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RCAF development of High Consequence Infectious Diseases (HCID) capability and looking forward

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I have no financial interests or relationship to disclose



Presentation Key points

- RCAF interim capability for High Consequence Infectious Disease (HCID)
- EpiShuttle
- Aeromedical Bio-containment Evacuation System (ABES)
- Future of HCID system/method.





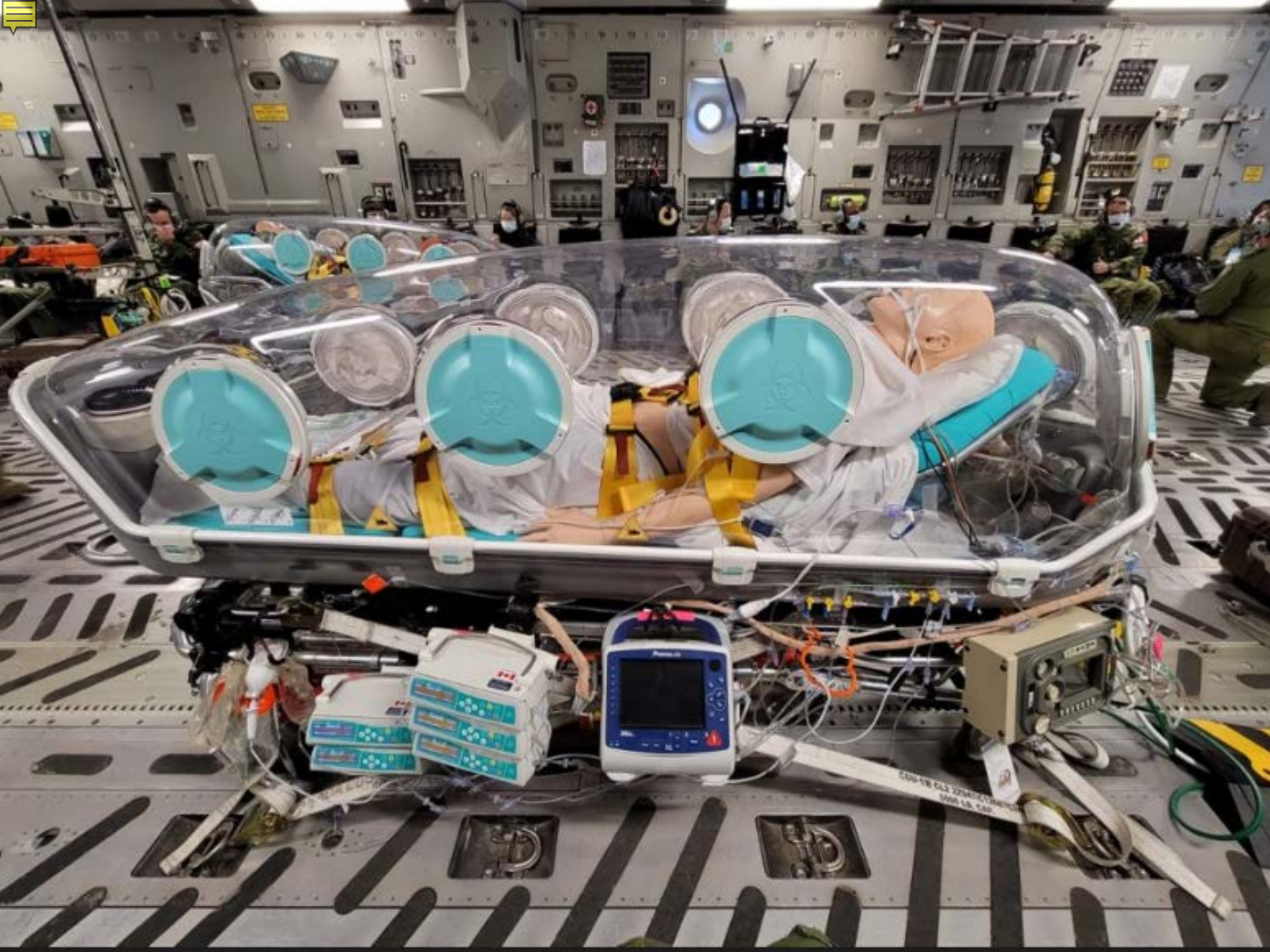
CAF Interim Capability





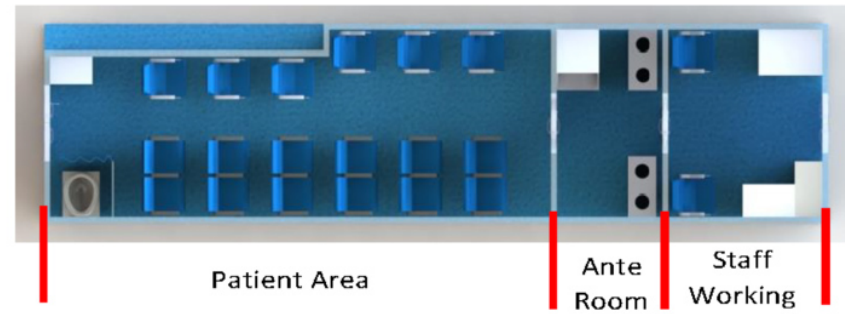
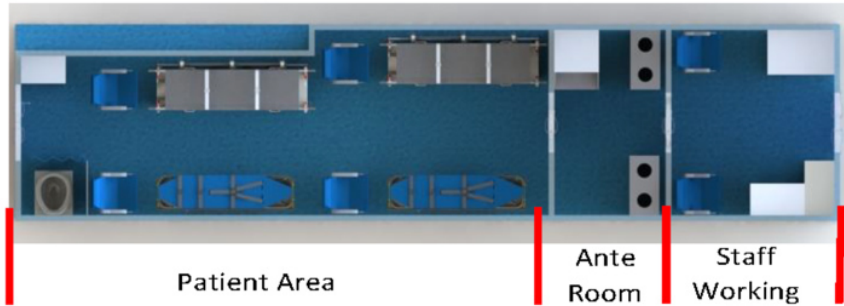
Epishuttle







Aeromedical Bio-containment Evacuation System (ABES)





CAUTION

STAND CLEAR

ABES

IT
CE

UPS 1&2
BATTERY ACCESS

KEEP CLEAR
AIR INTAKE



K16

Clipboard with a checklist or form.



EXIT



ABES Requirements

- Allows access for treatment (hospital care)
- Safe patients transfer. airborne/droplet/contact
- Aircraft, Crew protected form contamination (Negative Pressure)

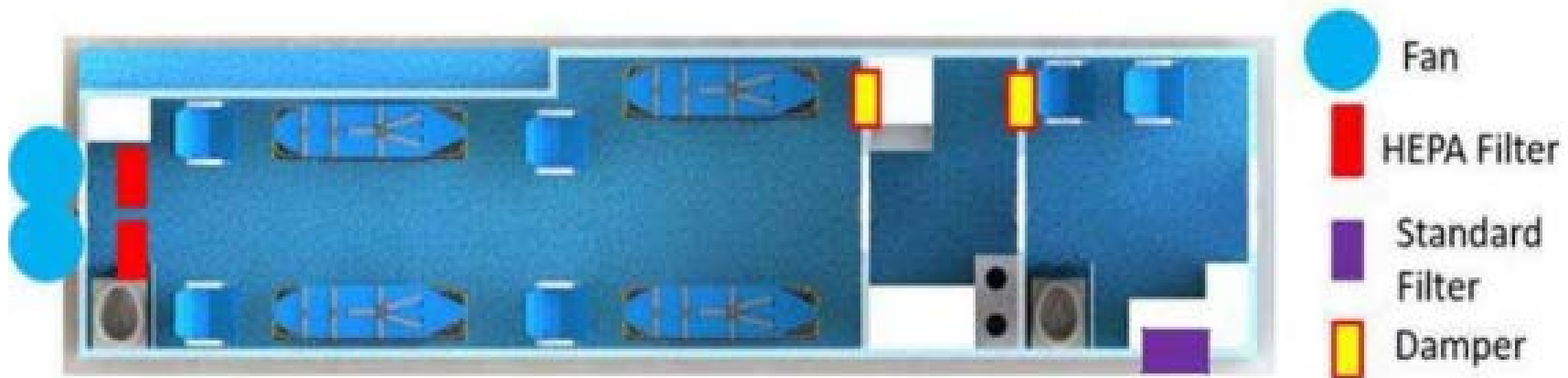
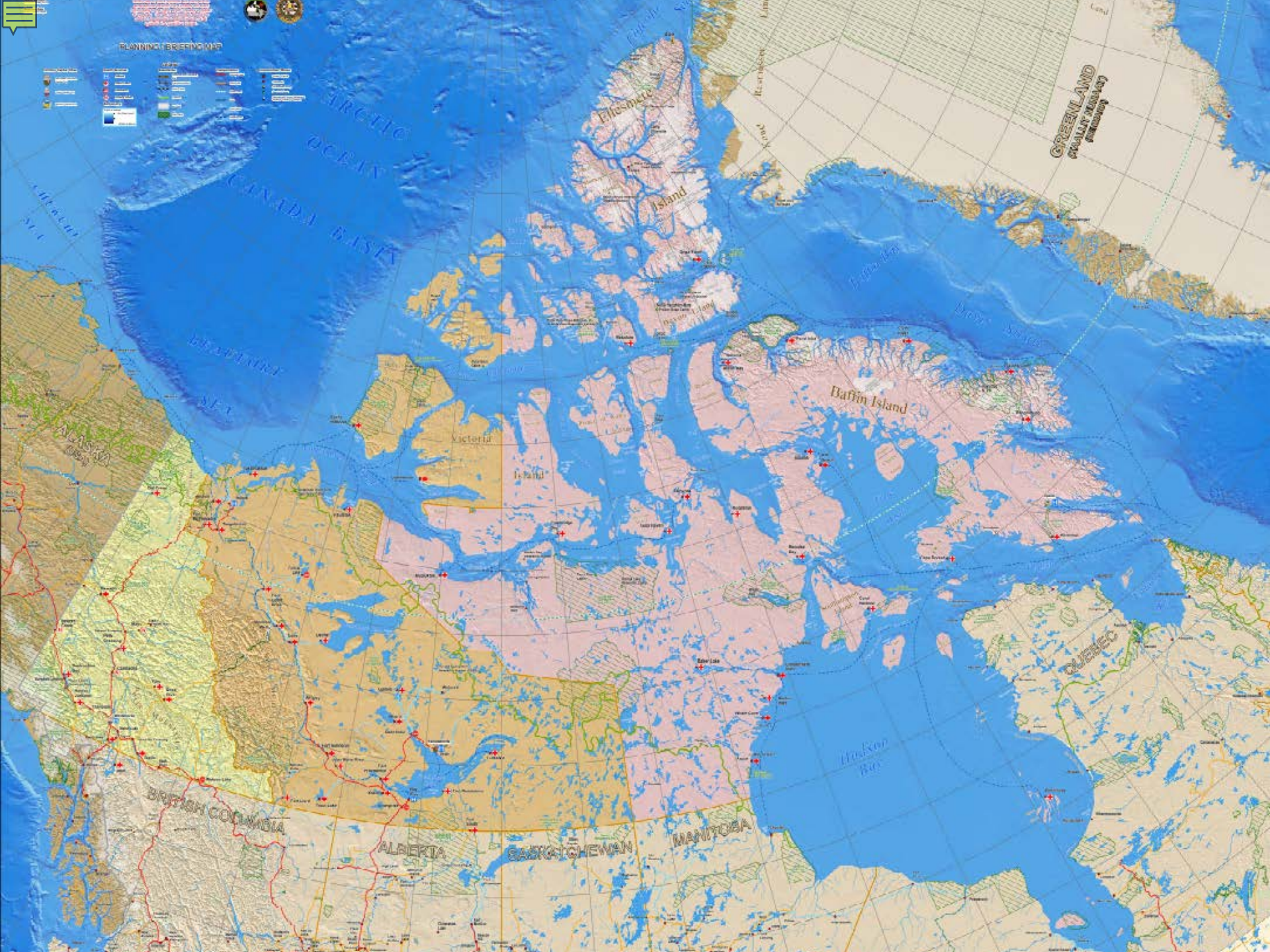


Figure 4 – ABES Negative Pressure Fans and standard/HEPA filter layout

- Strategic and tactical

Fit in a Globe Master CC-177 Globmaster and Hercules CC-

130J





High Consequence Infectious Disease (HCID)



Airborne

Andes virus infection (hantavirus)

Avian influenza, highly pathogenic A(H7N9) and A(H5N1)

Avian influenza, highly pathogenic A(H5N6) and A(H7N7)

Middle East respiratory syndrome (MERS)

Mpox

Nipah virus infection

Pneumonic plague

Severe acute respiratory syndrome (SARS)

Contact

Argentine haemorrhagic fever

Bolivian haemorrhagic fever

Crimean Congo haemorrhagic fever (CCHF)

Ebola virus disease (EVD)

Lassa fever

Lujo virus disease

Marburg virus disease (MVD)

Severe fever with thrombocytopenia syndrome (SFTS)

CBRN

Chemical agent

Biological agent

Radiological material

Nuclear material



ABES Pro

Treatment

Less training required

Less concern with some Stresses of flight

Patient & Crew comfort

Liquide Oxygen

ABES Cons

Heavy

Storage

Maintenance

Need a K-Loader

Expensive



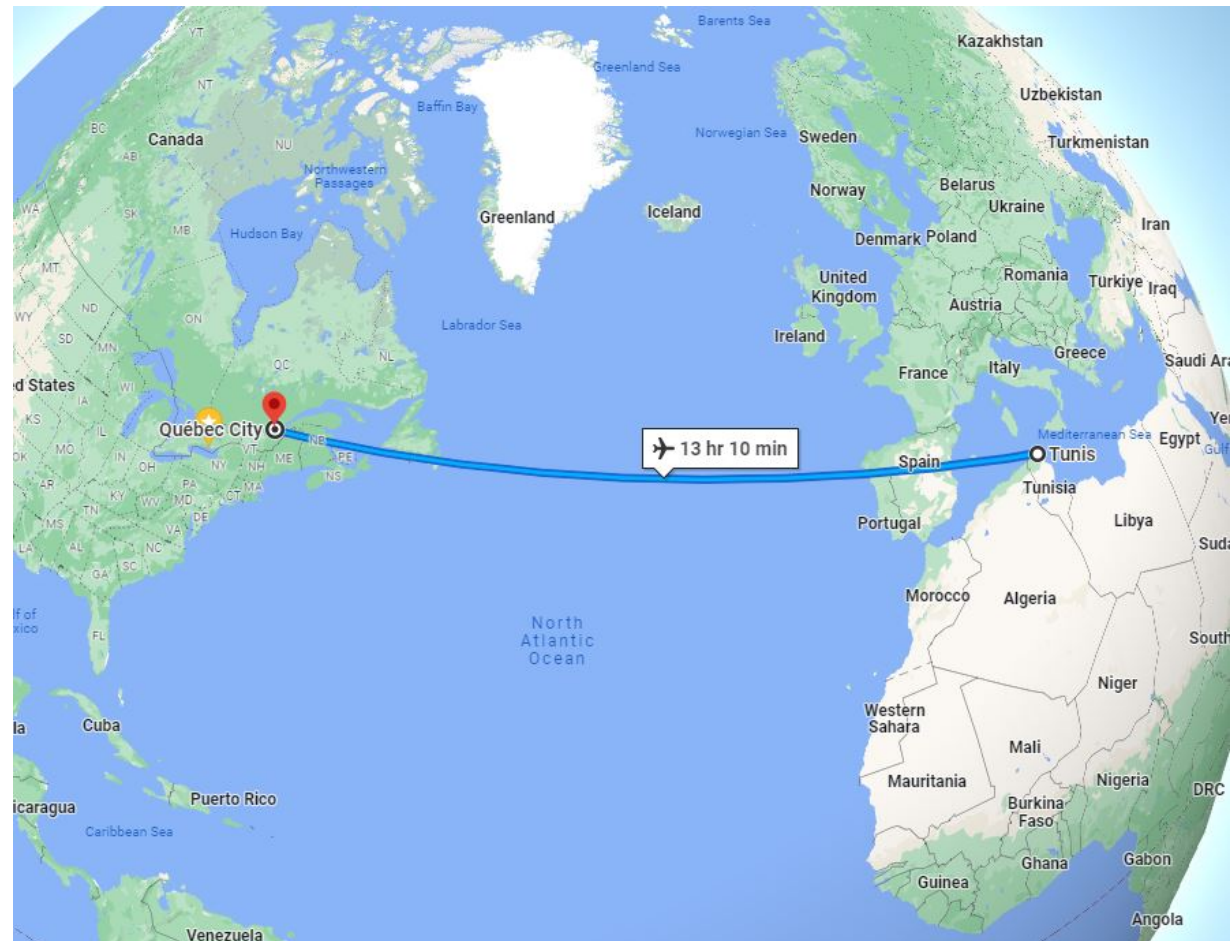
First AE Mission with the ABES

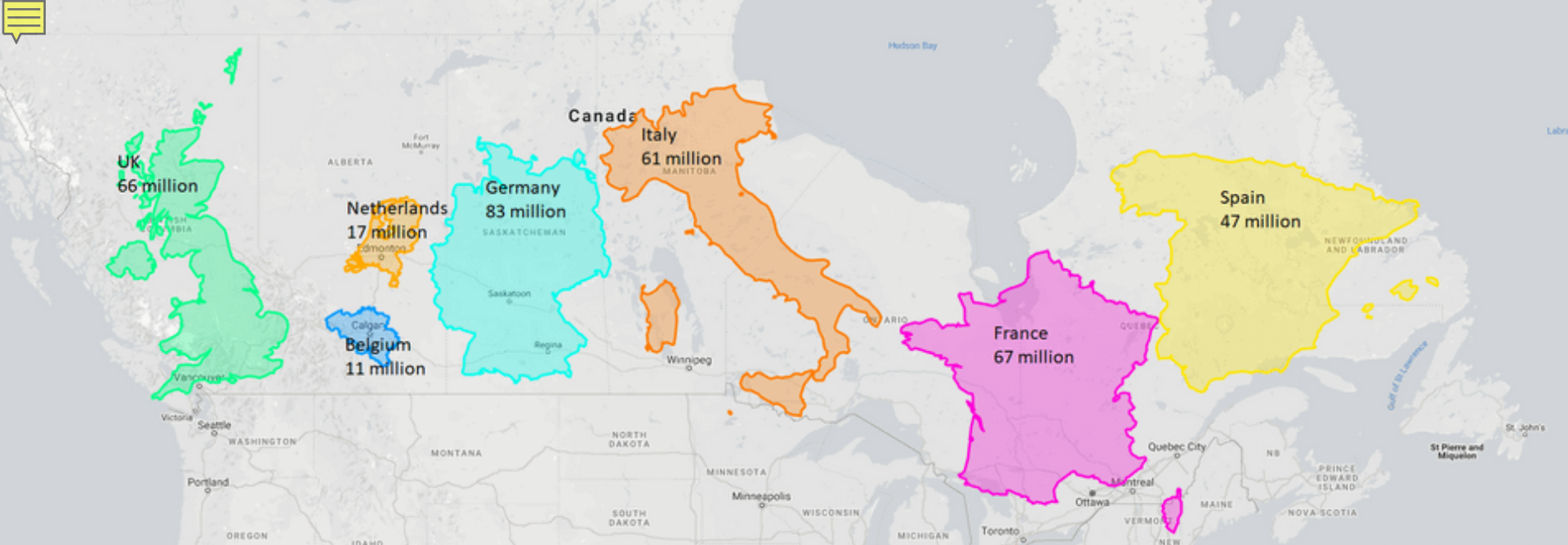
Patient with COVID in Tunisia.

4 dependents.

Medical Team

- 2 Flt medic
- 3 Flt Nurse
- 2 Critical Care Nurse
- 1 Flt Surgeon
- 2 Physician Specialist





ABES Critical Care (ICU Patient) Missions Op Laser 2020

Manitoba to Ontario/Alberta
Saskatchewan to Ontario

8 missions 3-4 hours per flight 9 patients Hercules J
2 missions 4-5 hours per flight 2 patients Hercules J

Team

1 Critical Care Physician
2 Critical Care Nurse
1 Nurse
2 Medical Technician

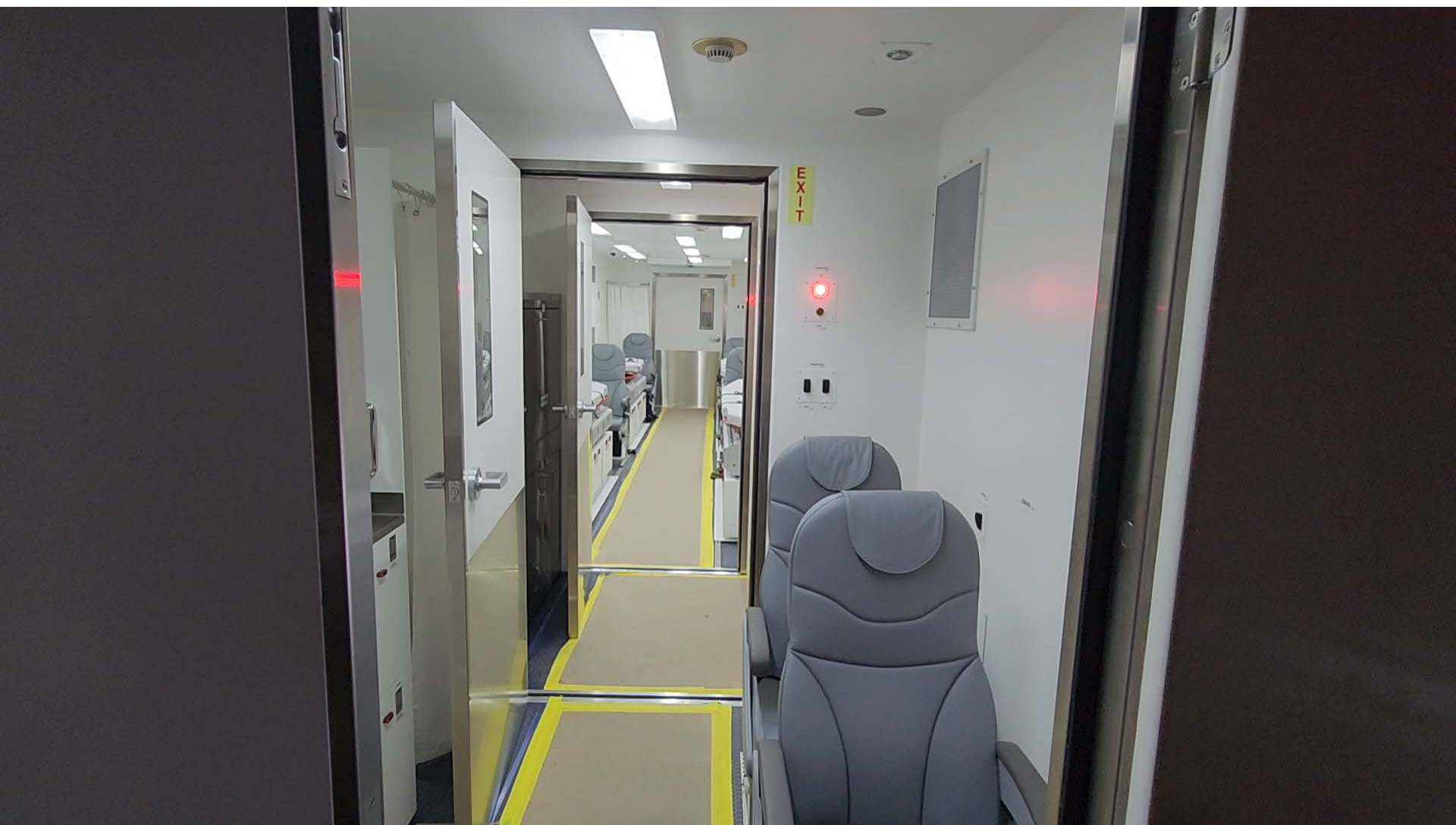




Lesson Learn

- Number of Patients
- Clinical transfer
- Coordination
- Equipment required
- Resupply
- ABES Sanitization
- Ability of the ABES









**Artificial Intelligence
(AI) incorporated with
a ventilator**



Communicating Medical information/records

Universal dossier



FORCE
NEWS