



Ebola's Threat: Experience of Casablanca Airport



CAPSCA Meeting – CAIRO 17-20 November 2014
Dr Mohamed Moussif- WHO expert

EBOLA MERS-CoV

Ebola or MERS-CoV are not the first, nor will be the last health danger to emerge. Lessons of our present time is that a threat anywhere is a threat every where.. It remains our collective responsibility to protect global health. Our experience of managing these threats should leave behind a legacy to better detect, prevent and respond to such emerging health threats than before.

Dr Ala Alwan,
Regional Director, WHO/EMRO

Possible EVD importation Route (1)

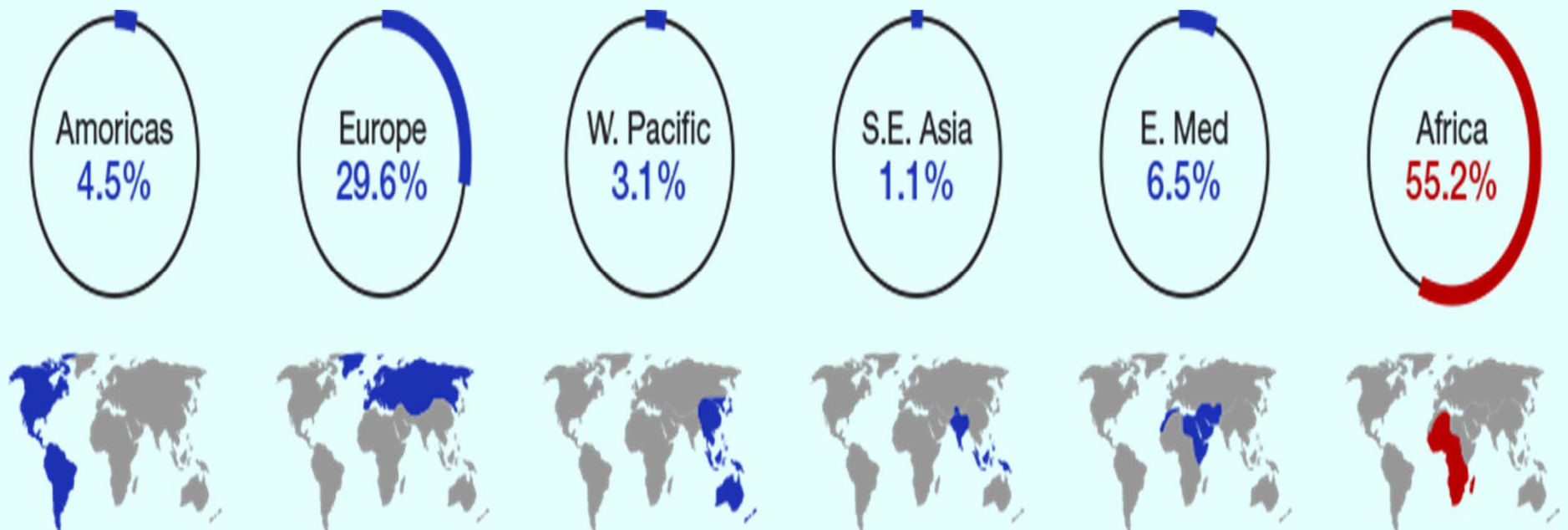
- International travel by air
 - Traders and businessmen from affected countries in West Africa
 - Transit passengers
 - Returnee UN Peacekeepers from Western Africa
 - Religious pilgrims



However, “silent importation” remains a major risk

Potential of spreading internationally by air travel:

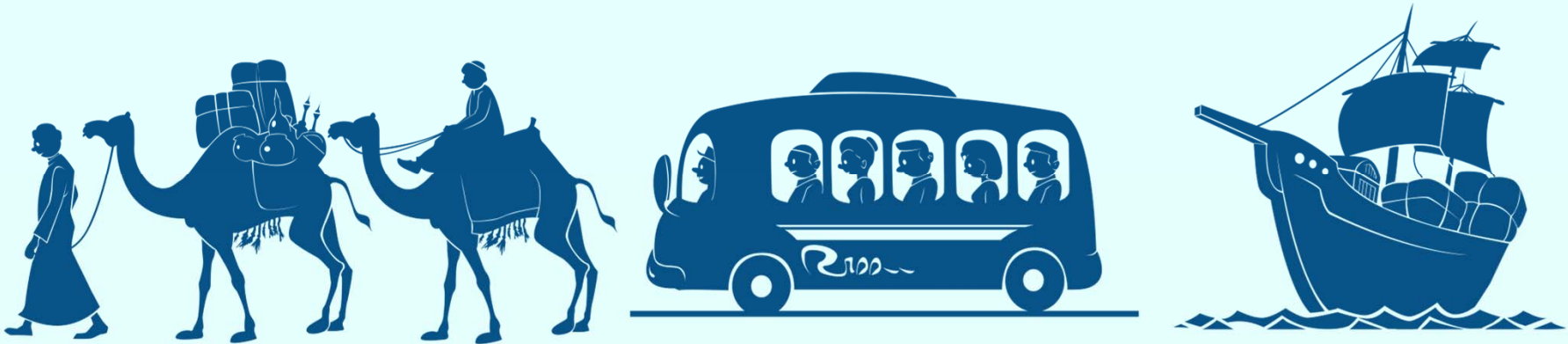
These were the final destinations of airline travelers in the month of August-September 2014 departing from the affected countries by WHO Region...



Source: Assessing the international spreading risk associated with 2014 Western African Ebola Outbreak. PLOS Current Outbreaks, 2014 Sep2 Edition 1

Possible EVD importation Route (2)

- International travel by land and/or sea
 - Illegal economic migrants to Europe
 - Pilgrims from West Africa
 - Job seekers and seasonal workers



EBOLA



EVD: No mystery

Efficient application of available knowledge & enabling environment are critical for its prevention and control



**World Health
Organization**

Regional Office for the Eastern Mediterranean

Ebola virus disease transmission

- **Ebola Infection of index case(s)** : Animal found dead in the forest: chimpanzees (6), gorillas (4), monkeys (4), forest antelopes (3), fruit bats (1), porcupine.(1)..
 - **UNKNOWN** for **13/23 Ebola** events
- **H2H Transmission : familial and nosocomial**
 - Most human infections due to direct or indirect contact with skin, mucous membranes, body fluids of infected patients (blood, saliva, vomitus, urine, stool, semen)
- **Amplification : 427 HCWs infected in the current outbreak**
 - **Hospital**: health care workers, in-patients, care givers, unsafe injections
 - **Community**: contacts when caring for ill, funeral



Facts *about* Ebola

You can't get Ebola
through air



You can't get Ebola
through water



You can't get Ebola
through food



EVD Diagnosis

- Diseases that should be ruled out include:

Malaria,	Typhoid Fever,	Shigellosis,
Cholera,	Leptospirosis,	Plague,
Rickettsiosis,	Relapsing Fever,	Meningitis,
Hepatitis	other Viral Haemorrhagic Fevers	

Travel risk

- WHO declared the Ebola virus disease outbreak in West Africa a Public Health Emergency of International Concern (PHEIC) in accordance with the International Health Regulations (2005).
- The risk of transmission of Ebola virus disease during air travel and the risk of a traveller becoming infected during a visit to the affected countries and developing disease after returning are extremely low.
- Unlike infections such as influenza or tuberculosis, Ebola is not spread by breathing air, from an infected person.

Travel risk (Cont.)

- Transmission requires direct contact with blood, secretions, organs or other body fluids of infected living or dead persons or animals, all unlikely exposures for the average traveller.
- Travellers are advised to avoid all such contacts and routinely practice careful hygiene like hand washing.
- The risk of getting infected on an aircraft is also low as sick persons usually feel so unwell that they cannot travel.
- WHO does not recommend any ban on international travel or trade, in accordance with advice from the WHO Ebola Emergency Committee.

PoE in Countries with Ebola transmission

- Develop standard operational procedures and conduct exit screening of all persons at international airports, seaports and major land crossings: for unexplained febrile illness consistent with potential Ebola infection.
- The exit screening should consist of, at a minimum, a questionnaire, a temperature measurement and, if there is a fever, an assessment of the risk that the fever is caused by Ebola Virus Disease.
- Any person with an illness consistent with Ebola should not be allowed to travel unless the travel is part of an appropriate medical evacuation.

For all Points of Entry

- Ensure public health contingency emergency plan is in place at designated PoE.
- Allocate space at PoE for health assessments in the event of suspected ill travellers is detected.
- Establish standard operation procedures when ill travellers need to be referred to designated hospitals including identification of adequate ambulance service.
- Ensure sufficient trained staff with appropriate and sufficient Personal Protective Equipment (PPE) and disinfectants.

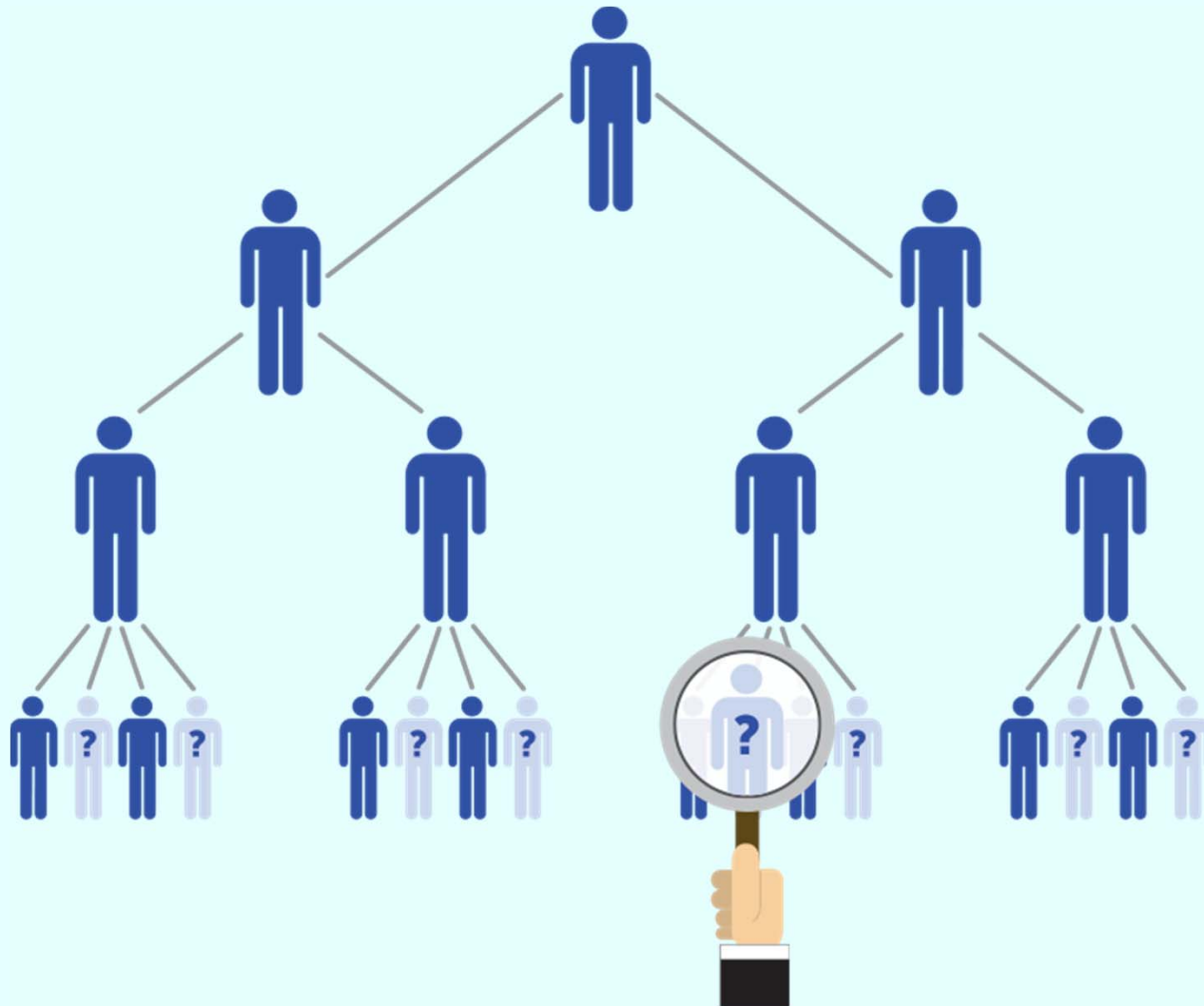
For all Points of Entry (Cont.)

- Raise awareness among conveyance operators for the need of immediate notification to PoE health authorities prior to arrival of any suspected case(s).
- In regard to air travel, coordinate health sector and stakeholders with civil aviation authorities, airport operators and airlines to facilitate contact tracing and event management.
- Ensuring passenger locator form is on board, at airport and airport ground staff and crew trained for managing EVD and environmental contaminants in flight and at airport.

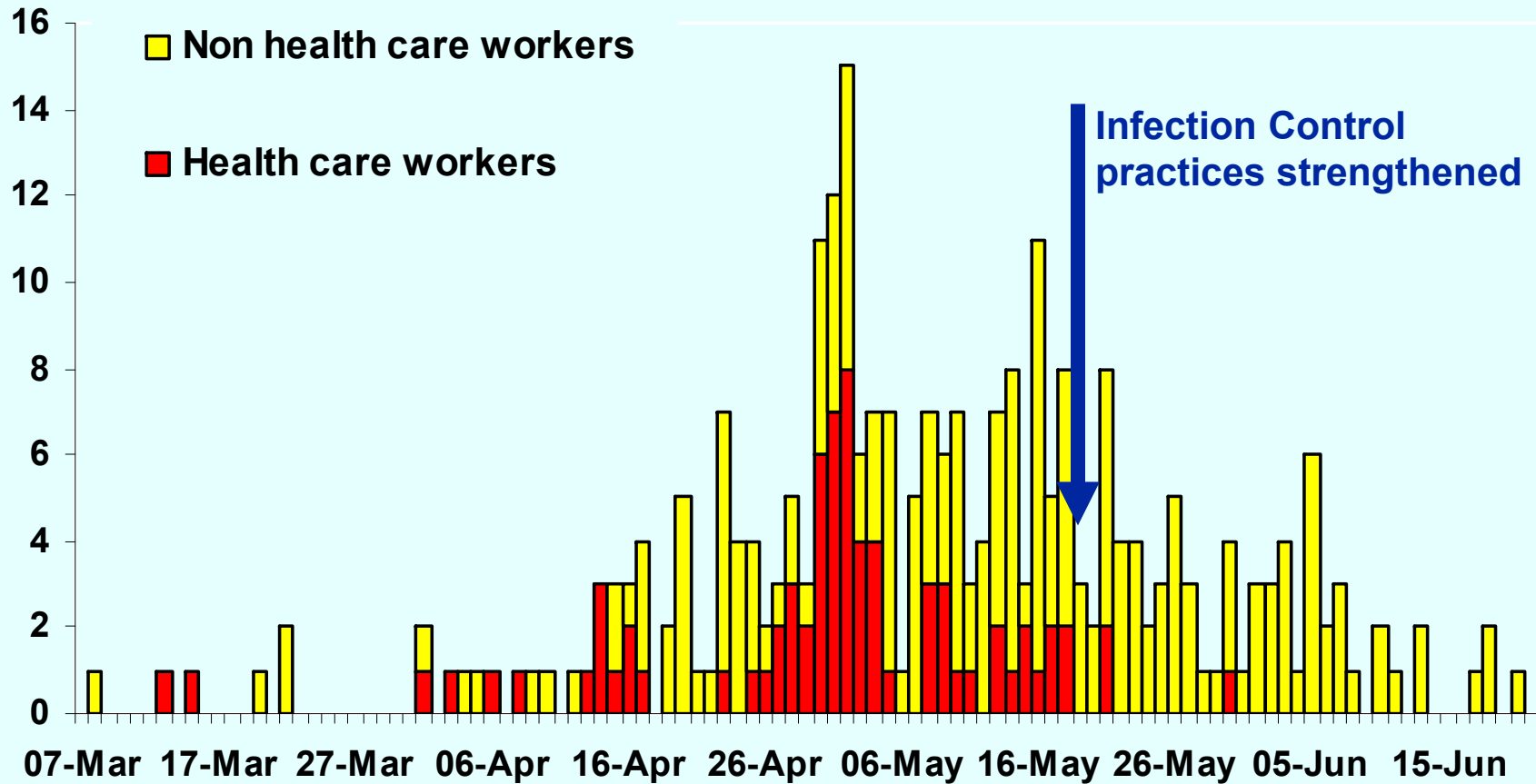
For all Points of Entry (Cont.)

- Ensure timely communication between PoE and national health surveillance system.
- Disseminate health information and raise awareness among PoE stakeholders of EVD.

Essential intervention for EVD: Contact tracing

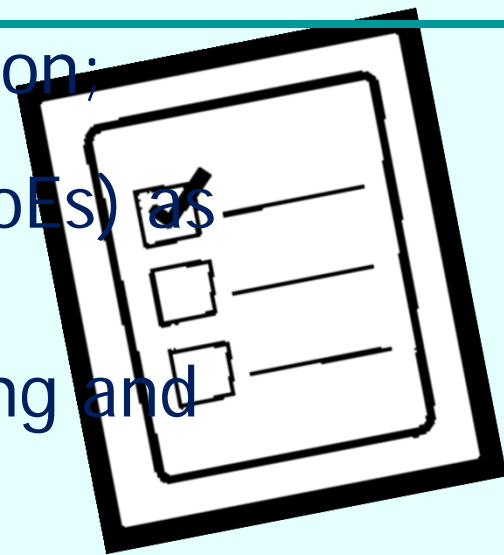


Essential intervention for EVD: Infection control



Strategy for stepping up preparedness for early detection and prevention of local transmission

- Strengthening leadership and coordination;
- Improving vigilance at Point of Entry (PoEs) as required under IHR (2005);
- Enhancing surveillance for contact tracing and monitoring;
- Reinforcing infection control precautions in healthcare settings;
- Increasing access to quality diagnostic testing;
- Supporting appropriate risk communication measures;



Portrait of Morocco



- North African country
- Area: 710.850 kms
- Coast extends over 3,500 km
- Population (2012) : 32,597,000 (urban 59%)
- 16 administrative regions
- **Capital** : Rabat
- **bordering the North Atlantic and the Mediterranean Sea**
- 16 international airports

LEGAL REFERENCES

In 2005, the 58th World Health Assembly adopted the revised International Health Regulations (IHR)



**World Health
Organization**

Regional Office for the Eastern Mediterranean

THE RIGHT BALANCE



**Maximum public health
security**

**Minimum
interference with
international
transport and
trade**

➤ Ministerial decreen°62 du 13/8/2014

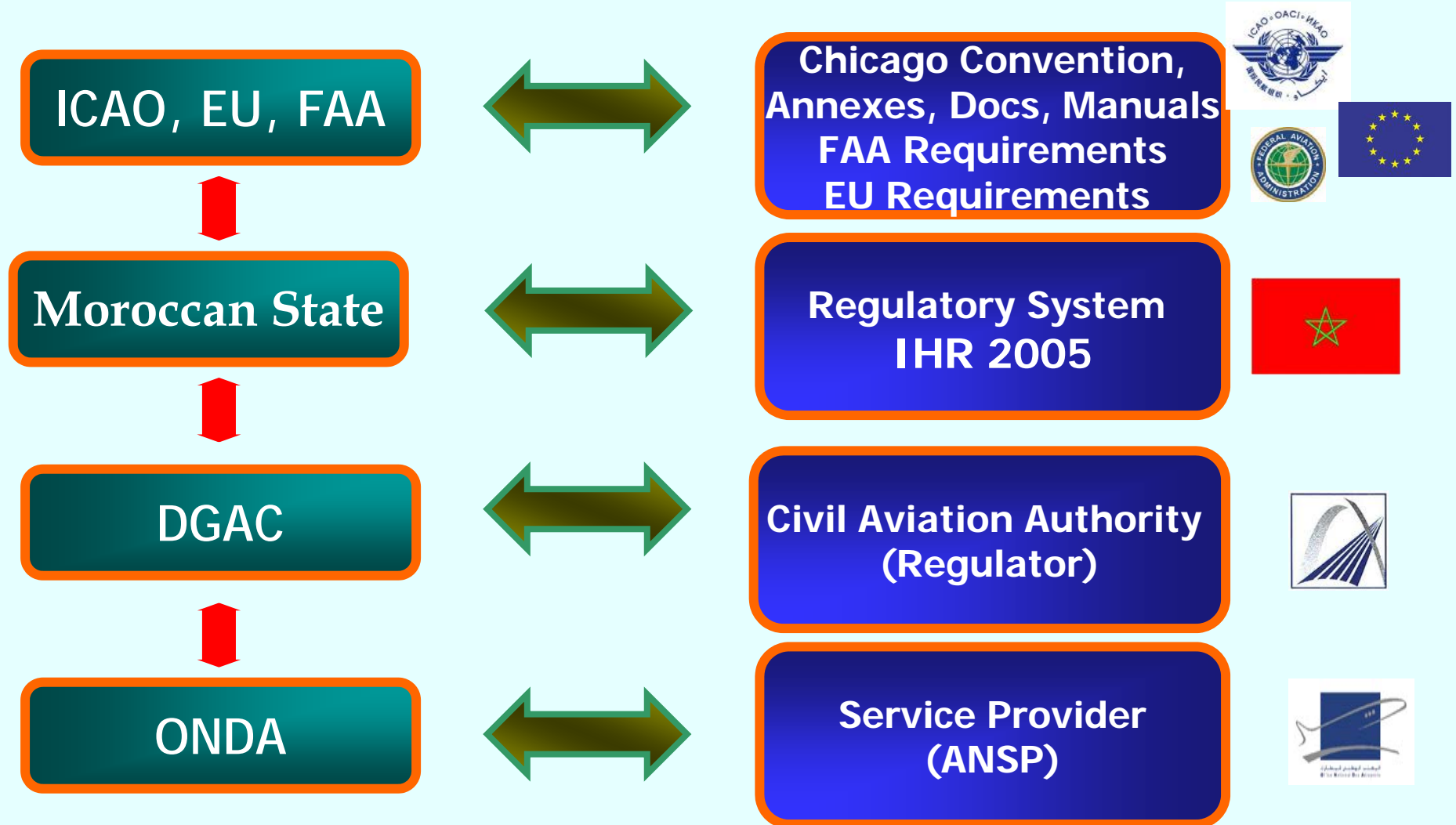
➤ National Preparedness and Response Plan against Ebola- last version of 9 October 2014



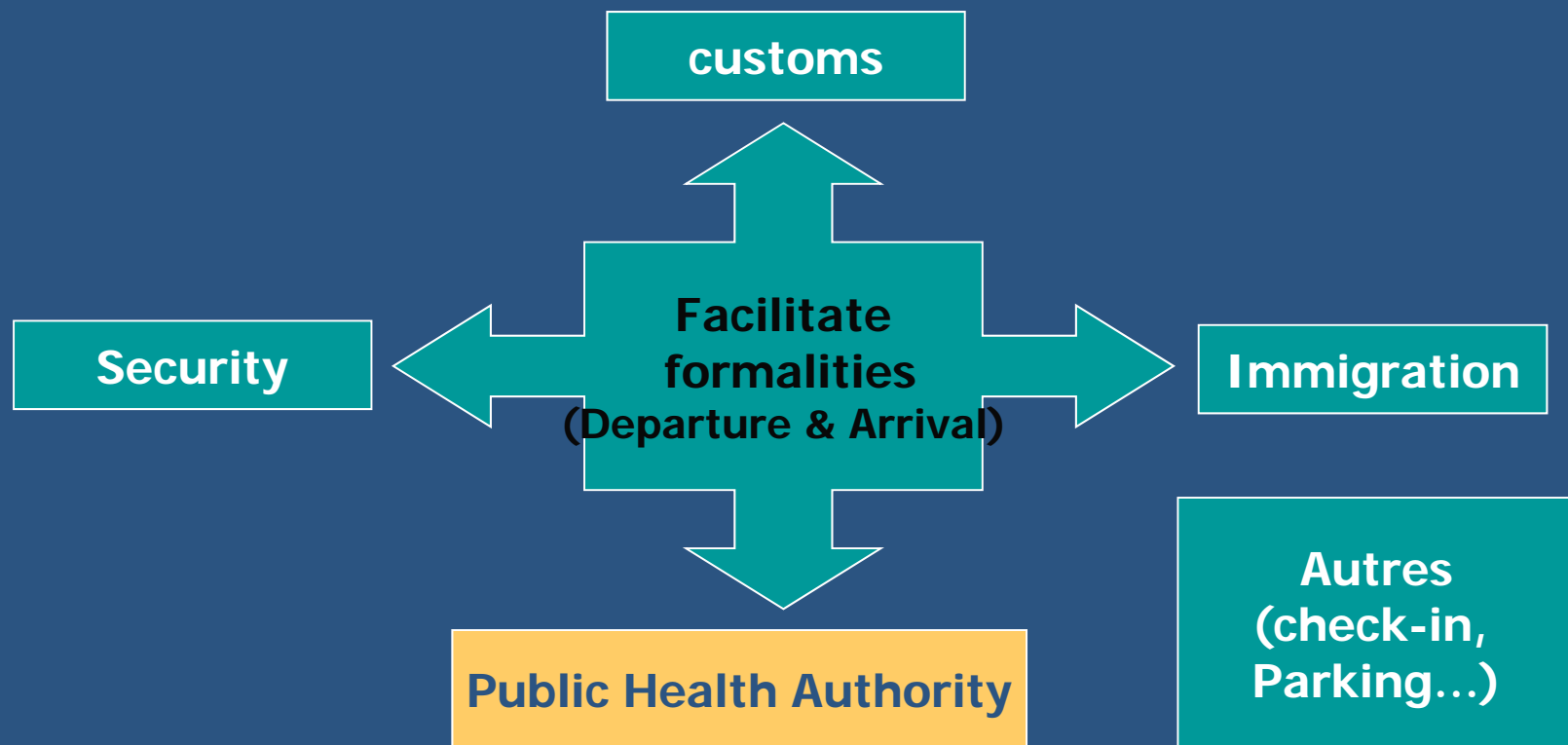
ICAO HEALTH-RELATED DOCUMENTS

Index	Page No.
Annex 6 — Operation of Aircraft, Part I — International Commercial Air Transport — Aeroplanes	2
Chapter 6. Aeroplane instruments, equipment and flight documents	
Attachment B. medical supplies	
Annex 9 — Facilitation	6
Chapter 8. Other facilitation provisions	
Appendix 1. General declaration	
Appendix 13. Public health passenger locator form	
Annex 11 — Air Traffic Services	10
Chapter 2. General	
Attachment C. Material relating to contingency planning	
Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc 4444)	15
Chapter 16. Miscellaneous procedures	
Annex 14 — Aerodromes	17
Chapter 9. Aerodrome operational services, equipment and installations	
ICAO Guidelines for States	20

Regulatory Environment



ICAO Annex 9 - Facilitation



Aerodrome Emergency Plan

- Local standby
- Full emergency
- Aircraft accident
- Aircraft ground accident
- Domestic fire
- Bomb threat
- Unlawful interference/ Hi-jacking
- Public health emergency

FLIGHT IN QUESTION

-Direct flights: dedicated aprons

CONAKRY (GUINEE): AT 526

FREETOWN (SIERRALEONE): AT 596

MONROVIA (LIBERIA): AT 597

BAMAKO (MALI): AT 522



CONTROL SYSTEM

HUMAIN RESOURCES

-PERSONNEL (PH)

-PERSONNEL (AA)

-TRAINEES

-REINFORCEMENT
IF NECESSARY



DIAGNOSIS TOOLS



LOGISTIC & SUPPLIES





**SALLE
D'ISOLEMENT**



STEP 1: departure airports

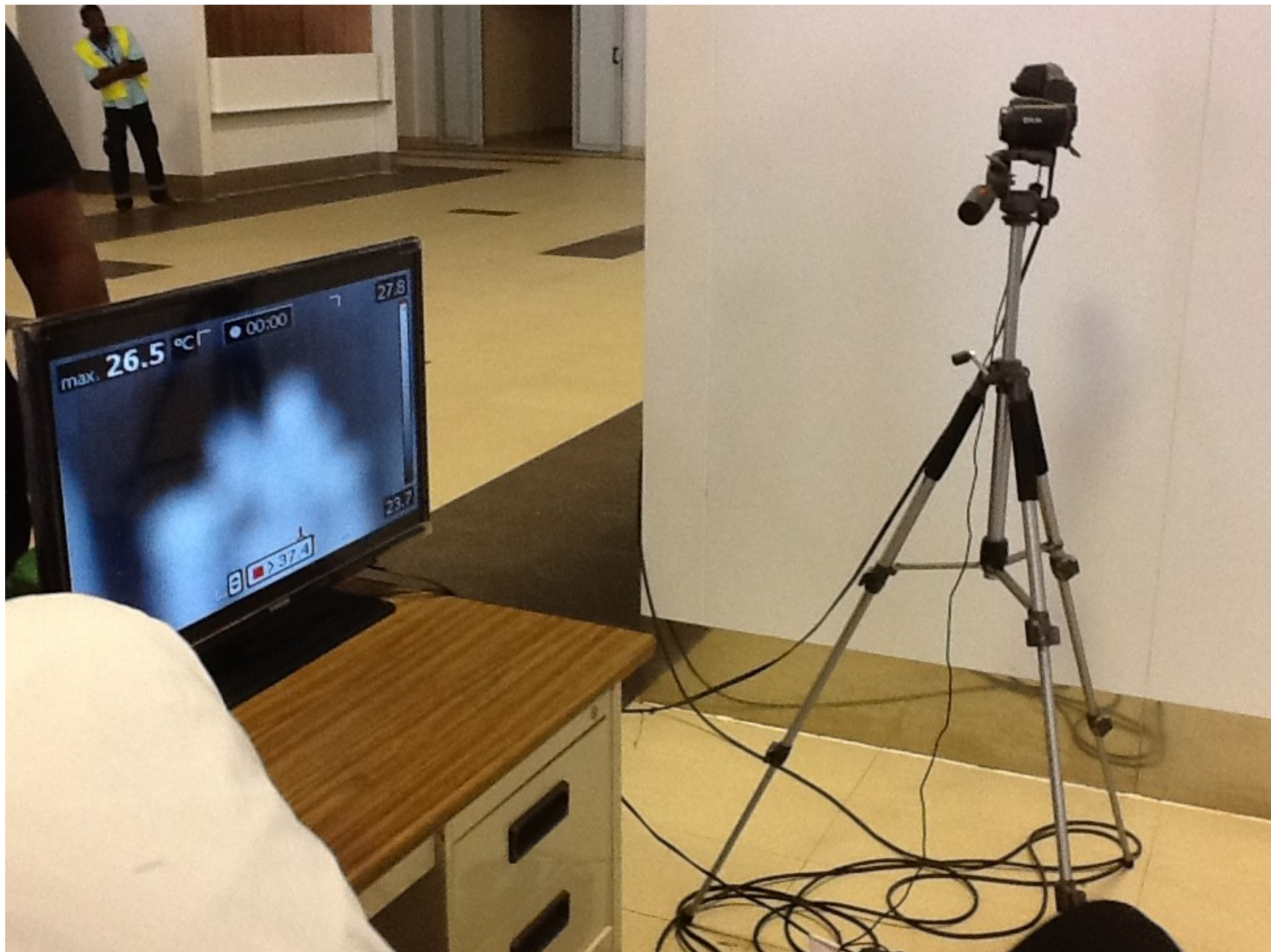
ROYAL AIR MAROC

- **04 thermal cameras: Conakry, Monrovia, Freetown, Bamako**
- **Health declaration form: before check-in**
- **2nd medical check before getting on board**

















REPUBLIQUE DE GUINEE
FORMULAIRE DE DECLARATION SANTE
HEALTH DECLARATION FORM

en caractère d'imprimerie / in block capital

NOM :

Surname

NOM DE JEUNE FILLE (pour les dames)

Maiden name (if applicable)

PRENOM(S) :

Given names

DATE DE NAISSANCE:

Date of birth

LIEU DE NAISSANCE

Place of birth

NATIONALITE :

Nationality

PROFESSION :

Occupation

DOMICILE en GUINEE pendant séjour :

Guinea address

AEROPORT DE DESTINATION

ADRESSE DANS LE PAYS DE DEBARQUEMENT

Address in country of disembarkation

CONTACT tel à destination

Phone contact at destination

CONTACT tel en Guinée

Phone contact in Guinea

JE SOUSSIGNE / I DECLARE

Ne pas avoir , dans les dernières 24 heures : Do not have , within last 24 hours /

- Eu plus de 38°C de fièvre / had more than 38C of fever

- Eu des vomissements / had vomiting

- Eu de diarrhée / had diarrhea

- Ressentie de fatigue inhabituelle / felt an unusual tiredness

- Eu des saignements anormaux / had abnormal bleeding

MOTIF DE VOTRE VOYAGE:

Reason of travelling

SIGNATURE DU PASSAGER

Signature of passenger

SD AC



SIERRA LEONE CIVIL AVIATION AUTHORITY

Ref: SLCAA/12/193

The General Manager
Sierra Leone Airports Authority
Rawdon Street
Freetown

29th July, 2014

Dear Sir,

**MEASURES TO BE IMPLEMENTED AT THE FREETOWN
INTERNATIONAL AIRPORT FOR THE PREVENTION OF THE
PROPAGATION OF THE EBOLA VIRUS**

As part of the steps to be taken for the mitigation of the **EBOLA** virus, the Sierra Leone Civil Aviation Authority is directing that the under mentioned measures should be put in place at the Freetown International Airport with immediate effect:

1. A stand or desk should be provided where controls should be performed;
2. All passengers should be scanned for temperature by a trained qualified medical personnel;
3. Passengers should fill the Health Indicator Form;
4. The Health authorities should stamp the form proving the passenger has passed the control;
5. Check in staff should only accept a passenger for check-in if passengers has stamped Health Locator Form indicating that the passenger has completed the controls;
6. The check in staff should retrieve the form from the passenger and present the form to the health authorities for preservation and filing;
7. Establish an airport holding Centre for suspected cases;
8. There should be immediate access to a medical control examination centre for suspected case for further checks;
9. A serviceable Ambulance should be provided to convey suspects to holding and Government medical Control Centre;
10. Confirmed Ebola cases should be handed to the health authorities for referral to the Ebola Epic Centre;

STEP 2: during the flight



October 2011

SUSPECTED COMMUNICABLE DISEASE

General Guidelines for Cabin Crew

The following are general guidelines for cabin crew when facing a suspected case of communicable disease on board.

During an outbreak of a specific communicable disease, the World Health Organization (WHO) or member states may modify or add further procedures to these general guidelines.

However, these general guidelines provide a basic framework of response to reassure cabin crew and help them manage such an event.

A communicable disease is suspected when a traveller (passenger or a

A communicable disease is suspected when a traveller (passenger or a crewmember) has a fever (temperature 38°C/100°F or greater) associated with one or more of the following signs or symptoms:

- Appearing obviously unwell
- Persistent coughing
- Impaired breathing
- Persistent diarrhea
- Persistent vomiting
- Skin rash
- Bruising or bleeding without previous injury
- Confusion of recent onset

Note 1: This list of signs and symptoms is identical to that listed in the Health part of the ICAO Aircraft General Declaration and in the World Health Organization International Health Regulations (2005) 2nd Edition.

Note 2: If food poisoning from in-flight catering is suspected, proceed as per company-established protocol. The captain still has to follow the ICAO procedure of section 13 below.

Note 3: If temperature of the affected person is normal but several travellers have similar symptoms, think of other possible public health issues such as chemical exposure.

1. If medical support from the ground is available, contact that ground support immediately *and/or* page for medical assistance on board (*as per company policy*).
2. If medical ground support and/or on board health professional is available, crew should follow their medical advice accordingly.
3. If no medical support is available, relocate the ill traveller to a more isolated area but only if two rows can be cleared immediately in front of a solid bulkhead. If the ill traveller is relocated, do not reuse the vacated seat and make sure that the cleaning crew at destination is advised to clean and disinfect both locations.
4. Designate one cabin crew member to look after the ill traveller, preferably the crew member that has already been dealing with this traveller. More than one cabin crew member may be necessary if more care is required.
5. When possible, designate a specific lavatory for the exclusive use of the ill traveller. If not possible, clean and disinfect the commonly touched surfaces of the lavatories (faucet, door handles, waste bin cover, counter top) after each use by the ill traveller.

6. If the ill traveller is coughing, ask him/her to follow respiratory etiquette:
 - i. Provide tissues and the advice to use the tissues to cover the mouth and nose when speaking, sneezing or coughing.
 - ii. Advise the ill traveller to practice proper hand hygiene*. If the hands become visibly soiled, they must be washed with soap and water.
 - iii. Provide an airsickness bag to be used for the safe disposal of the tissues.
7. If a face mask is available, the ill traveller should be asked to wear it. As soon as it becomes damp/humid, it should be replaced by a new one. These masks should not be reused and must be disposed safely after use. After touching the used mask (e.g., for disposal), proper hand hygiene* must be practiced immediately.
8. If the ill traveller cannot tolerate a mask or refuses it, the designated cabin crew member(s) or any person in close contact (less than 1 metre) with the ill person should wear a mask. The airline should ensure that their cabin crewmembers have adequate training in its use to ensure they do not increase the risk (for example by more frequent hand-face contact or by mask adjustment, or by repeatedly putting it on and off.)
9. If there is a risk of direct contact with body fluids, the designated cabin crew member should wear disposable gloves. Gloves are not intended to replace proper hand hygiene.* Gloves should be carefully removed as per training syllabus and discarded as per paragraph (10) and hands should be washed with soap and water. An alcohol-based hand rub can be used if the hands are not visibly soiled.

pillows, blankets, seat pocket items, etc.) in a biohazard bag if one is available. If not, use a sealed plastic bag and label it "biohazard".

11. Ask accompanying traveller(s) (spouse, children, friends, etc.) if they have any similar symptoms.
12. Ensure hand carried cabin baggage follows the ill traveller and comply with public health authority requests.
13. As soon as possible, advise the captain of the situation because he/she is required by the *International Civil Aviation Organization regulations* (ICAO Annex 9, Chapter 8, and paragraph 8.15) and the World Health Organization International Health Regulations (WHO IHR 2005, Article 28(4)) to report the suspected case(s) to air traffic control. Also remind the captain to advise the destination station that cleaning and disinfection will be required.
14. Unless stated otherwise by ground medical support or public health officials, ask all travellers seated in the same row, 2 rows in front and 2 rows behind the sick traveller to complete a passenger locator card if such cards are available on the aircraft or at the arrival station.

* A general term referring to any action of hand cleansing, performed by means of applying an antiseptic hand rub (i.e., alcohol-based hand rub) if hands are not visibly soiled, or washing one's hands with soap and water for at least 15 seconds. Touching the face with hands should be avoided. Hands should be washed frequently.

Operational procedures recommended by the International Air Transport Association (IATA)

- Distancing of other passengers if possible from the symptomatic passenger (re-seating); with the ill travellers preferably near a toilet, for his/her exclusive use;
- Covering nose and mouth of the patient with a surgical facemask (if tolerated);
- Limiting contacts to the passenger to the minimum necessary. More specifically, only one or two (if ill passenger requires more assistance) cabin crew should be taking care of the ill passenger and preferably only the cabin crew that have already been in contact with that passenger.

Operational procedures recommended by the International Air Transport Association (IATA)

- Hand washing with soap after any direct or indirect contact with the passenger.
- Immediate notification of authorities at the destination airport in accordance with procedures promulgated by the International Civil Aviation Organization (ICAO).
- Immediate isolation of passenger upon arrival.



Fiche de localisation des passagers à des fins de santé publique

Questionnaire destiné aux voyageurs en provenance de Guinée, Libéria, Nigeria et Sierra Leone
(Questionnaire for travelers arrived from Guinea, Liberia, Nigeria and Sierra Leone)

4. Si vous avez l'intention de séjourner au Maroc, prière de remplir ce formulaire afin de pouvoir vous contacter au sujet de votre état de santé
4. If you have the intention to stay in Morocco, Please complete this form in order to contact you concerning your health

Nom et prénom (Full name) :

Nationalité (Nationality) : Guinée ☐ Sierra Leone ☐ Nigeria ☐ Libéria ☐ ☐
Autre (other) : ☐ Précisez SVP (Please be specific):

Date d'arrivée (Date of arrival) : N° de vol (Flight number) :

Pays de provenance (Country coming from) : Guinée ☐ Sierra Leone ☐ Nigeria ☐ Libéria ☐ ☐

Autre (other) : ☐ Précisez SVP (Please be specific):

Si autre pays de provenance (If you are coming from other countries) :

a) Avez-vous transité par l'un des pays suivants (If other, did you have any connecting flight from one of the following countries) :
Guinée ☐ Sierra Leone ☐ Nigeria ☐ Libéria ☐ ☐

b) Avez-vous visité l'un des trois derniers pays suivants (did you visit in the last three weeks one of the following countries) :
Guinée ☐ Sierra Leone ☐ Nigeria ☐ Libéria ☐ ☐

c) Avez été en contact avec une personne atteinte ou suspecte d'être atteinte par la maladie à virus Ebola ? (Have you been in contact with a suspicious or confirmed person reached by the Ebola virus disease? Oui (Yes) ☐ Non (No) ☐

Durée de votre séjour au Maroc (duration of your stay in Morocco) : en jours (days).

Adresses complètes au Maroc (addresses in Morocco) :

Numéro de téléphone au Maroc :

Nom et téléphone de la personne à contacter en cas d'urgence (Name and phone number of person to contact in case of emergency):

Conseils à suivre dès votre arrivée au Maroc

- Surveillez chaque jour la température de votre corps durant les 21 jours suivant votre arrivée au Maroc.
- Si vous présentez, dans les 21 jours qui suivent votre arrivée au Maroc, des symptômes d'une maladie infectieuse (fièvre, faiblesse, douleurs musculaires, maux de tête, mal de gorge, vomissements, diarrhée, éruption cutanée ou saignements), consultez rapidement le médecin le plus proche et mentionnez votre récent retour d'un pays touché par la maladie à virus Ebola.

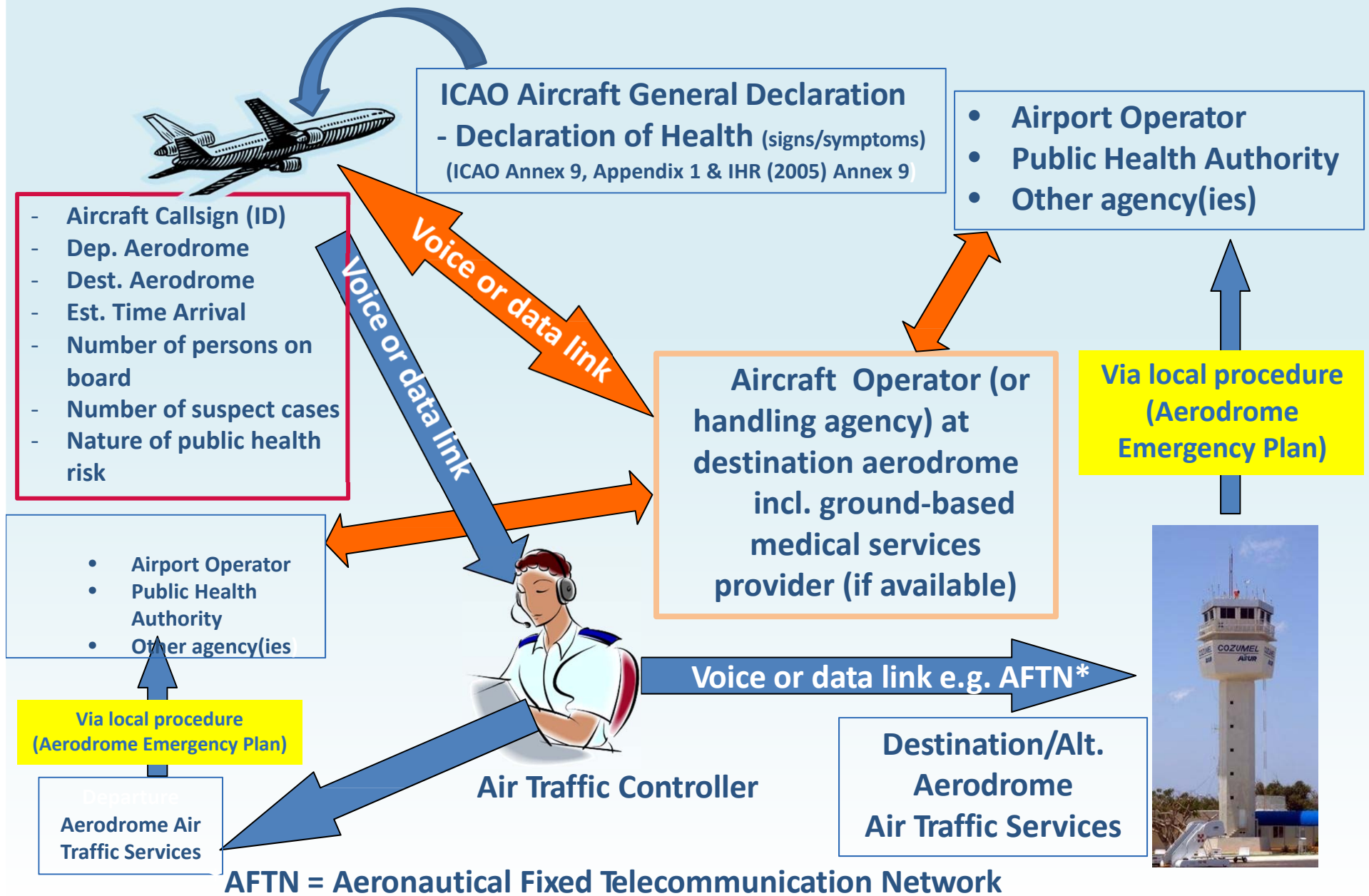
Pour tout besoin d'information ou d'aide, contactez le 0601 004747 ou visitez le site web du ministère de la Santé : www.san.ma

Advice to follow after your arrival in Morocco

- Monitor daily the temperature of your body during the 21 days after your arrival in Morocco.
- If you have, within 21 days of your arrival in Morocco, symptoms of an infectious disease (fever, weakness, muscle aches, headaches, sore throat, vomiting, diarrhea, rash or bleeding), seek medical care immediately and mention your recent return from a country affected by the Ebola disease.

For further and advice, contact No. 0601 004747 or visit the website of the Ministry of Health website: www.san.ma

NOTIFICATION OF SUSPECTED COMMUNICABLE DISEASE, OR OTHER PUBLIC HEALTH RISK, ON BOARD AN AIRCRAFT (PANS-ATM – ICAO Doc 4444)



STEP 3: upon arrival



APPENDIX 1. GENERAL DECLARATION

297 mm (or 11 3/4 inches)

GENERAL DECLARATION
(Outward/Inward)

Operator
Marks of Nationality and Registration
Flight No.
Date

Departure from.....
(Place)
Arrival at
(Place)

FLIGHT ROUTING
("Place" Column always to list origin, every en-route stop and destination)

PLACE	NAMES OF CREW*	NUMBER OF PASSENGERS ON THIS STAGE**
		<i>Departure Place:</i>
		Embarking
		Through on same flight
		<i>Arrival Place:</i>
		Disembarking
		Through on same flight

Declaration of Health
Name and seat number or function of persons on board with illnesses other than airsickness or the effects of accidents, who may be suffering from a communicable disease (a fever — temperature 38 °C/100 °F or greater — associated with one or more of the following signs or symptoms, e.g. appearing obviously unwell; persistent coughing; impaired breathing; persistent diarrhoea; persistent vomiting; skin rash; bruising or bleeding without previous injury; or confusion of recent onset, increases the likelihood that the person is suffering a communicable disease) as well as such cases of illness disembarked during a previous stop

Details of each disinsecting or sanitary treatment (place, date, time, method) during the flight. If no disinsecting has been carried out during the flight, give details of most recent disinsecting

Signed, if required, with time and date _____
Crew member concerned

For official use only

I declare that all statements and particulars contained in this General Declaration, and in any supplementary forms required to be presented with this General Declaration, are complete, exact and true to the best of my knowledge and that all through passengers will continue/have continued on the flight.

SIGNATURE _____
Authorized Agent or Pilot-in-command

Size of document to be 210 mm × 297 mm (or 8 1/4 × 11 3/4 inches).

* To be completed when required by the State.

** Not to be completed when passenger manifests are presented and to be completed only when required by the State.

← 210 mm (or 8 1/4 inches) →

STEP 4: THERMAL SCREENING + Flyers

HAND HELD INFRA RED THERMOMETERS



THERMAL CAMERAS

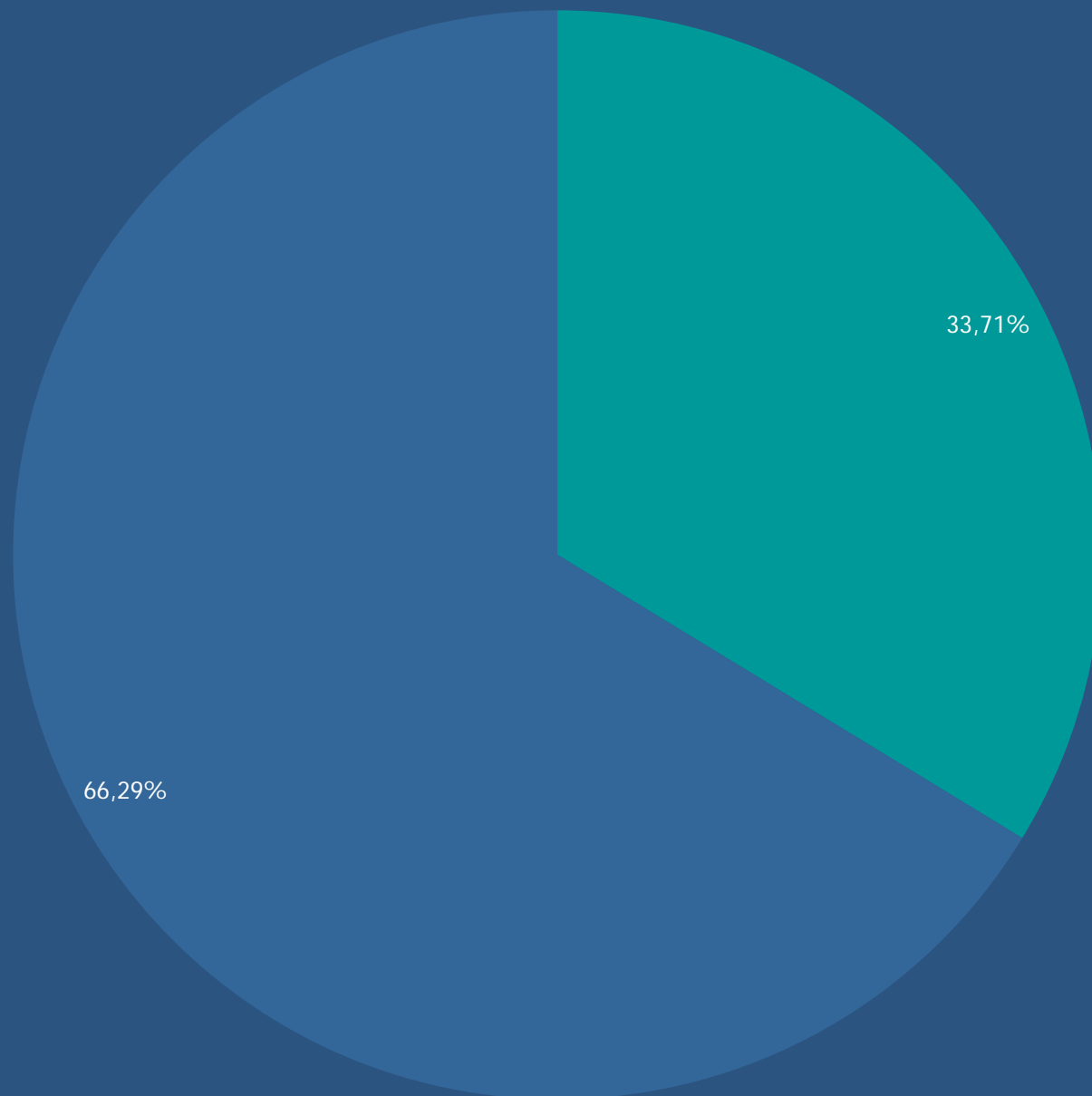


Flow separation



STEP 5: Data Collecting





■ suivi réalisé
■ suivi non réalisé

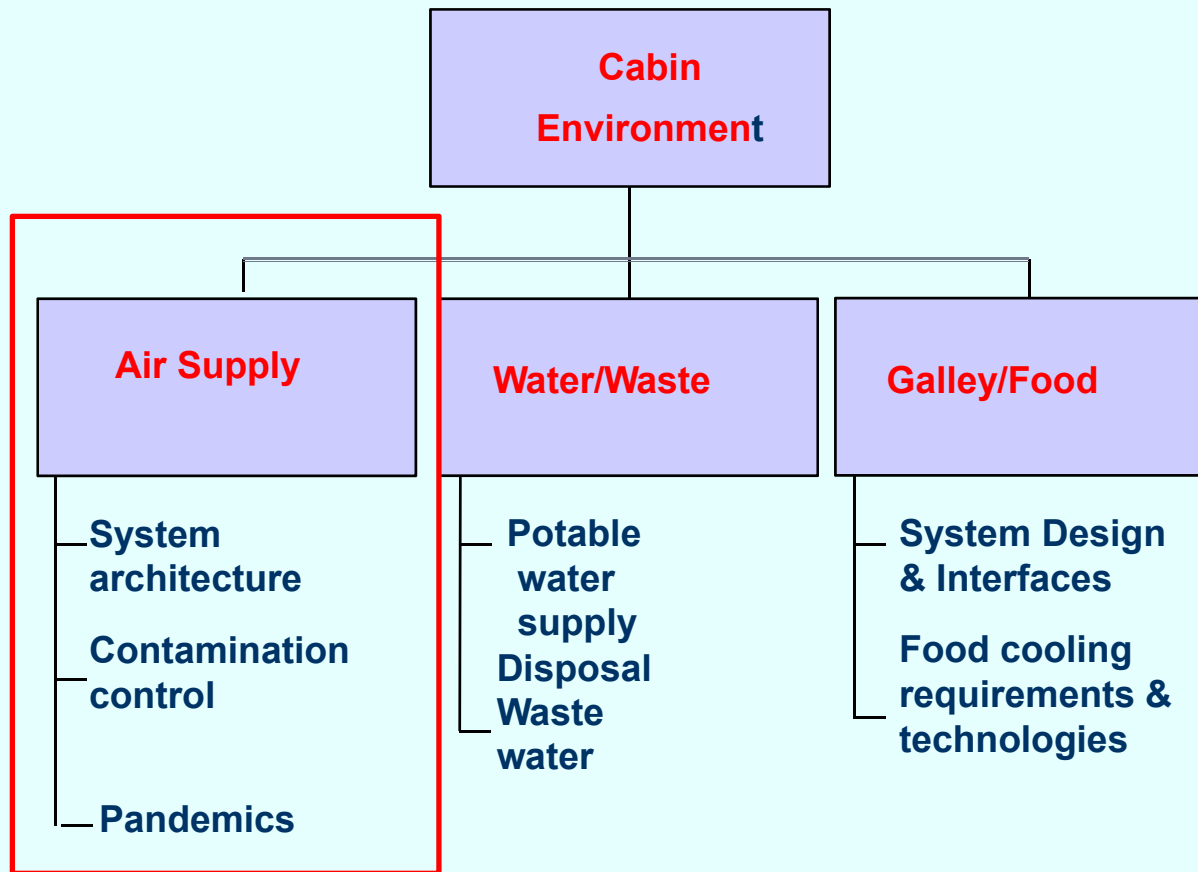
STEP 6:

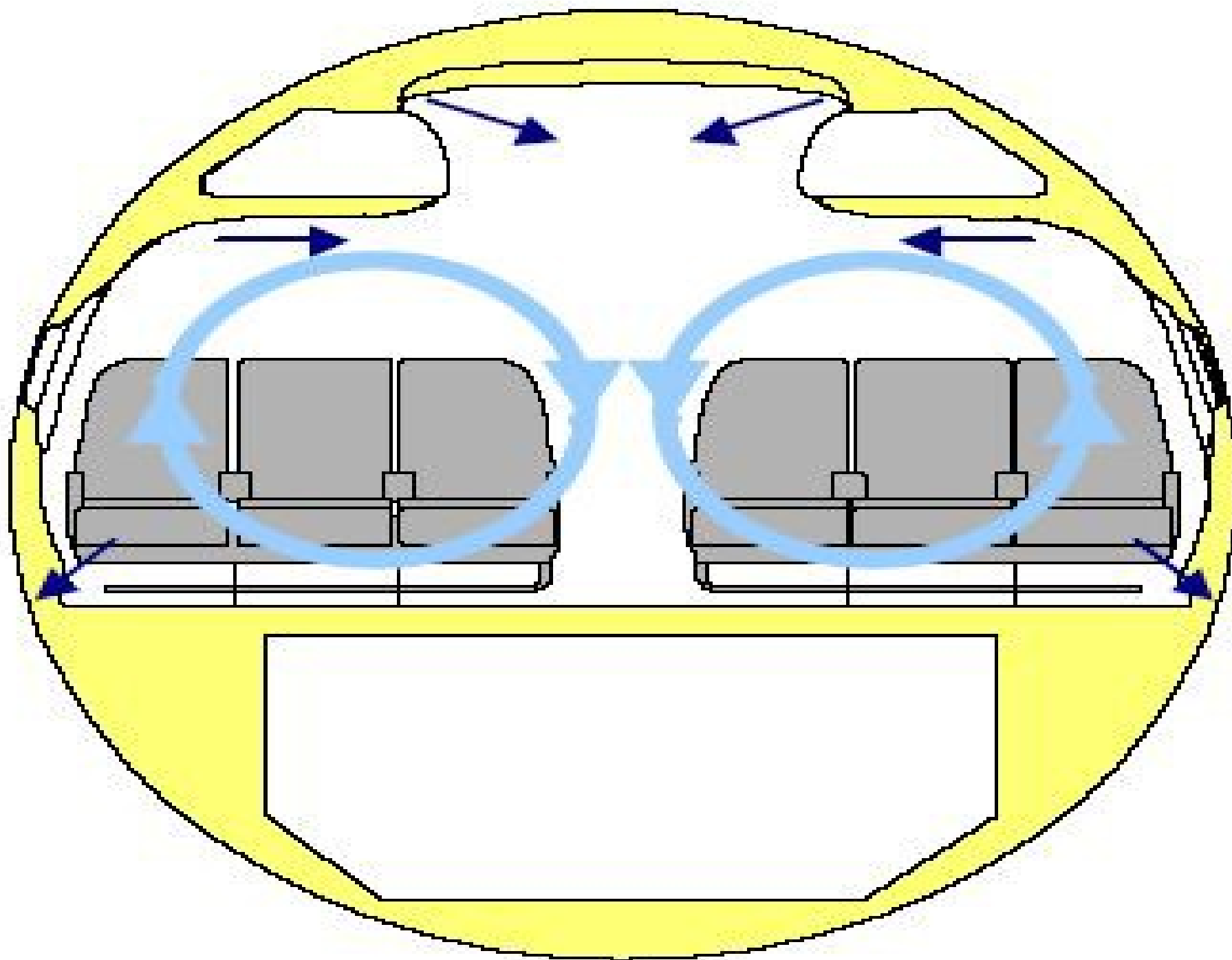
Handing out of Phones



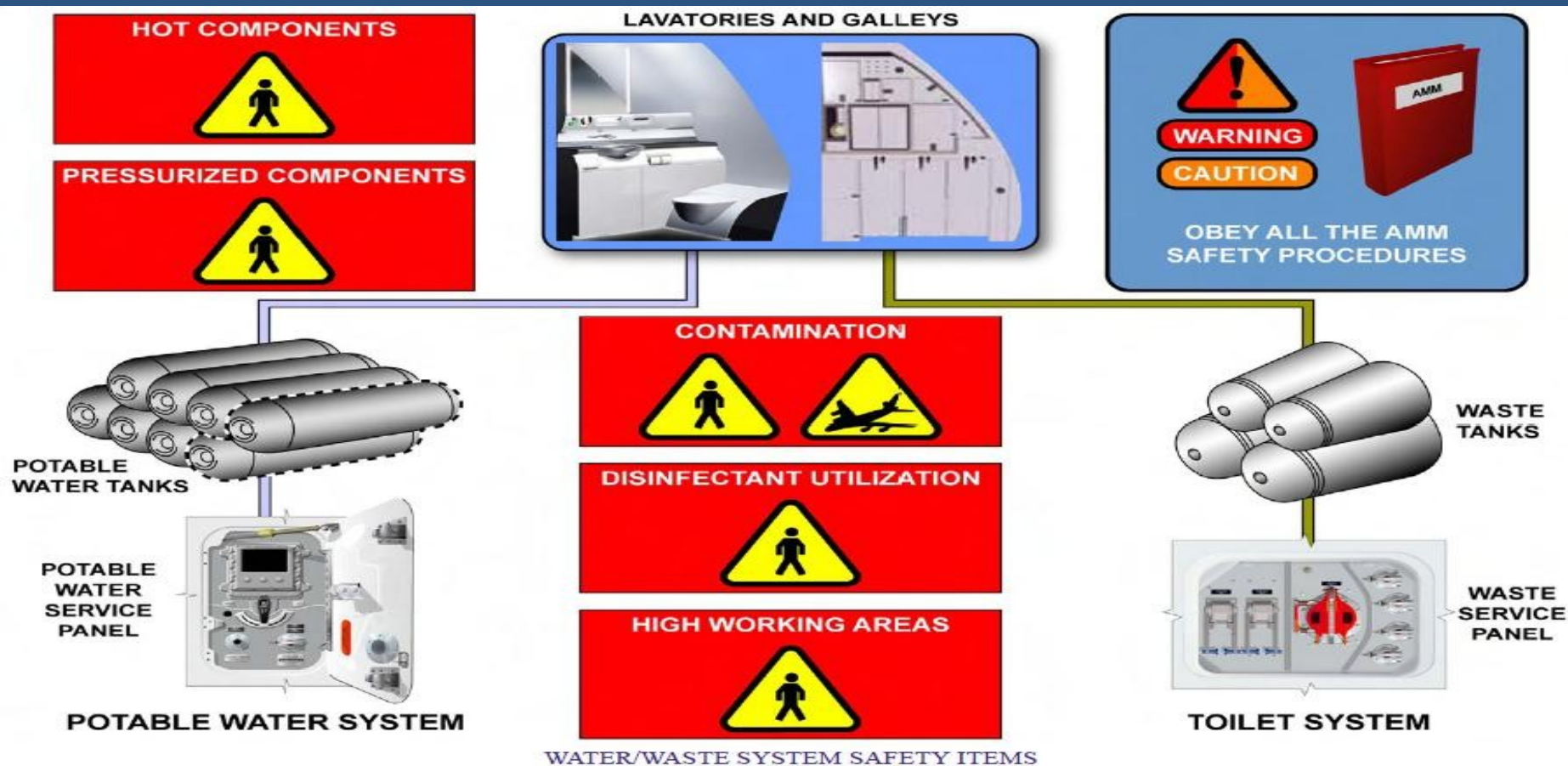
STEP 7: aircraft disinfection

Overview Cabin Environment in relation to Hygiene





Water/Waste System: Maintenance Aspects



For Maintenance, Service (Filling/Draining) & Disinfection the Safety Procedures in the Aircraft Maintenance Manual have to be considered !





Disinsection

- Aerosols

Disinfection

- KI-ose aerosol
- Single tissue
- Toilet sanitary
 - Powder
 - Liquid

Air Perfume & Odor Control

- Airfreshener/Air Perfume
- Aircraft Odor/Lav'Odor

Cleaner

- Antistatic instrument cleaner
- Label residue remover

Crew

- KI-Ose Aseptik
- KI-Ose Dry Hands



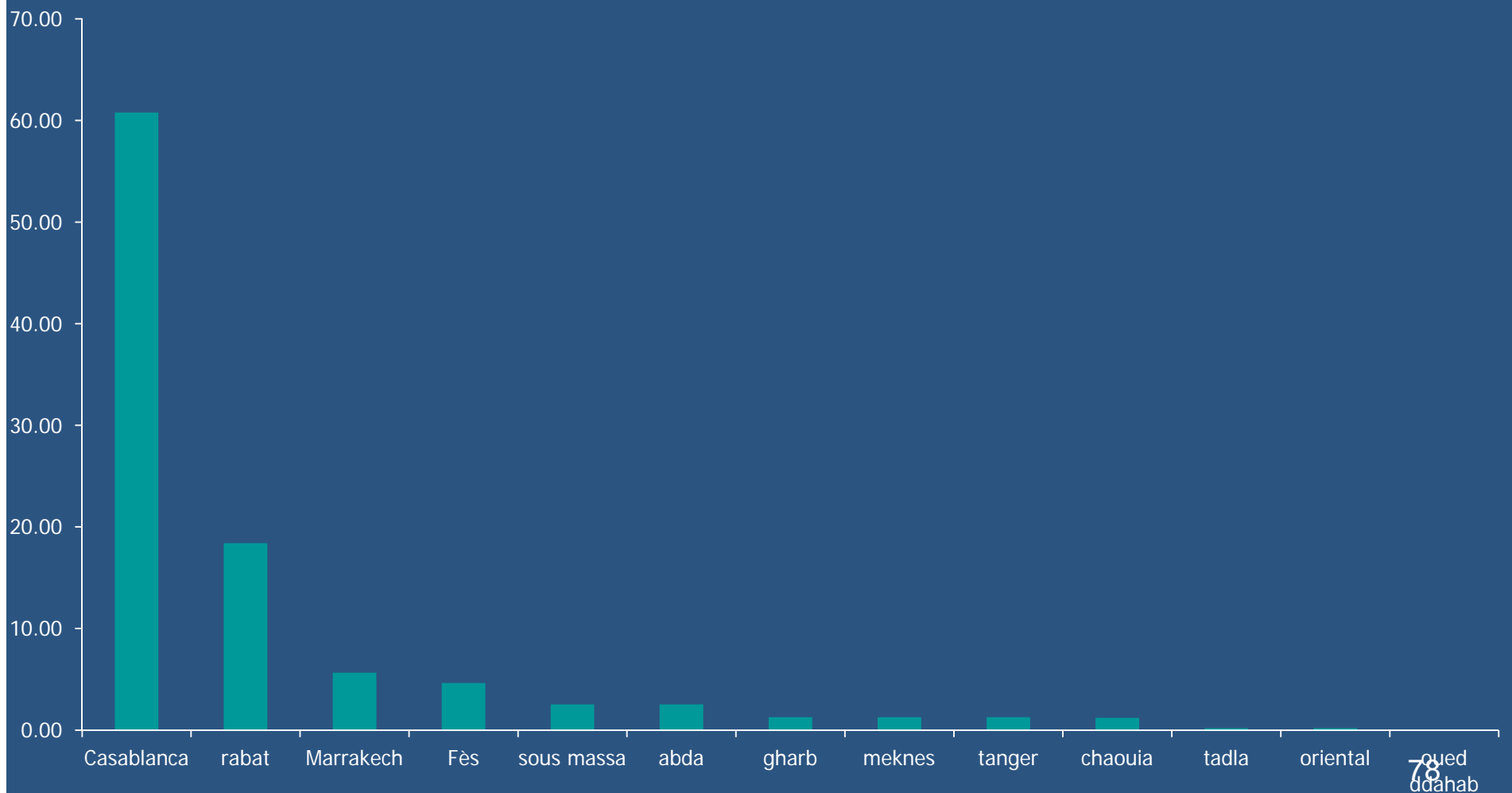


Aldehydes, peracetic acid, oxygen separators, etc.....
Même pour la décontamination

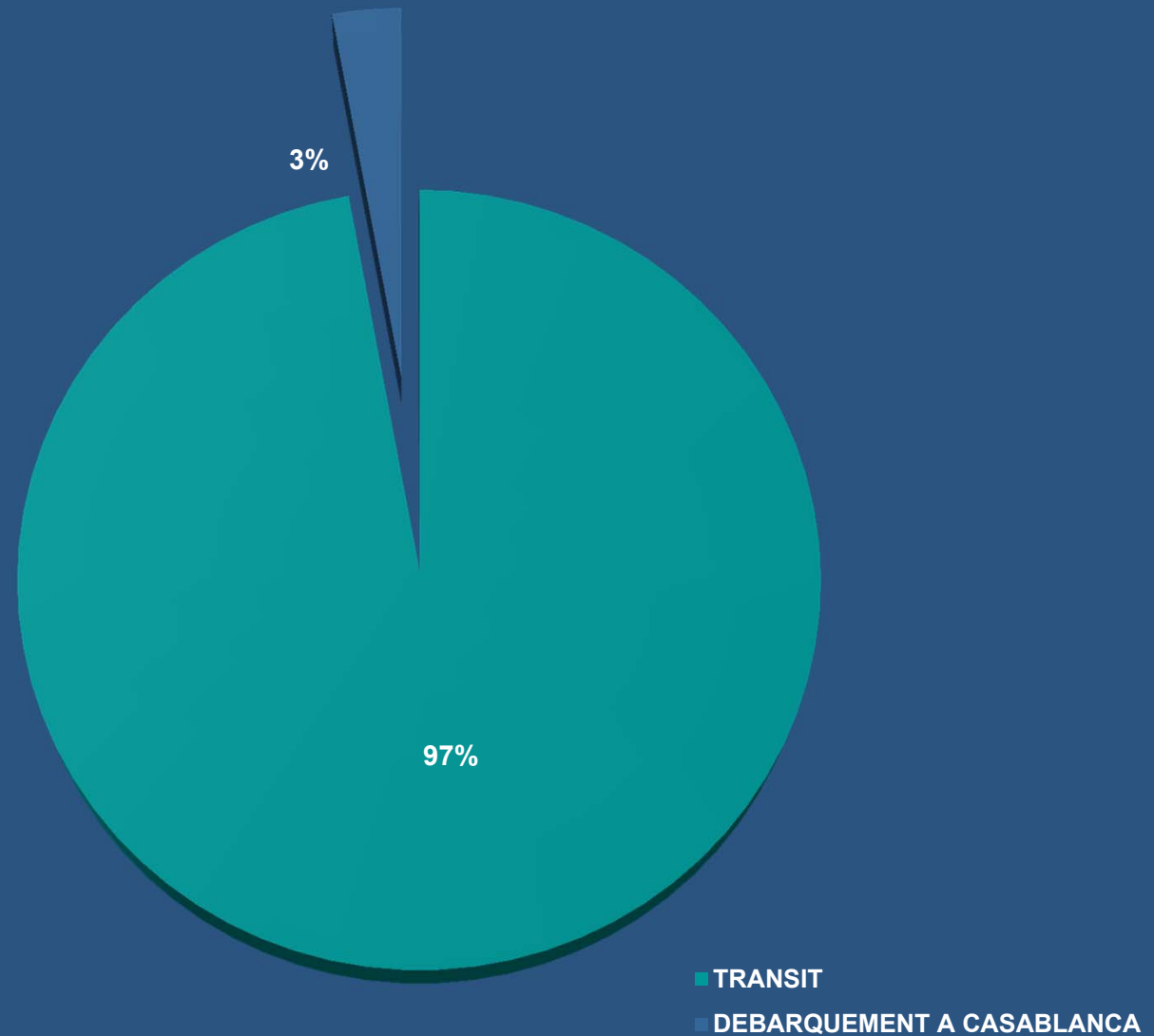


Substances sporogéniques

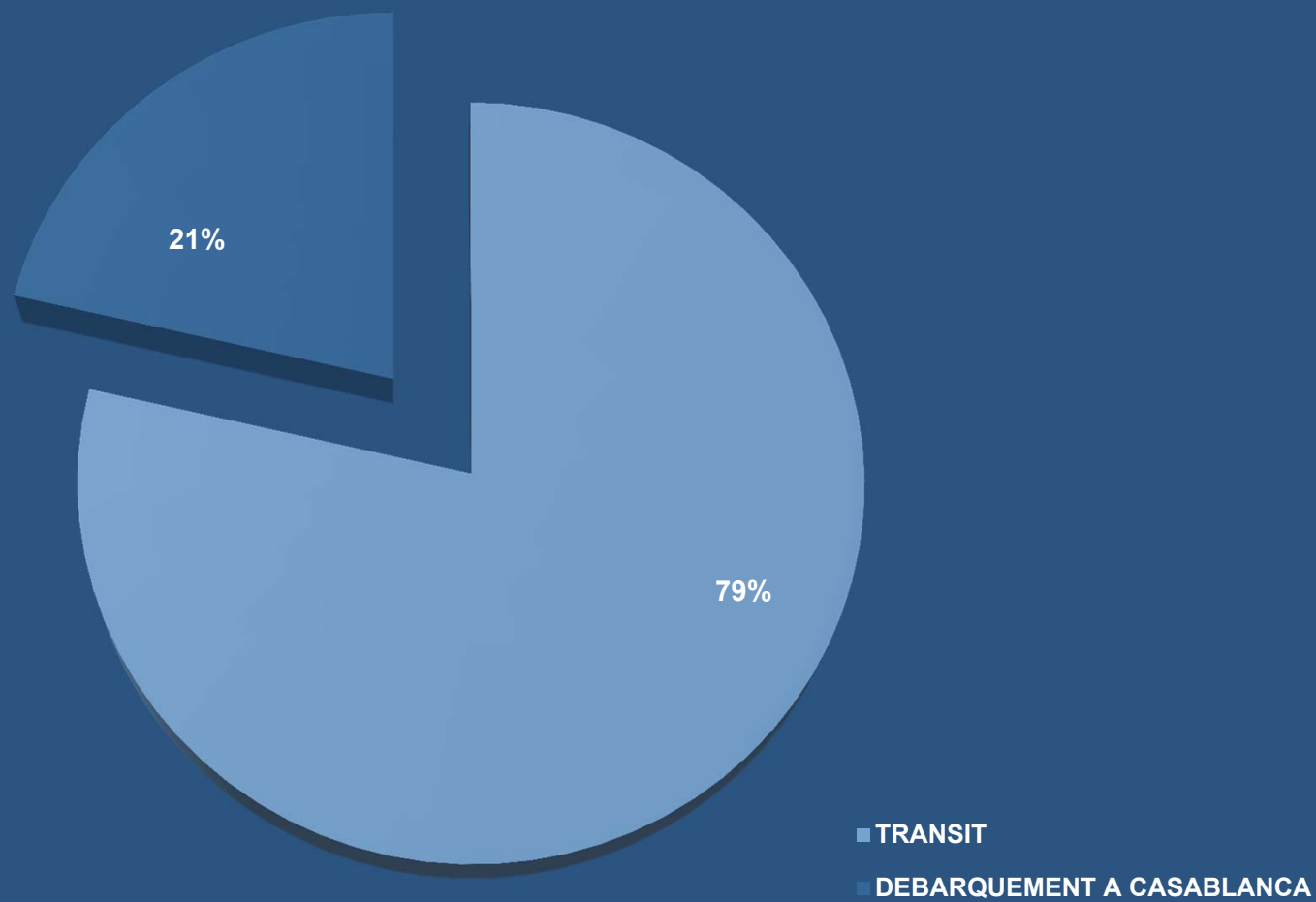
PROVINCES OF DESTINATION IN PERCENTAGE



**Distribution of the passengers taking the flight
FREETOWN-MONROVIA-CASABLANCA
September-October 2014**

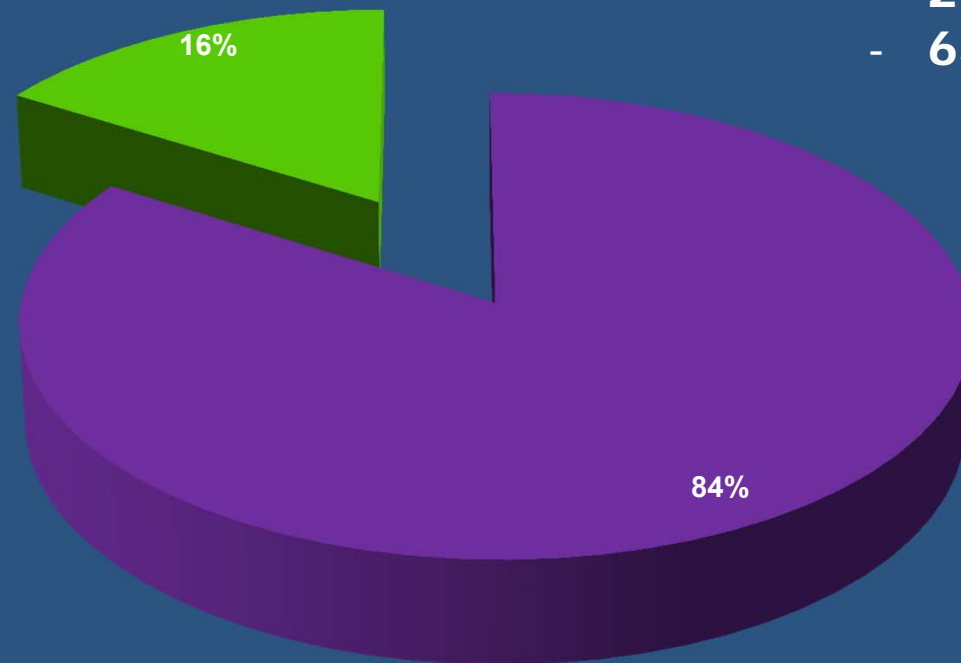


Distribution of passengers taking the flight CONAKRY-CASABLANCA



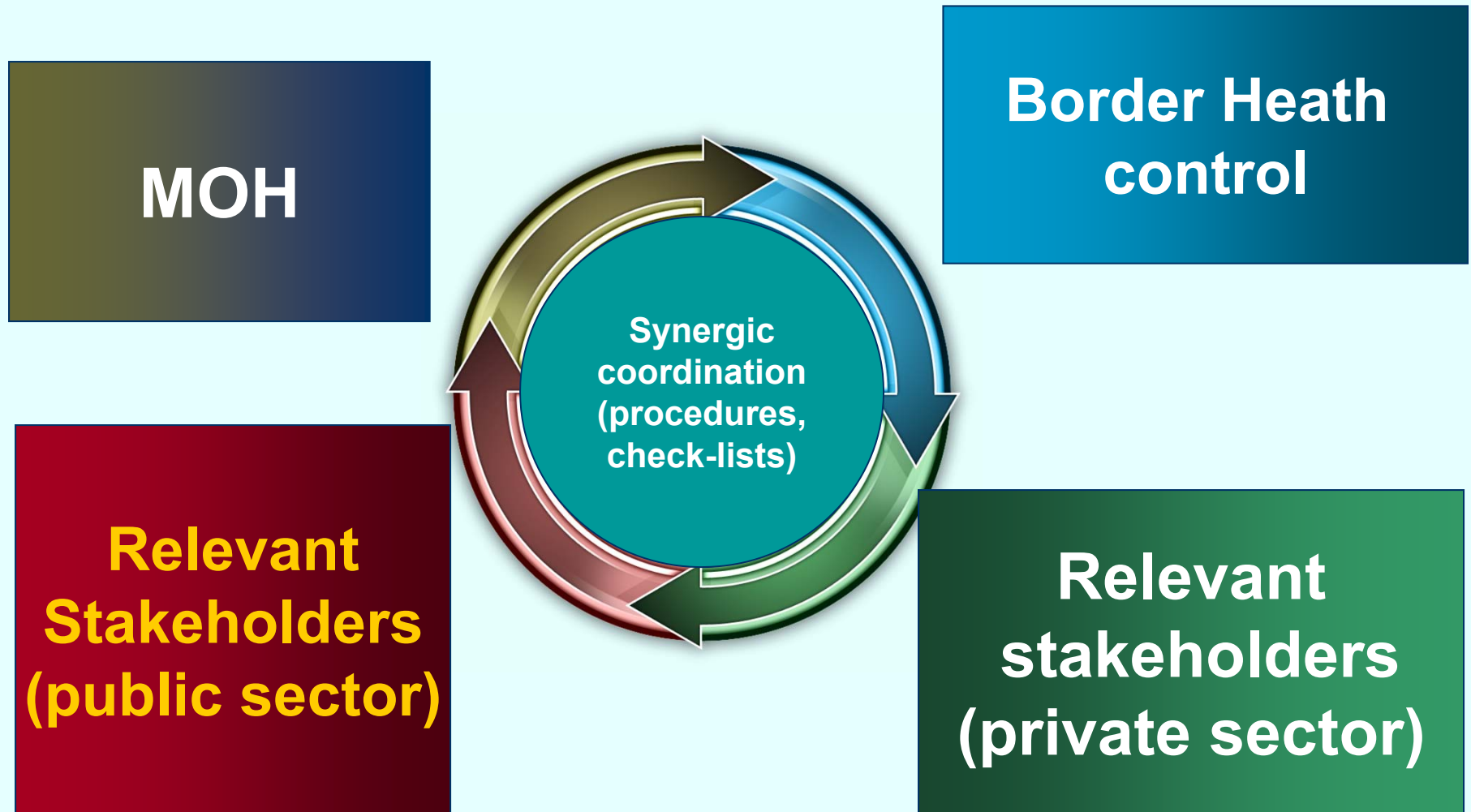
**Distribution of passengers taking different flights from
countries affected by EBOLA
from 8 april to 8 November 2014**

- 35597 Passengers
- 29252 Stop overs
- 6345 staying in Morocco



■ TRANSIT ■ DEBARQUEMENT A CASABLANCA

IN CONCLUSION



HEALTH SAFETY



THANK YOU