBI	Mike Kitsmiller	FBI Omaha, ASAC	Michael.Kitsmiller@ic.fbi.gov
Atlanta/Emory	DOS	MED	DOS Ebola MEDEVACS	Group Distro List	EbolaMedevacs@state.gov

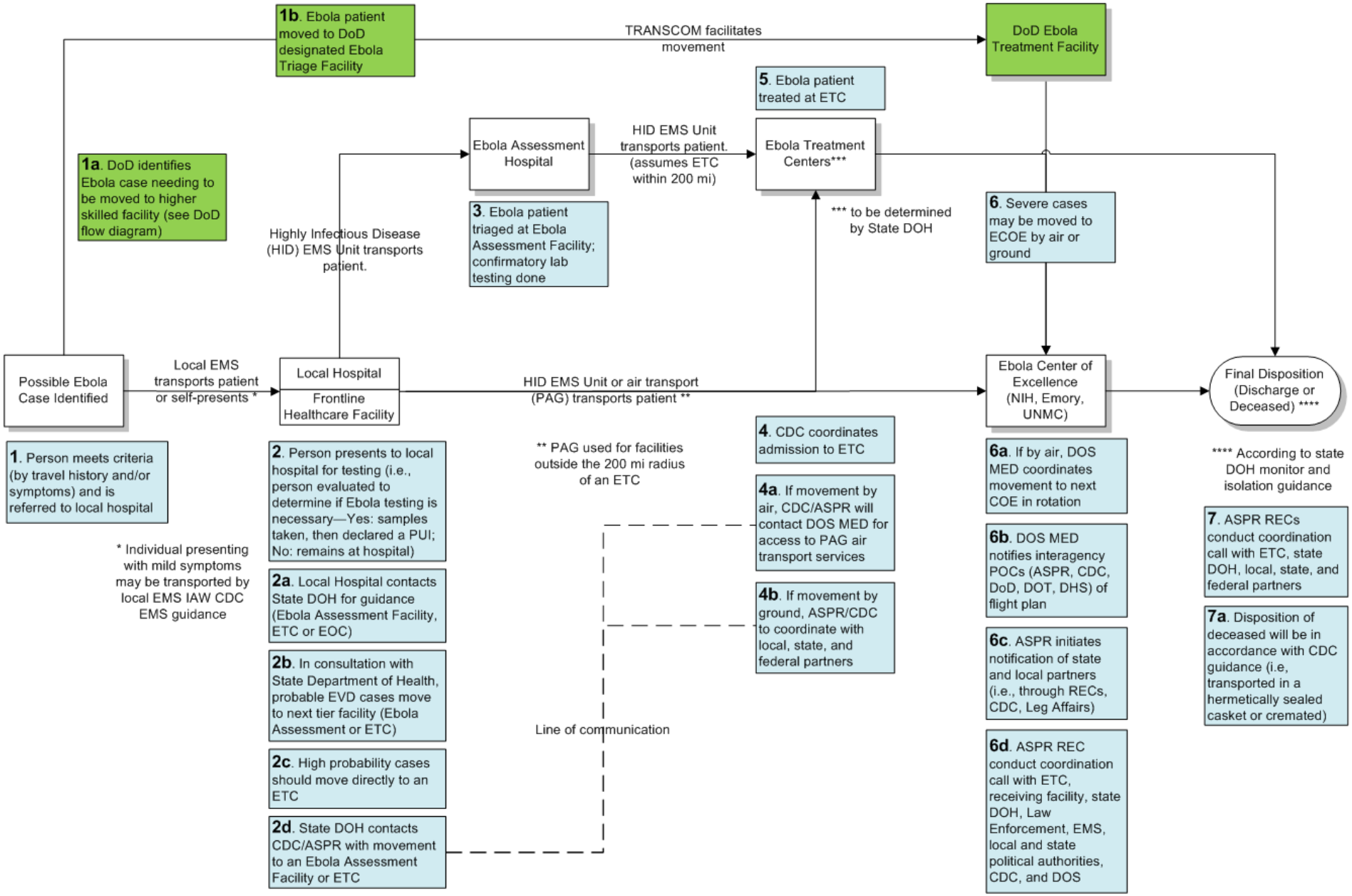
Atlanta/Emory	HHS	OPS	HHS Ebola Watch Desk	Group Distro List	EbolaSitRep@hhs.gov
Atlanta/Emory	HHS	ASPR/OEM	Joe Lamana	Director, Regional and International Coordination Division	Joseph.Lamana@hhs.gov
Atlanta/Emory	HHS	ASPR/OEM	Ken Hopper	HHS Ebola SA Section	Ken.Hopper@hhs.gov
Atlanta/Emory	HHS	ASPR/OEM	Jeanne Eckes	Region 4 Rep	Jeanne.Eckes@hhs.gov
Atlanta/Emory	HHS	CDC	CDC OPS Watch Desk	Group Distro List	EOCReport@cdc.gov
Atlanta/Emory	HHS	CDC	Terrence Daley	OIC CDC Quarantine Station	tdd1@cdc.gov
Atlanta/Emory	DHS	CBP	CBP Operations	Group Distro List	ofo-ops-cat@cbp.dhs.gov
Atlanta/Emory	Emory		Dr. Bryce Gartland	VP Operations & EUH Interim Director	BGartla@emory.edu
Atlanta/Emory	Emory		Dr. Bruce Ribner	Infectious Disease & Internal Medicine	BRibner@emory.edu
Atlanta/Emory	Emory		Dr. Aneesh Mehta	Infectious Disease	Aneesh.Mehta@emory.edu
Atlanta/Emory	Emory		Dr. Alexander Isakov	Executive Director, CEPAR	AIsakov@emory.edu
Atlanta/Emory	Emory		Samuel Shartar	Emory CEPAR	Samuel.Shartar@emory.edu
Atlanta/Emory	Grady Health		Wade Miles	District Manager, Grady Health System	WMiles@gmh.edu
Atlanta/Emory	Grady EMS		Dr. Arthur Yancey	Medical Director, Grady EMS	IYancey@emory.edu
Atlanta/Emory	State of GA	Emergency Mgmt Agency	Sherri Russo	GA EMA	Sheri.Russo@gema.ga.gov
Atlanta/Emory	DeKalb Cty	Emergency Mgmt Agency	Sue Loeffler	Director, DeKalb County Emergency Management Agency	SVLoeffl@dekalbcountyga.gov
Atlanta/Emory	PDK		Mike Van Wie	Director, DeKalb-Peachtree Airport	MVanWie@dekalbcountyga.gov
Atlanta/Emory	PDK		Mario Evans	Assistant Director, DeKalb-Peachtree Airport	MAEvans@dekalbcountyga.gov
Atlanta/Emory	PDK		Captain S.J.Gassner	Dekalb County Police Department Special Operations	SJGassne@dekalbcountyga.gov
Atlanta/Emory	PDK	Atlantic Aviation Svcs	Paul Reynolds	General Manager, Atlantic	Paul.Reynolds@atlanticaviation.com
Atlanta/Emory	PDK	Atlantic Aviation Svcs	Vince Todoroff	Operations Manager, Atlantic	Vince.Todoroff@atlanticaviation.com
Phoenix Aviation	PAG	OPS	Phoenix Air Charters	Group Distro List	charter@phoenixair.com
Phoenix Aviation	PAG		Dent Thompson	Vice President & COO, Phoenix Air Group Inc.	DThompson@phoenixair.com
World Health Org	WHO	OPS	WHO Ebola MEDEVAC	Group Distro List	EbolaMedevac@who.int
World Health Org	WHO		Dr. Caroline Cross	Director, Staff Health & Wellbeing Services	CrossC@who.int
European Union	ERCC	ECHO	European Commission ERCC	Group Distro List	ECHO-ERCC@ec.europa.eu
European Union	ERCC	ECHO	Didier Merckx	ECHO Desk Officer, DRC & ECHO Flight	Didier.Merckx@ec.europa.eu
Freetown/Sierra Leone	DOS	MED	Terrance Banen	FSHP, Freetown	BanenTD@state.gov
Freetown/Sierra Leone	DOS	MED	Dr. Kelly Briden	RMO Accra	BridenKS@state.gov
Freetown/Sierra Leone	DOS	MED	Dr. Stanley Bennett	RMM Africa	BennettSH@state.gov
Freetown/Sierra Leone	DOS	CG/ACS	Adam Colvin	Vice Consul	ColvinAR@state.gov
Monrovia/Liberia	DOS	MED	Dr. Duayne Storm	RMO Monrovia	StormWD@state.gov
Monrovia/Liberia	DOS	MED	Dr. Kelly Briden	RMO Accra	BridenKS@state.gov
Monrovia/Liberia	DOS	MED	Dr. Stanley Bennett	RMM Africa	BennettSH@state.gov
Monrovia/Liberia	DOS	CG/ACS	Julie Thompson	Consular Chief	ThompsonJA@state.gov
Conakry/Guinea	DOS	MED	Peter Lindland	FSHP Conakry	LindlandPC@state.gov
Conakry/Guinea	DOS	MED	Dr. Chayan Dey	RMO Dakar	DeyCC@state.gov
Conakry/Guinea	DOS	MED	Dr. Stanley Bennett	RMM Africa	BennettSH@state.gov
Conakry/Guinea	DOS	CG/ACS	TBD	TBD	TBD

Annex D – U.S. Department of State MEDEVAC Mission Flow Diagram

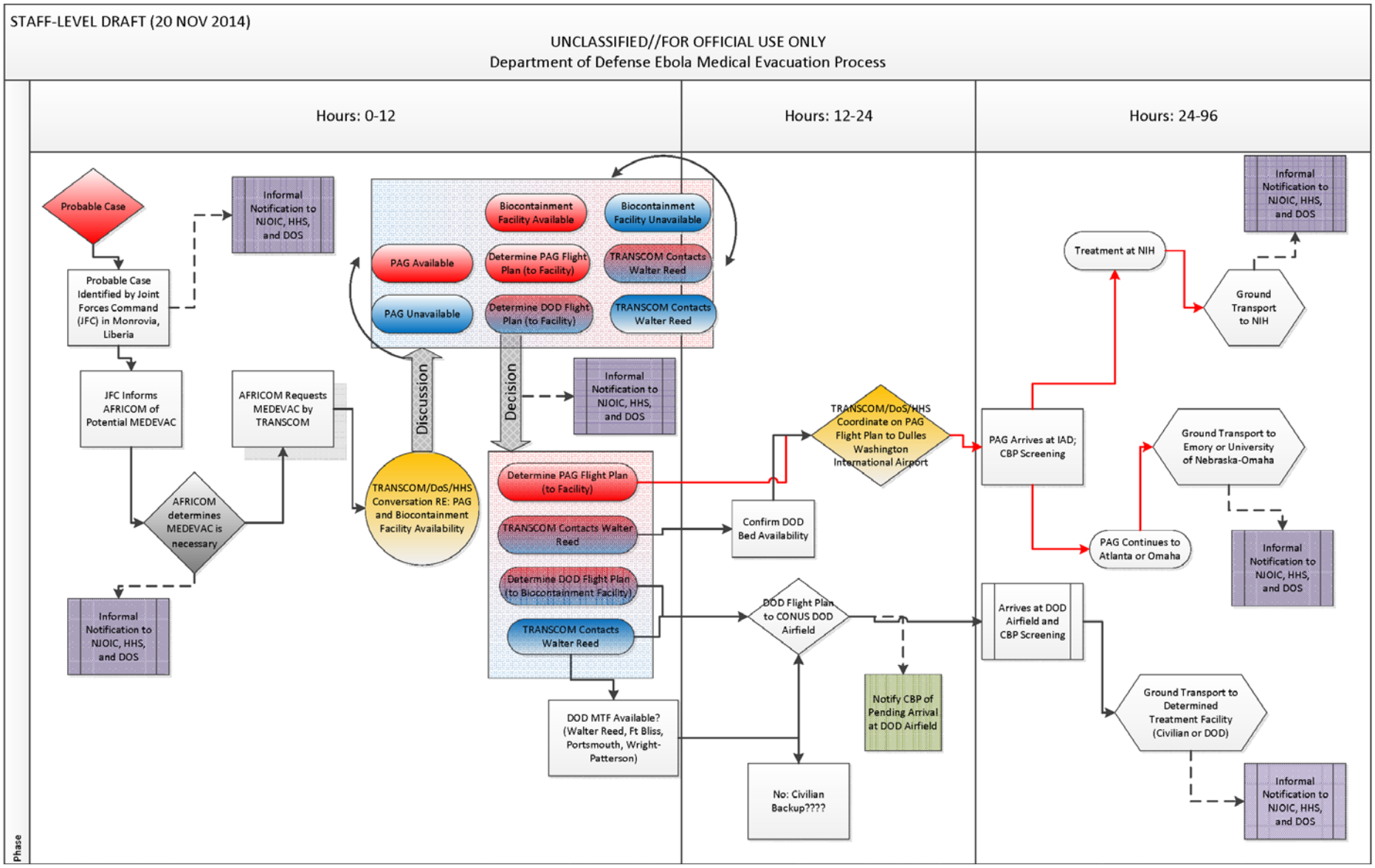


Update 17DEC2014

Annex E: Mission Flow Diagram for Ebola Patient Movement Within the USA



Annex F: DOD Ebola Medical Evacuation Process



Annex G – Medical Evacuation Flight Processing Through Dulles International Airport

Concept of Operations

Handling of Department of State Medical Evacuation Flights at IAD

Background

The Department of State contracts with a private charter airline named Phoenix Air to transport patients who have contracted Ebola from affected countries to the United States for treatment. Due to a change in Federal regulations (19 CFR 122), all flights from the affected countries are being directed to one of the five designated airports with Ebola screening programs. Washington Dulles International Airport is to be designated as the initial point of entry into the United States. CBP would process the occupants of the aircraft. The aircraft would refuel and be serviced with on-ward movement to a final destination in another State.

Flight Cycle – 72 Hours

N+0 Notification of Mission
N+12 Gulfstream III departs Cartersville, GA (VPC)
(Routing: Cartersville, GA –> Bermuda –> Dakar, Senegal –> Freetown, Sierra Leone)
N+36 Gulfstream III arrives in Freetown, Sierra Leone (transit time includes mandatory crew rest in Dakar, Senegal)
N+44 Gulfstream III arrives at IAD for processing and refueling
N+48 Gulfstream III arrives at the Final Destination airport and transported to hospital.
(Current rotation includes Emory, NiH, and Omaha)
N+72 Gulfstream III arrives back at Cartersville, GA for Decontamination.

Partner Notification

Upon Notification of Mission, Health & Human Services, Assistant Secretary for Preparedness & Response (HHS ASPR) will make the following notifications

- CBP Command Center
- CDC Quarantine Station (IAD)
- IAD Airport Operations
- VDH – Virginia Department of Health
- LCHD – Loudoun County Health Department
- FXHD – Fairfax County Health Department
- FBO – Aircraft Ground Service Provider

Arrival Preparation

- When the aircraft is enroute to IAD, Phoenix Air Operations will provide updates to IAD Airport Operations regarding the aircraft estimated arrival time.

- When the ETA is one hour out, Airport Operations will coordinate with FAA Tower to track the aircraft and determine arrival runway.

- Gate R5 will be the designated parking position which will be communicated to FAA and Ramp Towers.

- Airport Operations will coordinate with the FBO to ensure personnel are on hand to park the aircraft and provide fuel service.

- Airport Operations will notify CBP, EMS, CDC, VDH, LCDC & FXHD of updated arrival information.

Aircraft Arrival

- Upon landing, FAA Tower directs the aircraft to park on Gate R5.

- FBO aircraft marshaller will park the aircraft in a nose north configuration to enable taxi out.

- Aircraft crew opens the door and lowers the stairs, but does not exit the aircraft.

- CBP Officer approaches the door to accept documents which will be handed out by the crew.
  (documents will include questionnaire required for CDC)

- FBO will fuel the aircraft using a tanker truck.

- Additional flight crew members may board the aircraft at IAD if necessary. However, no crew members will be deplaned.

- Once CBP has completed processing the flight, they will secure the aircraft door.

Patient Transfer to NIH in Bethesda, MD

If the final destination of the patient is NIH in Bethesda, MD, an ambulance from NIH will be standing by to accept the patient transfer. The onboard medical crew will walk the patient down the aircraft stairs and hand them off to the ambulance crew. They will then board the aircraft. MWAA Police would escort the ambulance while on the airfield. Coordination will be made with other law enforcement agencies for escort of the ambulance for the journey to NIH.

Aircraft Departure

- Aircraft will depart IAD for their final destination airport.
  Currently Atlanta (Emory) or Omaha (Nebraska Medical Center) for flights with patients. Destination will be Cartersville, GA (VPC) if patient is transferred to NIH in Bethesda, MD.

Notes

- It is not anticipated that there would be any reason to transport the Ebola patient to a local medical facility, unless NIH is the planned final destination. The aircraft is equipped as an air mobile intensive care unit with the same capabilities for patient care as a hospital emergency room.
- Any transport to NIH would not involve MWAA EMS Units. NIH has two dedicated ambulances. In the unlikely event that they were unavailable, DOD would provide units from Fort Detrick.
- If a mechanical issue arises with the aircraft, the patient will remain onboard while a replacement aircraft is flown in from Georgia. (4-6 hours).
- If a fire develops on the aircraft and evacuation is necessary, the patient and medical crew will exit the aircraft while encapsulated in Tyvek suits. They would then reside in the designated MWAA EMS unit until either the replacement aircraft arrives or an ambulance from NIH.
- If a crew member has a medical emergency, they will be deplaned and transported to a local hospital. (i.e. heart attack)
- The flight crew is separated from the medical bay. They are considered to be zero risk.
- The medical crew is considered to be low (but not zero) risk.
- The aircraft may arrive “dirty” without a patient onboard while enroute to Cartersville, GA for decontamination from a mission outside of the United States.
- Aircraft servicing will be limited to parking the aircraft and fueling the aircraft. No other services will be performed. For example, lavatory and trash servicing will not take place at IAD.

Annex H: Two Hour Flight Rings to Ebola Treatment Centers

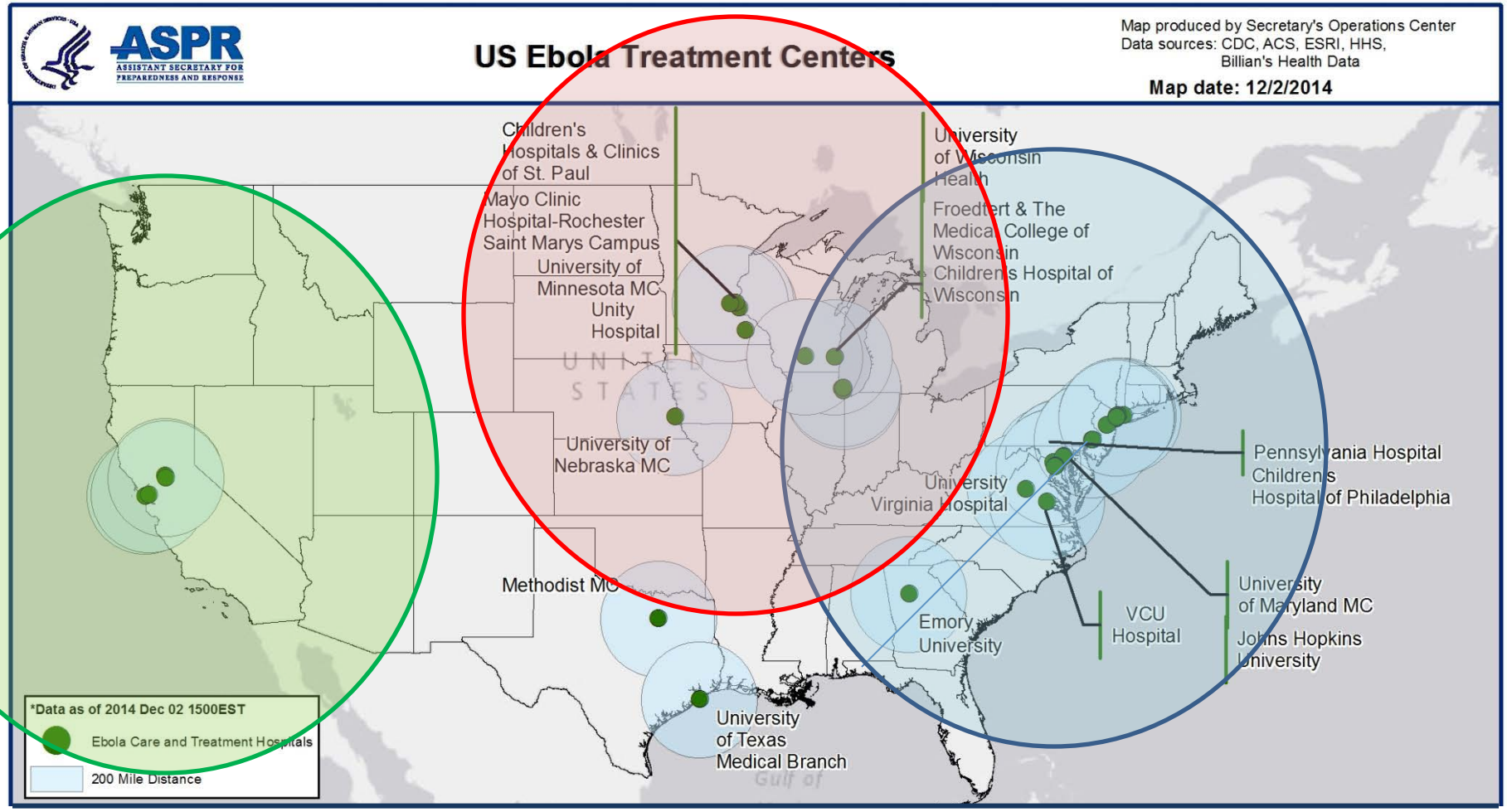


Diagram depicts a two hour flight time , based on a Lear 36 or similar aircraft, to each of the three hospital clusters. Two hours is set as the maximum time in which a symptomatic patient with Ebola virus infection could be safely transported using a Patient Isolation Unit, rather than an ABCS unit.

Annex I – Draft WHO MEDEVAC SOP

DRAFT Standard Operating Procedure for Requesting Medical Evacuation of Suspected and Confirmed Ebola Cases Among UN and (I)NGO personnel

XX December 2014

1. Purpose and background

This document is intended to outline the procedures for requesting medical evacuation (MEDEVAC) from Ebola Virus Disease (EVD)-infected countries in the event that eligible personnel are suspected of contracting EVD, or have a confirmed case of the disease. This document applies to UN Agencies, Funds, and Programs (AFPs), as well as to (International) Nongovernmental Organizations ((I)NGOs).

In response to the EVD outbreak in West Africa, at the request of the United Nations Mission for Ebola Emergency Response (UNMEER), the World Health Organization (WHO) has put in place temporary exceptional measures to coordinate and ensure safe medical evacuations of UN AFP and (I)NGO personnel suspected of, or infected with EVD (hereafter called patient) in affected countries. WHO has established contracts with medical service providers to evacuate patients and made arrangements with receiving hospitals. WHO establishes Standard Operating Procedures (SOPs) and oversees, coordinates and manages MEDEVAC requests.

2. Eligibility for EVD MEDEVAC

ADMINISTRATIVE ELIGIBILITY	MEDICAL ELIGIBILITY	POINT OF CONTACT
UN AFP or (I)NGO Staff with administrative eligibility criteria defined by their organization	Infected (or suspected to be[1]) with EVD. (Submit requests as soon as EVD is suspected in order to facilitate a timely evacuation. MEDEVAC will be executed only after a + PCR Test is received).	WHO Head of Country Office *Guinea: telephone number* *Sierra Leone: +232 797 61615* *Liberia: +231 888 118 910* *+231 770 496 108*

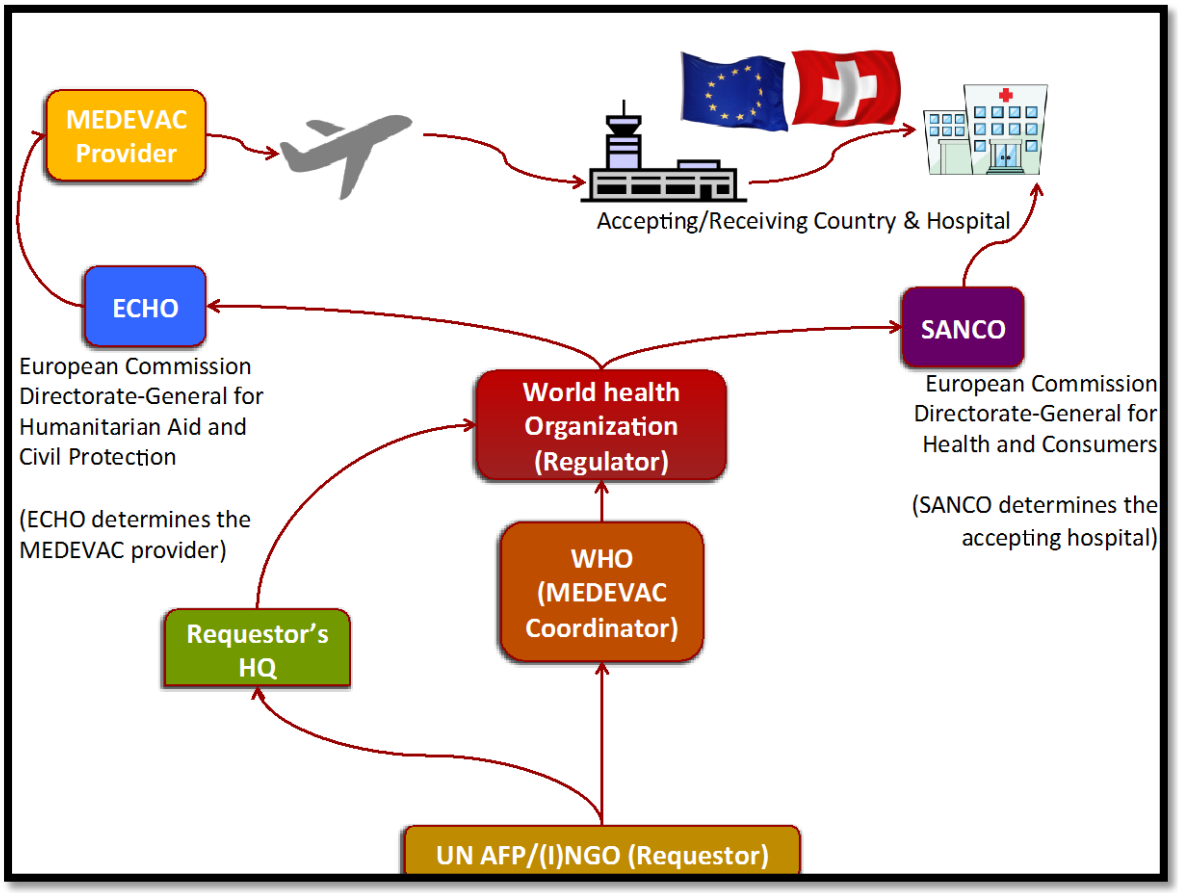
Each requesting organization is responsible for establishing and clearly defining its administrative eligibility criteria for the MEDEVAC of their personnel. Please send the criteria to the WHO Staff Health and Wellbeing Services (ebolamedevac@who.int) as soon as it is established. This information will help the WHO estimate how many MEDEVACs are possible and ensure that sufficient resources are available.

3. Authority to approve EVD MEDEVACs

[1] The WHO defines "Suspected" as: Any person, alive or dead, who has (or had) sudden onset of high fever and had contact with a suspected, probable, or confirmed Ebola case, or a dead or sick animal –or: any person with sudden onset of high fever and at least three of the following symptoms: headache, vomiting, anorexia/loss of appetite, diarrhea, lethargy, stomach pain, aching muscles/joints, difficulty swallowing or breathing, hiccups; or any person with unexplained bleeding –or: any sudden, explained death.

All requests are assessed on a case-by-case basis. The authority to approve EVD MEDEVAC requests resides with the Director of Staff Health and Wellbeing Services (SHWS) at WHO Headquarters. The Director may delegate this responsibility to her staff.

4. General overview of the MEDEVAC request process



5. Roles and responsibilities

MEDEVAC Requestor (located in the country)

- Immediately upon discovering a suspected or infected EVD patient, contact the following:
  - MEDEVAC Coordinator hotline in that country.
  - POC responsible for approving MEDEVACs in respective Headquarters.
- Until the WHO MEDEVAC coordinator in country is deployed, the MEDEVAC requestor in country develops a protocol for patient transportation to the airport and is responsible for the logistical arrangements related to the transportation from the patient's location to the designated airport for MEDEVAC pick-up.
- Provides on-going administrative and logistical support as determined by the WHO, especially to collect all information required to complete Annexes 4 and 5.

Requesting Organization's HQ

- Upon reviewing this SOP, the requesting organization's HQ must immediately inform the Director of WHO SHWS (the Regulator) of the following:
  - The contact details of the organization's (HQ) POC responsible for coordinating the MEDEVAC of EVD patients

    - The organization's administrative eligibility criteria for an EVD MEDEVAC
- Must approve in writing a MEDEVAC request (Annex 2) and a letter of guarantee for coverage of hospitalization costs (Annex 3) prior to the MEDEVAC and transmit these documents to the Regulator.
- Provide on-going administrative and logistical support as determined by the Regulator in order to collect all information required in Annex 4.
- Pays all costs related to the MEDEVAC.

WHO MEDEVAC Coordinator in country (when deployed)

- Makes, in collaboration with the MEDEVAC Requestor, the logistical arrangements for MEDEVAC in the country of origin.
- Maintains full communication with the MEDEVAC requestor in country and the Regulator to ensure all relevant information is disseminated.
- Follows-up on the patient and keeps the MEDEVAC requestor in country as well as the regulator informed on developments until the patient is under the care of the air transport provider.
- Disseminates MEDEVAC flight information
- Assists with airport coordination
- Assists the requestor obtain visas and crossing border formalities

Regulator (WHO SHWS in WHO HQ, Geneva)

- Validates the MEDEVAC request.
- Coordinates the MEDEVAC execution.
- Maintains full communication with the MEDEVAC requestor in country and with the POC of the Requesting Organisation at HQ level to ensure the exchange of all relevant information.
- Follows-up on the patient and keeps the MEDEVAC requestor in country as well as the POC of the Requesting Organization at HQ level informed on developments until the patient under the care of the receiving hospital.
- Forwards all invoices related to the MEDEVAC to the POC of the Requesting Organization at HQ level for payment.

6. Other provisions and useful contacts

Patient privacy and confidentiality of medical information are WHO priorities. As such, the WHO will take all necessary steps to safeguard personal health information.

The public release of information to the media regarding the MEDEVAC is managed by the requesting organization in coordination with and consultation from the WHO and the country accepting the patient for treatment.

The WHO is not responsible for contact tracing.

This procedure is effective as of **XX** December 2014 until other provisions are in place in the context of the Ebola outbreak in West Africa.

Direct any questions related to this SOP to: ebolamedevac@who.int

WHO Annex 1

CONVENTIONS

The term “Patient” refers to UN AFP personnel, (I)NGO Personnel, or other persons for whom the WHO is asked to organize a MEDEVAC.

The term “Suspected” refers to any person, alive or dead, who has (or had) sudden onset of high fever and had contact with a suspected, probable, or confirmed Ebola case, or a dead or sick animal –or: any person with sudden onset of high fever and at least three of the following symptoms: headache, vomiting, anorexia/loss of appetite, diarrhea, lethargy, stomach pain, aching muscles/joints, difficulty swallowing or breathing, hiccups; or any person with unexplained bleeding –or: any sudden, explained death.

The term “MEDEVAC” refers to Ebola-related Medical Evacuation

The term “MEDEVAC Requestor in country ” refers to the UN AFPs or (I)NGOs in country requesting a MEDEVAC.

The term “Requesting Organization” refers to the Headquarters of the UN AFP or (I)NGO requesting a MEDEVAC.

The term “Regulator” refers to the Director of the WHO Staff Health and Wellbeing Services.

Acronyms:
EVD: Ebola Virus Disease
HQ: Headquarters
(I)NGO: (International) Non-Governmental Organization
MEDEVAC: Medical Evacuation
POC: Point Of Contact
SHWS: WHO Staff Health and Wellbeing Services
SOP: Standard Operating Procedure
UN: United Nations
UNMEER: United Nation Mission for Ebola Emergency Response
WHO: World Health Organization

Annex J - The EU Medevac System

1. How does it work?

Reflecting the conclusions of the European Council of 23/24 October, the European Commission (EC) has established a medevac system to guarantee appropriate care for international staff that is urgently needed in increased numbers to tackle the Ebola epidemic in West Africa.

The evacuation system is based on a triangular cooperation between The European Commission's Directorates General for Humanitarian Aid and Civil Protection (ECHO) and Health and Consumers (SANCO) as well as the World Health Organization (WHO) on the one side and the participation of all member states on the other side.

- Any request for international humanitarian workers should be made through the WHO. For consular cases see explication further below. The WHO will coordinate next steps with the Emergency Response Coordination Centre (ERCC) of DG ECHO. The ERCC will serve as the operational hub of the system.
- The WHO will conduct the medical assessment of the evacuee, evaluating the feasibility of evacuation. Member States who wish to perform the clinic assessment of their citizens, can do so in coordination with WHO. WHO will immediately transmit the respective information to the ERCC and to DG SANCO (medical assessment of evacuee)
- DG SANCO will enter a request in the Early Warning and Response System (EWRS), a web secure EU alerting system, where Member States will be asked to declare their availability to receive the patient.
- DG ECHO is responsible for arranging the air transportation. The ERCC has identified several commercial solutions and can request additional assets from Member States if need be.

2. Who is eligible?

PATIENT	MECHANISM	FUNDING
INTERNATIONAL HEALTH/HUMANITARIAN AID WORKERS – OF ANY NATIONALITY 	Direct service contract with commercial provider or governmental provider	Up to 100% (Humanitarian Aid Budget)
EU NATIONALS – NOT HUMANITARIAN 	EUCPM (consular support)	Up to 55% - 85% (of transport costs) (Civil Protection Budget)

International humanitarian aid workers

The EU medevac system is intended for the evacuation of international humanitarian aid workers, irrespective of their nationality. The evacuation will be covered through the humanitarian aid budget on basis of a direct service contract with a suitable service provider (up to 100% EC financing).

Consular cases

If nationals of a participating state (PS) of the Union Civil Protection Mechanism (UCPM) are not directly involved in the humanitarian relief efforts, the PS can request the evacuation of their national citizen through the UCPM under the framework of consular support. The request, in this case, has to

be channeled through the respective patient's national diplomatic representation (in case no national diplomatic representation is present in the country, the nearest embassy of an EU MS can be contacted for assistance). Following internal procedure, the civil protection authority of the patient's PS will then activate the UCPM through the Common Emergency Communication and Information System (CECIS). Upon availability of appropriate assets, the medevac will be activated through commercial, civil or military assets. The reimbursement rate for the costs incurred by the evacuation will be between up to 55% and up to 85% according to the CP legislation.

3. How can you request the medevac of an international humanitarian worker?

There is a WHO 24/7 Ebola emergency line for medevac requests (see table below). The WHO has to be notified about the request for medevac first. After receiving a request, the WHO will inform the other parties involved.

Emergency contact details:	
WHO	24/7: +41 22 79 11115 ebolamedevac@who.int
ERCC (ECHO)	24/7: +32 229-21112 ECHO-ERCC@ec.europa.eu

→When contacting the WHO with a request, try to provide as much as possible of the information listed in annex 1.

→Contact the WHO as soon as possible, also in case of high risk exposure!

The EU Medevac System only covers the transportation of the patient from the Ebola affected countries into Europe and facilitates the subsequent reception by a member state's appropriate medical facility and staff. **The treatment as well as the transportation of the patient in the field falls under the responsibility of the patient or his/her employer.** However, WHO might be able to assist with the logistics in the field.

4. Who pays what?

The evacuation (transport)

The costs incurred for the aerial evacuation of international humanitarian aid workers engaged in the fight against Ebola will be covered up to 100% by the EC. The bill for the evacuation will directly be settled by the EC (as it is the EC directly contracting the respective service provider). However, before the mission takes place, the EC will ask the requestor to sign an agreement in which the requesting party agrees to undertake all necessary and appropriate steps towards their insurance providers to claim the latter's financial intervention. **If the insurance does not or only partially cover the costs, the EC will cover the bill / the rest.**

→There are several different forms for this agreement, select the one that applies to your organization:

1. Humanitarian non-governmental organizations (annex 2)
2. International organizations belonging to: the UN system (UNDP, UNHCR, WHO, OCHA, WFP, etc.), the International Organization for Migrations (IOM), and the International Committee of the Red Cross and the International Federation of Red Cross and Red Crescent Societies (annex 3)

NB: In case of EU nationals evacuated through the UCPM, the respective CP legislation applies.

Medical treatment

The medical treatment during the flight is included in the costs of the evacuation and as such covered by the EC (see above). The cost for the medical treatment in the receiving hospital in Europe, however, has to be borne by the patient or his/her employer.

The bill will be sent directly from the receiving hospital to the employer / patient. The patient's insurance company might of course cover the medical cost; it is the requestor's responsibility to settle this with the concerned insurance company.

→For the hospitalization, the requestor has to give a guarantee to cover the full costs: see annex 4.

Annex K - Biocontainment Isolation Beds in Europe by Member State

Number of reported available beds for treatment of viral hemorrhagic fever patients.

Member State	Capacity	# of beds	# patients that could be cared for simultaneously	US DOS Validated
AT	Y	*	*	
BE	Y	*	*	
BG	N	0	0	
CH	Y	4	4	
CY	Y	5	5	
CZ	Y	2	2	
DE	Y	47	*	3
DK	Y	*	*	
EE	Y	12	5	
ES	Y	21	*	
FI	Y	10	5	
FR	Y	20	1	
GR	Y	1	1	
HR	Y	6	2	
HU	Y	2	2	
IE	Y	3	2	
IT	Y	4	*	
LI	N	0	0	
LT	Y	9	9	
LU	Y	2	2	
LV	Y	5	5	
MT	Y	1	1	
NL	Y	*	*	1
NO	Y	10	*	
PL	Y	25	*	
PT	Y	37	*	
RO	Y	20	2	
SE	Y	1	1	
SI	Y	2	2	
SK	Y	4	2	
UK	Y	*	*	
Total	**NA**	**253**	**53**	

Countries that did not specify number of patients that they would care for at one time is specified by "*". 11

Countries highlighted in yellow have agreed to participate in the EC mechanism for EVD Evacuation.

Total reported beds among countries that agree to accept international citizens with EVD is:

82

Source. European Commission, Health and Consumers Directorate-General. European Centre for Disease Prevention and Control, Stockholm, 2014.

Department of State Office of Medical Services
Office of Operational Medicine
Division of Emergency Preparedness
Standard Operating Procedure

Annex L – Sample Standard Operating Procedure for Ground Ambulance Biocontainment

PURPOSE: To provide a guide/ Standard Operating Procedure for the Standardization of the interagency procedures and responsibilities, for the Bio-containment ground transport of an EVD patient

SCOPE: The Department of State and, the various established regional bio containment transport teams and their receiving BSL-3-4 treatment units.

RESPONSIBILITY: The Office of Medical Services has the overall responsibility for the coordination and notification of the appropriate regional Bio containment facility and transport system. The Operational Medicine representative will be sent to the site to assist and supervise the Bio-containment transport team in the prepping organization and coordination with the various local entities needed to conduct a safe transport. The OPMED rep will also be responsible for supervising the decontamination of the CCT platform used. Prior coordination will take place between designated representatives of the Office of Medical Services and the regional bio containment facility and transport system, prior to the initiating of a Bio-containment MEDEVAC.

DEFINITIONS
EVO – Emergency Vehicle Operator

REFERENCES
Grady EMS Bio Containment Transport Protocol
UNMC Bio Containment Transport Protocol

SAFETY: PPE should be used that is appropriate for the BSL level encountered. If the BSL level is unknown then universal precautions should be followed.

MATERIALS & EQUIPMENT

ITEM AND DISCRIPTION	*QUANTITY*
Box – 1	
CLOROX HEALTH CARE BLEACH (WIPES)	3
VIREX DISINFECTANT (SPRAY BOTTLE)	2
ABSORBANT RAGS (PACKAGE)	2

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CAUTION TAPE (YELLOW 200' ROLL)	2
N-95 MASKS	20
SIMPLE SURG MASKS	20
GOOGLES	10
LATEX GLOVES BOX (SM, MED, LRG,XLRG)	1EACH
DUCT TAPE (ROLL)	3
HAND SANITIZER (BOTTLE)	10
DRY ERASE BOARD AND MARKER	1
RED BIOBAGS (LRG)	30
GARBAGE BAGS (LRG)	20
ZIP LOCK BAGS (LRG)	1 BOX

Box – 2

DUPONT SL ONE PIECE SUITS (2XL)	6
HANDS FREE COMMUNICATION SYSTEM WITH LRG PTT BUTTON	4
PAPR BATTERIES	6
PAPR FILTERS	6
PAPR HOODS (WHITE CLINICAL STYLE	3
PAPR HOSE AND CLAMP	1
RADIO HOLSTER (CHEST)	4
ISOLET CHARGING SYSTEM	1

BIO-SAFETY CHECK OFF SHEET, DONN, DOFF CHECK OFF, CONTACT LIST

PAPR Bag

PAPR (BREATHE EASY, HOSE, 3 FILTERS, HOOD, TAPE, SUIT,2 BATTERIES 4

ISOPOD, CHARGER, 2 BATTERIES, 4 FILTERS RIBS, POLES, 1

PROCEDURE:

AMBULANCE CONFIGURATION:

LEVEL 3, LEVEL 4 PROTECTION (DROPLET AND AEROSOL PROTECTION)

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- No environmental package shall have recalculating air selected
- Ventilation system in driver compartment will be turned on
- Exhaust vent in patient compartment will be turned on
- Door between driver and patient compartment will be closed by a solid barrier
- Patient compartment will be draped in disposable barriers
- Barrier protected PTT communications devices will be utilized by transport team
- Medical gear will be stowed in patient compartment behind disposable barriers
- The breech emergency box will be stowed in patient compartment sealed

PERSONNEL PPE POSTURES

TRANSPORT NOTIFICATION AND PPE RECCOMENDATIONS RECEIVED

- Transport Team consists of Driver, Paramedic, Spec-Op Leader, and Spec-Op Physician
- Physician and Spec-op Leader will be in uniform with cell phone, and radio communication devices
- EVO will don radio with hands free communications, Tyvek suit, PAPR, N-95 mask, Goggles, double gloved
- Paramedic will don radio with hands free communications, Tyvek suit, PAPR system, double gloved.
- EVO responsibilities during operations shall be transport team safety, driver, and second Paramedic
- Paramedic responsibilities shall be patient reporting and recording, patient care
- Spec-ops Leader will have Level 3/4 PPE system and PAPR at the ready, satellite the transport unit, and relay all transport communications to the receiving facility.
- Spec-Op Physician will provide over sight of the Bio-safety operation either by phone or on site

PATIENT PPE POSTURE

IF PATIENT AMBULATORY

- Patient will don PPE with assistance from Paramedic
- EVO will not make contact with patient, record patient information
- When driver is operating transport unit respiratory protection shall be N-95

- PPE barrier will be placed on stretcher
-

IF PATIENT NON-AMBULATORY

- Crew will make patient contact and apply patient PPE (disposable barrier, N-95, goggles)
- Spec-Ops Leader will don PPE and assume the driver responsibilities.
- If Spec-Ops Physician is physically present, Physician will assume satellite unit responsibilities
- PPE barrier will be placed on stretcher

DOFFING PPE

- EVO and SOT TL primary responsibility is safety for personnel that are in PPE
- EVO will ensure wind direction and area of Doffing
- EVO will place Bio-Hazard Bags in front of Doffing personnel up-wind
- Doffing Personnel will remove stay-down tape from zipper, wrist and ankle areas, place in Bio- Bag
- Remove outer pair of gloves, place in Bio-Bag
- Remove suit (rolling suit inside out while EVO holds PAPR Filter Pack), place in Bio-Bag
- Remove PAPR hood and disconnect rubber hose, place hood in Bio-Bag (note that rubber hose and PAPR unit with Battery will be disinfected)
- Remove inner gloves, place in Bio-Bag
- EVO will place copious amount of disinfectant on Doffing personnel's hands
- Initiate Post-Entry medical monitoring

DOFFING TRANSPORT UNIT

EVO is responsible for Transport Unit Doffing and Decon

EVO will remove Emergency Breech Box

EVO while in PPE will roll down interior barrier drapes inside our starting at the front of the patient compartment rolling them to the floor of the unit.

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EVO will roll flooring drapes from front to rear inside out, place in Bio-Bag

EVO will spray down Emergency Breech Box if seal is breeched, if seal is not breeched EVO will remove protective seal, place in Bio-Bag

EVO will Doff PPE

Post Doffing of PPE, EVO will PPE with Protective Eyewear, M-95 mask, and Gloves

EVO will disinfect interior

EVO will Doff gloves place in Bio-Bag

EVO partner will place copious amount of disinfectant on hands

EVO will remove Protective Eyewear and mask

EVO partner will place copious amount of disinfectant on hands

POST TRANSPORT

Bio-Hazard Bags will be left a receiving facility for disposal

Bio-Transport Team will returned to Base for Post Transport duties and After Actions Briefing

RELATED DOCUMENTS
N/A

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