Ebola járványra történő felkészülés kihívásai és tapasztalatai hadműveleti területen

XV. MAGYAR SÜRGŐSSÉGIORVOSTANI KONGRESSZUS

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Learning Objectives:

At the conclusion of this activity, the participant will be able to:

1. Learn about best promising practices in **risk assessment and risk management**
2. **Understand the challenges** casued by differences in risk acceptance by troop contributing nations
3. Outline possible **courses of action** for similar challenges

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INDIAN OCEAN
AFRICA
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NIGERIA
SOUTH SUDAN
CENTRAL AFRICAN REPUBLIC
CAMEROON
BANGUI
GABON
CONGO
DEMOCRATIC REPUBLIC OF CONGO
UNION EUROPÉENNE
EUFOR RCA
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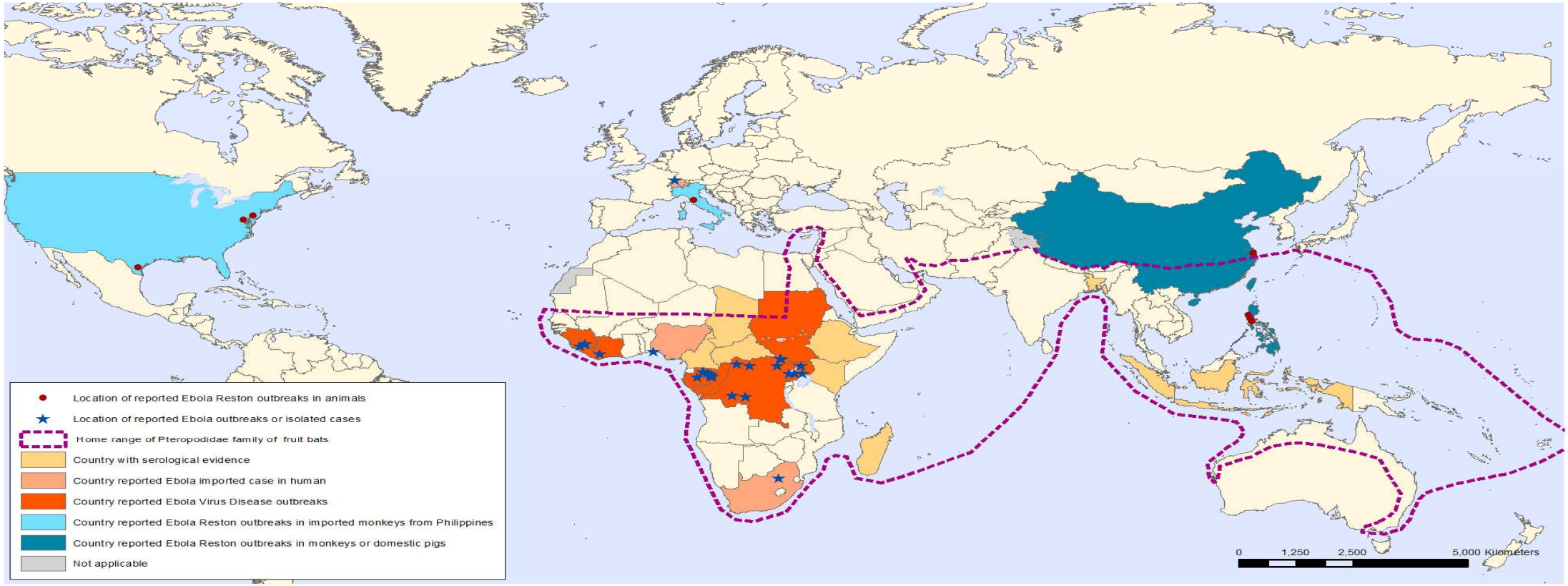
NESCAFÉ
BOB MARLEY

Geographic distribution of Ebola virus disease outbreaks in humans and animals



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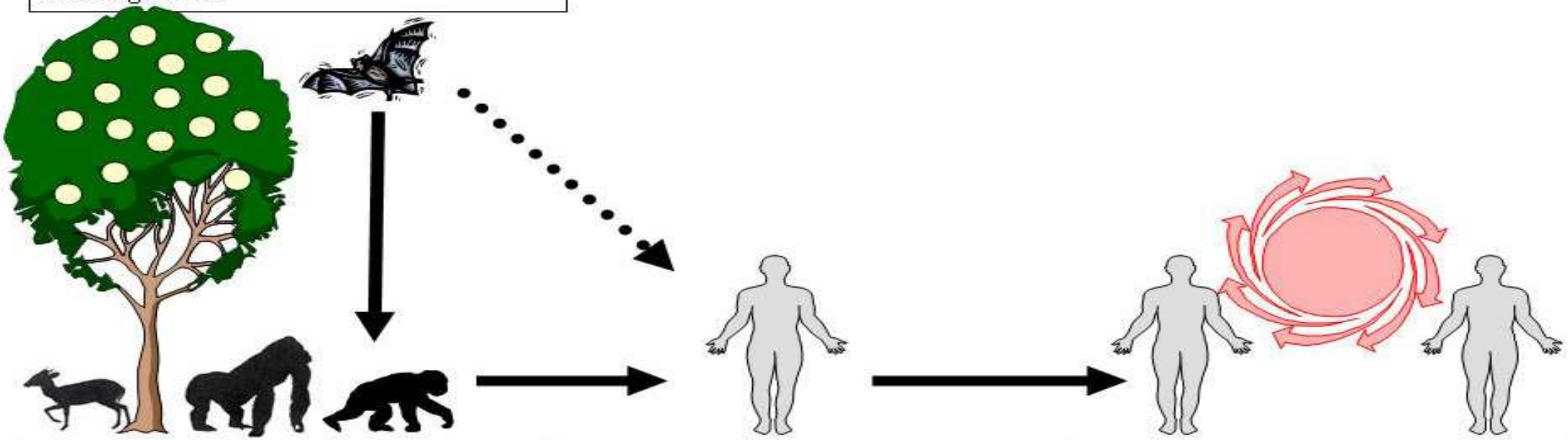
Data Source: World Health Organization
Map Production: Health Statistics and Information Systems (HSI)
World Health Organization

World Health Organization

EBOLA

1. Réservoir du virus: les chauves-souris frugivores

Le virus se maintient dans les populations de chauves-souris frugivores. Les chauves-souris assurent la dissémination du virus pendant leurs migrations.



2. Epizootie chez les primates

Les chauves-souris frugivores infectées entrent en contact direct ou indirect avec d'autres animaux qu'elles contaminent provoquant parfois des épidémies de grande ampleur chez les gorilles, les chimpanzés, d'autres singes et d'autres mammifères (par exemple les antilopes de forêt)

3. Infection primaire humaine

L'homme se contamine soit par contact direct avec les chauves-souris infectées (événement rare), soit lors de la manipulation d'animaux infectés trouvés morts ou malades dans la forêt (plus fréquent).

4. Transmission secondaire

La transmission secondaire d'homme à homme se fait par contact direct avec le sang, les sécrétions, les organes ou des liquides biologiques des sujets infectés. Risque important de transmission au cours des soins au malade ou lors de la prise en charge du défunt (funérailles).

Risk of EVD
for EUFOR personnel

- **Low**
  - No direct contact with EVD patients
  - No confirmed, suspected or possible case in CAR

Phases of Response

Phase	Features	Measures
0	No EVD in CAR	- Information gathering - Planning - Coordination
1	Confirmed EVD in CAR	- Procurement, preparation - Coordination
2	Confirmed EVD in Bangui	- Raising awareness among soldiers - Infection prevention measures
3 4	Confirmed EVD in ECOLOG Confirmed EVD in EUFOR	- Requesting assistance (RDOIT*) - Infection control measures

*RDOIT – Rapid Deployable Outbreak Investigation Team

Risk Management, General Concept

Prevent

Epidemics to happen
(educate, train, build stockpiles and prepare)

Detect

Suspected and possible cases
(screen health status of people entering UCATEX)

Respond

Fast and effectively to the disease
(to prevent spreading and save the patients)

Elements of Successful Management

- **Fast detection**
  - Vigilance (medical intelligence)
  - Awareness (medical personnel, both EUFOR and ECOLOG)
  - Laboratory background (Institute Pasteur Bangui)
- **Fast reaction**
  - Medical personnel
  - Material (personal protective equipment, consumables)
  - Infrastructure (isolator)
  - Strategy (quarantine, isolation, care, treatment, evacuation)
  - Security


UNION EUROPÉENNE
EUFOR RCA
République
centrafricaine
Institute Pasteur Bangui

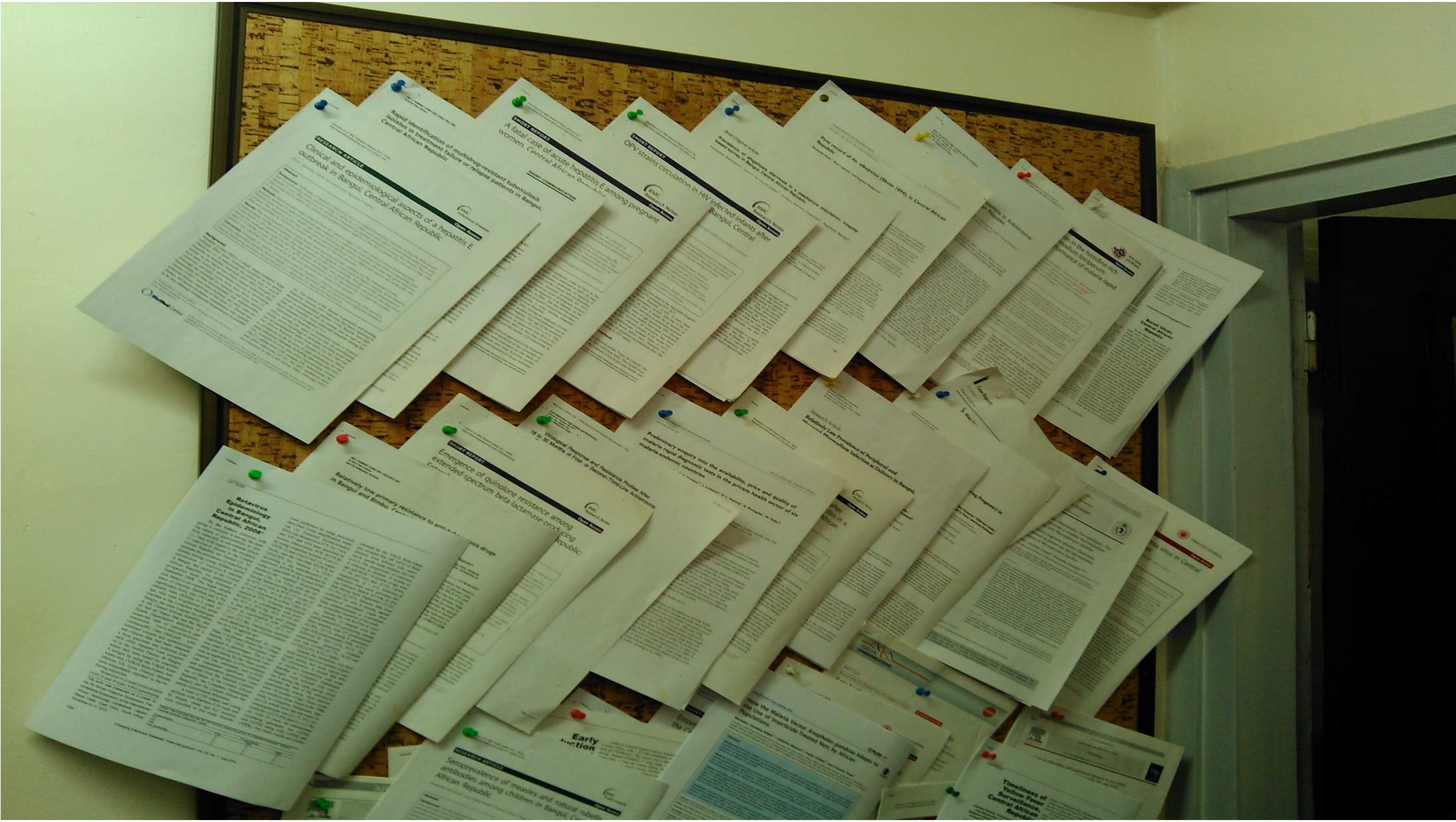
History

- Established in 1961
- Part of a network of 32 Institutes
- Budget
  - France (ministry of Health)
  - Donations


qualité, à la lutte contre les maladies infectieuses directement dans les pays où elles apparaissent.
Son souhait et celui des directeurs qui lui ont succédé était que ces instituts de recherche contribuent à une recherche de valeur «mondiale» mais aussi à protéger les populations locales et à former des chercheurs sur place pour en assurer la pérennité : ce sont aujourd'hui pour la plupart des instituts de recherche et de santé publique indépendants et insérés dans leurs contextes nationaux.
Il s'agit donc d'un réseau de partenariat volontaire et uni par des valeurs communes, qui se distingue par la qualité du travail qui s'y réalise, liée aux échanges nombreux des idées, des personnes, des connaissances et du savoir. L'Institut Pasteur à Paris en assure le secrétariat général et l'animation.
Institut Pasteur, Paris, France
(fondé en 1887)
Biologie cellulaire et infection, Biologie du développement, Biologie structurale et chimie, Génomes et génétique, Immunologie, Infection et épidémiologie, Microbiologie, Neuroscience Parasitologie et mycologie, Virologie
Institut Pasteur de Lille, France
(fondé en 1894)
Maladies infectieuses, risques cardiovasculaires, cancers, Alzheimer, diabète, allergie, Hygiène et environnement
Institut Pasteur - Fondation Cenci Bolognetti, Rome, Italie
(fondé en 1976)
Europe
Institut Pasteur Hellénique, Grèce
Institut Cantacuzène, Roumanie
Réseau International des Instituts Pasteur
Asie-Pacifique
Saint-Pétersbourg
Laval
Bruxelles
Paris
Bucarest
Sofia
Rome
Athènes
Casablanca
Alger
Tunis
Téhéran
Shanghai
Pointe-à-Pitre
Dakar
Niamey
Yaoundé
Bangui
Abidjan
Cayenne
Rio de Janeiro
Montevideo
Amériques
Institut Pasteur de la Guyane
(fondé en 1940)
Institut Pasteur de la Guadeloupe
Institut Pasteur de Montevideo
Institut Armand Frappier, Canada
Maghreb - Iran

Medical personnel

- **9 physicians**
  - All graduated in France
  - All PhD degree
  - Numerous scientific publications


Clinical and epidemiological aspects of a hepatitis E outbreak in Bangui, Central African Republic
A fatal case of acute hepatitis E among pregnant women, Central African Republic
OPV strains circulation in HIV infected infants after
Emergence of quinolone resistance among extended-spectrum beta-lactamase-producing
Rotavirus Epidemiology in Bangui, Central African Republic, 2008
Seroprevalence of measles and natural rubella antibodies among children in Bangui,
Timeliness of Yellow Fever Surveillance, Central African Republic

Capabilities

- Bio Safety Level 2 and 3 laboratory
- Survey and reference laboratory
  - For RCA
  - Regionally


STERIL-ANTARES
STATUS
MUTE
HANDLE WITH CARE

Ebola Virus Disease detection

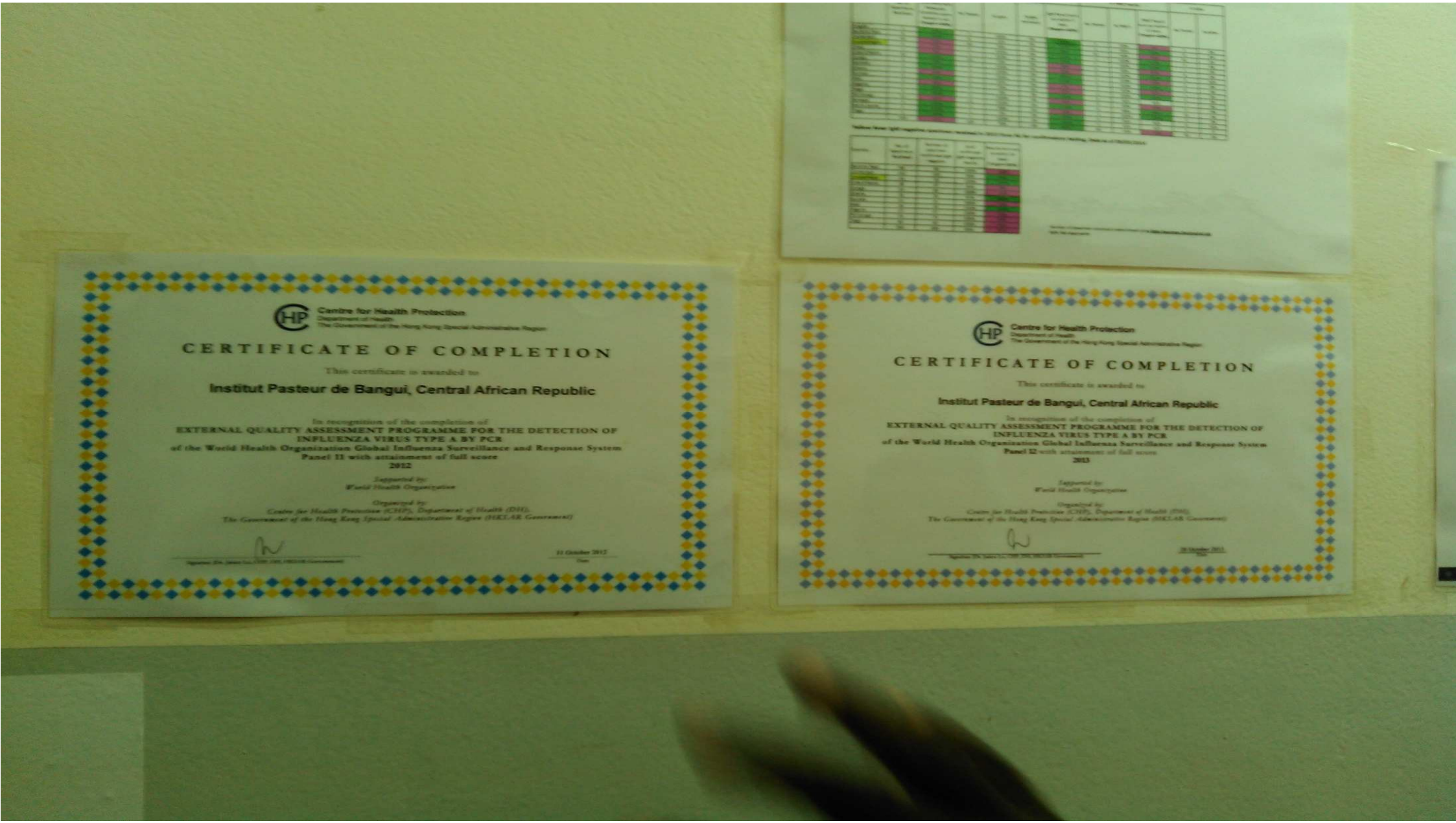
- **Double technique**
  - PCR method
  - Genetic material detection
- **Results** (as of Aug 19, 2014)
  - Five suspected samples
  - All proved to be negative

Real PCR

- US CDC donation
- ≈ 15 000 USD

Quality Assurance

- **Internal audit**
  - Procedures
  - Training and selection of medical personnel
    - Education and training of local students
- **External audit**
  - Through the network of institutes



Centre for Health Protection
Department of Health
The Government of the Hong Kong Special Administrative Region

CERTIFICATE OF COMPLETION

This certificate is awarded to

Institut Pasteur de Bangui, Central African Republic

In recognition of the completion of
EXTERNAL QUALITY ASSESSMENT PROGRAMME FOR THE DETECTION OF INFLUENZA VIRUS TYPE A BY PCR
of the World Health Organization Global Influenza Surveillance and Response System
Panel 11 with attainment of full score
2012

Supported by:
World Health Organization

Organized by:
Centre for Health Protection (CHP), Department of Health (DH),
The Government of the Hong Kong Special Administrative Region (HKSAR Government)

11 October 2012
Date

Centre for Health Protection
Department of Health
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Panel 12 with attainment of full score
2013

Supported by:
World Health Organization

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The Government of the Hong Kong Special Administrative Region (HKSAR Government)

- **Cooperation framework outlined**
  - Exchange of information
  - Notification about viral emergency cases
    - If a confirmed EVD in RCA or Bangui appears
  - Laboratory support

- **Point of Contact**
  - **Emmanuel NAKOUNE, PhD**
    Director of IPB
    enakouney@gmail.com


Institut Pasteur
de Bangui
EBOLA VIRUS DISEASE:
EMERGENCE - SPREAD
By
Dr. Emmanuel NAKOUNE YANDOKO
Director of IPB
rbovirus, Viral Hemorrhagic Fevers, emerging
viruses and Zoonoses Unit


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l practices
n CAR

Cooperation and Coordination

- Local

  SANGARIS Mission

  - ECOLOG
  - NGOs
  - Ministry of Health
  - Institute Pasteur Bangui

- Regional

  EUTM- Mali

  - WHO Regional Office

- Global

  EUFOR RCA HQ Larissa, Greece; EU HQ Brussels; TCNs

  - WHO

Window of Opportunity

Open until the first EVD case appears in Bangui

- planning
- coordinating
- procuring
- preparing

Task Force Responsibility

- **Use the window of opportunity effectively**
  - monitor & assess the situation
  - explore and prioritize tasks
  - develop possible courses of action & advise the Cdr

- **Isolation of sick**

  - Isolator
    (select location, build and equip)

    •Until STRATEVAC, recovery, or death

- **Treatment**

  - Personnel, equipment, material

- **Quarantine of the contacts**

  - Select location, build, equip
  - Security (guard)
  - Real life support

Nr.	Phase	Characteristics	
0	No confirmed EVD in RCA	Impact	No impact on mission accomplishment. EUFOR is a stabilizing factor in the area of operation.
	Major issues	Planning Medical Intelligence Cooperation Awareness Procurement	

Nr.	Phase	Characteristics	
4	Confirmed EVD among EUFOR personnel	Impact	Mission accomplishment is severely hampered, or impossible. EUFOR becomes part of the problem, and requires robust external support.
	Strategic issues	Can the mission be continued? Are EVD patients to be evacuated, or treated on the spot? Messages to be delivered to target populations.	

Courses of Action

- **Patient management**

  Treatment or Evacuation

- **Treatment options**

  In the theatre or out of it

- **Impact on mission**

  Adaptation options

- **TCNs policy requirements and capabilities?**

  - STRATEVAC or Stay-and-Play
    - Capacities and readiness
    - Augmentation
    - Medical resupply

STRATEVAC of the EVD case out of the theater

- **Probability:** **Medium to High**

- **Advantages:** **both for the patient and us**
- **Disadvantages:** **N/A**

- **Precondition:** **decision,**
  appropriate & available STRATEVAC

Evacuation for treatment to Role-2

- **Probability:** Low
- **Advantages:** both for the patient and us
- **Disadvantages:** Role-2 blocked
- **Precondition:** SANGARIS agreement

Augmentation of EUFOR medical staff by SANGARIS or TCNs

- **Probability:** **Medium**

- **Advantages:** **both for the patient and us**
- **Disadvantages:** **weakening of Role-2**

- **Precondition:** **available intensive care personnel**

Evacuation of EVD cases for treatment to a local hospital

- **Probability:** Low

- **Advantages:** questionable
- **Disadvantages:** low level treatment

- **Precondition:** appropriate & available hospital

Barrier nursing of the EVD patient in UCATEX compound

- **Probability:** **Medium**

- **Advantages:** **Forced compromise**
- **Disadvantages:** **Negative treatment outcome**

- **Forcing condition:** **no augmentation available**

Closing the mission before Phase 3

- **Probability:** **?**

- **Advantages:** **no risk**
- **Disadvantages:** **psychological effect &**
  possible political consequences

- **Precondition:** **in time political decision &**
  available transport capacities

Lessons

- Differences in Risk Acceptance by TCNs prevents common approach to risk management.
- Risk management requires engagement of the command staff (Ebola Task Force).
- Information, planning, education, cooperation, training, logistics – key elements of risk management.

Questions

Thank you!

COL Dr Zoltan VEKERDI
Medical Advisor, EUFOR RCA