EBOLA VIRUS DISEASE (EVD) – RELATED ACTIVITIES AT ICPIC 2015

At ICPIC 2015, there will be a large number of activities related to Ebola virus disease (EVD). Due to the unique experience of field workers and scientific experts present at ICPIC 2015, and considering the large demand, the organizers and scientific committee members are glad to inform ICPIC participants about the many activities around EVD that will take place during ICPIC 2015.

Ebola virus disease will be addressed:

- *at the pre-ICPIC workshop "Ebola: Hands On" on Tuesday 16 June (10:00 to 16:50) in the presence of more than 30 field experts and faculties. The "Ebola: Hands On" workshop is free for ICPIC participants*
- *at the Opening Ceremony*
- *during ICPIC at MTE, symposium, poster and poster rounds sessions (see below)*

We are convinced that ICPIC participants will get the best insight and advice on Ebola virus disease out of these activities.

ICPIC scientific organizing committee

ICPIC – Pre-meeting workshop – June 16, 2015 (10:00-16:50)
EBOLA - HANDS ON

Field experiences with Ebola virus disease in West Africa (10:00-12:45)
Moderators : Prof. Benedetta Allegranzi ; Prof. Babacar Ndoye

1) Ebola epidemic in West Africa and WHO Ebola response roadmap (10:00)
   Dr. Edward Kelley, Service Delivery & Safety, WHO, Geneva
2) Using the core components of infection control programmes during the Ebola outbreak
   Dr. Sergei Eremin, medical officer, WHO, Geneva (10:25)
3) Main lessons from Médecins-Sans-Frontières (MSF) engagement (10:50)
   Dr. Esther Sterk & Hugues Robert, Médecins-Sans-Frontières (Doctors without Borders), MSF Switzerland
4) Ebola control in Guinea: the importance of interaction between physicians and anthropologists (11:15)
   Prof. Babacar Ndoye, Senegal and WHO/UNDP consultant in Africa
5) Engaging the community and community leaders (11:35)
   Dr. Frederick Marais, South Africa
6) Coordinating the Ebola response in Sierra Leone: a UK perspective (11:55)
   Donal Brown, Global Funds Department, UK Department for International Development; former Head of the UK Ebola taskforce in Sierra Leone
7) Concrete field actions by the Swiss Government in West Africa (12:15)
   Dr. Olivier Hagon, humanitarian assistance, Geneva

Final Q & A period (12:30 to 12:45)
With the participation of all speakers and Gennifer Garland, Dr Natalia Ribeiro and Prof Jorge Pérez who have been in direct contact with the management of Ebola cases at field, hospital or public health levels in Africa

Lunch break (12:45-13:15)

Understand, Control and Treat Ebola virus disease (13:15-16:50)
Experiences based on handling Ebola virus disease in Geneva, New York, Washington and Africa
Moderators : Prof. Laurent Kaiser; Prof. Claire-Anne Siegrist

1) What's new about the diagnosis and treatment of Ebola virus? (13:15)
   Prof. Laurent Kaiser, Virology and Infectious Diseases, Geneva
2) HIV and Ebola virus: two jumped species but not two of a kind? (13:40)
   Prof. Alexandra Calmy, Head of HIV unit, Geneva
3) How different is it to treat Ebola in Sierra Leone versus Geneva? (14:00)
   Dr. Manuel Schibler, infectious diseases physician, Geneva
4) What are the main lessons learned for infection control? (14:20)
   Prof. Benedetta Allegranzi, Service Delivery & Safety, WHO
5) What are the challenges for the critical care physician? (14:45)
   Prof. Jérôme Pugin, Head of Critical Care, Geneva
6) What were the difficulties in caring for a very critically ill Ebola patient at the National Institutes of Health Clinical Center in Washington? (15:10)
   Dr. David Henderson, National Institutes of Health (NIH) Clinical Center, Washington DC
7) What are the complications of Ebola virus disease in survivors? (15:35)
   Dr. Pauline Vetter, infectious disease fellow, Geneva
8) Where do we stand with Ebola vaccines? (15:55)
   Prof. Claire-Anne Siegrist, Center for Vaccinology and WHO Collaborating centre for Vaccine Immunology, Geneva

Final round table discussion (16:20-16:50)
With the participation of all speakers and Dr Daniel Koch, Federal Office for Public Health, Switzerland, Pierre Brennenstuhl, Gennifer Garland, Claude Ginet, Dr Anne Iten, Dr Natalia Ribeiro, Prof Michael Tapper, Prof Jorge Pérez, Prof Didier Pittet who have been in direct contact with the management of Ebola cases at field, hospital or public health levels in Africa, in Europe and in the USA

- **Perspectives on the financing of Ebola vaccines and approaches for their effective deployment.**
  Introduced by Donal Brown, Global Funds Department, UK Department for International Development; board member of Gavi, the Vaccine Alliance (Gavi) and the Global Fund the Fight AIDS, Tuberculosis and Malaria

- **New horizons for the treatment of Ebola virus disease in Africa and elsewhere.**
  Introduced by Laurent Kaiser, Head of Virology and Infectious Diseases, University of Geneva Hospitals and Faculty of Medicine

- **Treatment of all Ebola virus diseases by world experts in state-of-the-art hospitals in Africa.**
  Introduced by Edward Kelley, Director, WHO Service Delivery and Safety, Health Systems and Innovation, WHO, Geneva

The pre-ICPIC workshop "EBOLA: HANDS-ON" was made possible through an unrestricted educational grant provided by SARAYA

ICPIC – Faculties participating in Pre-meeting workshop – June 16, 2015 (10:00-16:50)

EBOLA - HANDS ON

Faculties

Prof Benedetta Allegranzi, Team lead, Clean Care is Safer Care programme, WHO Service Delivery & Safety and Infection Prevention & Control for Ebola response, WHO, Geneva. Benedetta is involved in all activities associated with infection control in regards to Ebola virus disease and is conducting repeated missions in West Africa.

Pierre Brennenstuhl, Head nurse, Nursing Department and delegate of the CEO office in charge of security, coordinator of the Ebola cell, University of Geneva Hospitals. Pierre has been involved in the coordination of the development and adaptation of HUG procedures for Ebola virus disease management and control at HUG and in the management of an Ebola patient in Geneva.

Donal Brown, Director of the Global Funds Department (GFD), UK Department for International Development (DFID), based in Geneva. Donal is a Board member of the Global Fund to Fight AIDS, Tuberculosis and Malaria, and Gavi, the Vaccine Alliance. Donal is the former Head of the UK Ebola taskforce in Sierra Leone. Donal led the UK civilian and military response to Ebola in Sierra Leone, coordinating the response at national and district level.

Prof Alexandra Calmy, Head of HIV Clinic, infectious diseases physician, University of Geneva Hospitals and Faculty of Medicine. Alexandra has been involved in clinical care of Ebola patients in Sierra Leone.

Dr Sergey Eremin, medical officer, WHO Pandemic and Epidemic Diseases, WHO, Geneva. Sergei has been one of the leaders of the Infection Prevention & Control team for the Ebola response and has been engaged in the development of WHO recommendations for Ebola infection control.

Jennifer Garland, nurse, Partners In Health. Jennifer worked in the Maforki Ebola treatment unit & in the Port Loko Government Hospital and cared for dozens of patients infected with Ebola virus disease. She also witnessed conditions associated with possible nosocomial EVD infections among colleagues and medical evacuations out of Sierra Leone.

Claude Ginet, Head nurse, Infection Control, University of Geneva Hospitals. Claude has been involved in the management of an Ebola patient in Geneva.

Dr Olivier Hagon, Medical director, humanitarian assistance, University of Geneva Hospitals. Olivier is engaged in humanitarian assistance and missions in Liberia and Guinea.

Dr David Henderson, Deputy Director for Clinical Care, National Institutes of Health (NIH) Clinical Center, Washington DC. David has provided executive leadership for the team that has provided care for four patients who were either exposed to, or suffering from Ebola virus disease at NIH, including a very sick, critically ill patient.

Dr Anne Iten, Infection Control physician, University of Geneva Hospitals (HUG). Anne has been involved with the development and adaptation of HUG infection control procedures and WHO guidance documents for Ebola control. Anne was involved in the management of an Ebola patient in Geneva.

Prof Laurent Kaiser, Head of Virology and Infectious Diseases, University of Geneva Hospitals and Faculty of Medicine. Laurent has been involved in clinical care, and laboratory and clinical procedures associated with the management and treatment of an Ebola patient in Geneva, as well as missions in Liberia.

Dr Ed Kelley, Director, Service Delivery and Safety, Health Systems and Innovation, WHO Headquarter. Ed is involved in all activities associated with service delivery and patient safety in regards to Ebola virus disease and WHO Ebola response and is conducting repeated missions in West Africa.

Faculties (continued)

Dr Daniel Koch, medical officer, Federal Office for Public Health, Switzerland. Daniel is engaged in the evaluation of the preparedness of the Swiss hospitals and public health system to Ebola response.

Dr Frederick Marais, Western Cape government & Stellenbosch University, South Africa. Frederick and his research team have developed a "community protocol" to engage the community and community leaders in Ebola control.

Prof Babacar Ndoye, Dakar, Senegal. Expert in infection control and microbiology, and consultant for the WHO. Babacar received the mission to evaluate health-care systems in Guinea and Liberia, where he visited most hospitals and provided bedside expertise on Ebola control.

Prof Jorge Pérez, Director General, Pedro Kouri Institute for Tropical Medicine, Havana, Cuba. Jorge is in charge of the programme to train and dispatch Cuban doctors to fight Ebola in West Africa.

Prof Didier Pittet, Head of Infection Control and WHO Collaborating Centre on Patient Safety, HUG. Didier is involved in activities associated with the development of WHO guidelines and guidance documents for Ebola control. Didier was involved in the management of an Ebola patient in Geneva.

Prof Jérôme Pugin, Head of Critical Care, University of Geneva Hospitals and Faculty of Medicine. Jérôme has been the physician in charge of the patient with Ebola virus disease transferred from Sierra Leone to the University of Geneva Hospitals.

Dr Natalia Ribeiro, Head of Infectious Disease, Hospital S. Joao, Porto and WHO consultant in Infection Prevention and Control. Since November 2014, Natalia has conducted several missions for WHO in Makeni working in both Ebola and Non-Ebola healthcare facilities and in Freetown providing external quality assessments and improvement in Ebola outcare units. She is currently responsible for 23 Ebola units operating in different phases in Serra Leone.

Hugues Robert, Emergency Program Manager, Médecins-Sans-Frontières (Doctors without Borders), MSF, Switzerland. Hugues is an expert of the management of complex emergencies for more than 10 years. Hugues is involved in the management of Ebola outbreak response in West Africa and has been engaged in several field missions.

Dr Manuel Schibler, virologist and infectious diseases physician, University of Geneva Hospitals. Manuel has been involved in clinical care and laboratory procedures associated with the management of Ebola patients in Geneva and Sierra Leone.

Prof Claire-Anne Siegrist, Centre for Vaccinology, University Hospitals of Geneva and WHO Collaborating centre for Vaccine Immunology. Professor of Medicine, Director of the Departement of Pediatrics at the University of Geneva, Claire-Anne is the principal investigator of the Ebola-VZV vaccine clinical trial.

Dr Esther Sterk, one of the leading specialists on Viral Hemorragic Fever within Médecins-Sans-Frontières (Doctors without Borders), MSF, Switzerland. Esther has worked in four previous Ebola outbreaks between 2007 and 2012 (DRC, Uganda). She worked both in the field (Liberia and Guinea) and from MSF Headquarters in Geneva in the ongoing West African outbreak.

Prof Michael Tapper, Director, Division of Infectious Diseases, Lenox Hill Hospital, New York, USA. Michael is a member of the CDC's HICPAC which edited the CDC's guidance documents on the care of suspect and confirmed Ebola patients in the USA. Michael also served as a member of the advisory group of the New York City Dep. of Health to advise on infection control challenges associated with the return of an Ebola infected physician from Liberia to New York City.

Dr Pauline Vetter, infectious disease fellow, University of Geneva Hospitals. Pauline has been involved in clinical care and laboratory, clinical and infection control procedures associated with the management of Ebola patients in Geneva and in Africa.

ICPIC Opening Ceremony

Welcome (17:00)

- Bertrand Levrat, CEO, HUG (17:05)

- Mauro Poggia, Ministry of Health, Canton of Geneva (17:10)

- Daniel Koch, Federal Office for Public Health, Switzerland (17:15)

Welcome to ICPIC 2015 (17:20)
Prof. Andreas Voss, co-chair, ICPIC

Keynotes opening lectures (Moderators : Dr. Ed Kelley – Prof. Didier Pittet) (17:30)

Dr. Bruce Aylward, Special Representative of the Director-General, Ebola Response, and Assistant Director-General, Emergencies, WHO/HQ (17:30)

Surviving Ebola as patient and doctor (17:40)
Félix Baez, Ebola survivor, physician, voluntary member of the group of Cuban physicians engaged in Sierra Leone will be interviewed by his treating physician (Prof. J Pugin)

Facing Ebola and antimicrobial resistance : the WHO roadmaps (18:00)
Prof. Benedetta Allegranzi, lead, Patient Safety, WHO, Geneva

Sierra Leone commitment to infection control (18:15)
Nanah Sesay-Kamara, Ministry of Health and Sanitation, Sierra Leone

Is it time to reassess how antibiotics are used worldwide? (18:20)
Prof. Lindsay Grayson, Melbourne, Australia

A new Guinness World Record (18:40)
Prof. Didier Pittet, Geneva

Entertainment and Apéritif (18:50)

OTHER EBOLA VIRUS DISEASE (EVD) – RELATED ACTIVITIES AT ICPIC 2015

Wednesday 17 June 2015
08:00-08:50 Meet-The-Experts (MTE)
Ebola: how to put on and remove your personal protective equipment ?

Wednesday 17 June 2015
13:00-14:15 - Poster tour: Ebola virus disease

Wednesday 17 June 2015
14:30-16:00 - Slide session: Ebola virus disease

Thursday 18 June 2015
09:00-10:30 – Symposium
Lessons learned from the Ebola epidemic in West Africa

« Ebola Hands on » videos and practical workshops :

- A series of videos produced by WHO, the University of Geneva Hospitals, the WHO Collaborating Centre on Patient Safety, and the Infection Control Africa Network (ICAN) will be available for participants

- Practical « Hands-On » workshops and concrete demonstrations and exercises on dressing healthcare staff and using Personal Protective Equipment (PPE donning and dolfing) proposed by infection control experts who have been engaged in the management of real Ebola cases

- Practical workshops around the problems and difficulties of laboratory activities for the handling of Ebola cases in the field, both in Africa and in Geneva

- A MOOC on Ebola, prepared by the University of Geneva, which will be available in both French and English

EBOLA - BACKGROUND

The Ebola virus causes an acute, serious illness which is often fatal if untreated. Ebola virus disease (EVD) first appeared in 1976 in two simultaneous outbreaks in Sudan, and in the Democratic Republic of Congo. The latter occurred in a village near the Ebola River, from which the disease takes its name. The current outbreak in West Africa (where the first case was reported in Guinea in Dec 2013) is the largest and most complex Ebola outbreak since the Ebola virus was first discovered in 1976. There have been more cases and deaths in this outbreak than all others combined. It has also spread between countries, starting in Guinea then spreading across land borders to Sierra Leone and Liberia, by air (1 traveller only) to Nigeria, and by land (1 traveller) to Senegal. The most severely affected countries, Guinea, Sierra Leone and Liberia, have very weak health systems, lacking human and infrastructural resources, having only recently emerged from long periods of conflict and instability. On August 8 2014, Dr. Margaret Chan, the WHO Director-General, declared this outbreak a Public Health Emergency of International Concern.

The virus family Filoviridae includes 3 genera: Cuevavirus, Marburgvirus, and Ebolavirus. There are 5 species that have been identified: Zaire, Bundibugyo, Sudan, Reston and Taï Forest. The first 3, Bundibugyo ebolavirus, Zaire ebolavirus, and Sudan ebolavirus have been associated with large outbreaks in Africa. The virus causing the 2014 West African outbreak belongs to the Zaire species.

Transmission

It is thought that fruit bats of the Pteropodidae family are natural Ebola virus hosts. Ebola is introduced into the human population through close contact with the blood, secretions, organs or other bodily fluids of infected animals such as chimpanzees, gorillas, fruit bats, monkeys, forest antelope and porcupines found ill or dead or in the rainforest.

Ebola then spreads through human-to-human transmission via direct contact (through broken skin or mucous membranes) with the blood, secretions, organs or other bodily fluids of infected people, and with surfaces and materials (e.g. bedding, clothing) contaminated with these fluids. Health-care workers have frequently been infected while treating patients with suspected or confirmed EVD. This has occurred through close contact with patients when infection control precautions are not strictly adhered to. Burial ceremonies in which mourners have direct contact with the body of the deceased person can also play a role in the transmission of Ebola. People remain infectious as long as their blood and body fluids, including semen and breast milk, contain the virus. Men who have recovered from the disease can still transmit the virus through their semen for up to 7 weeks after recovery from illness.

Symptoms of Ebola virus disease

The incubation period, that is, the time interval from infection with the virus to onset of symptoms is 2 to 21 days. Humans are not infectious until they develop symptoms. First symptoms are the sudden onset of fever fatigue, muscle pain, headache and sore throat. This is followed by vomiting, diarrhoea, rash, symptoms of impaired kidney and liver function, and in some cases, both internal and external bleeding (e.g. oozing from the gums, blood in the stools). Laboratory findings include low white blood cell and platelet counts and elevated liver enzymes.

Treatment and vaccines

Supportive care-rehydration with oral or intravenous fluids- and treatment of specific symptoms, improves survival. There is as of yet no proven treatment available for EVD. However, a range of potential treatments including blood products, immune therapies and drug therapies are currently

being evaluated. No licensed vaccines are available yet, but two potential vaccines are undergoing human safety testing.

Prevention and control

Good outbreak control relies on applying a package of interventions, namely case management, surveillance and contact tracing, a good laboratory service, safe burials and social mobilisation. Community engagement is key to successfully controlling outbreaks. Raising awareness of risk factors for Ebola infection and protective measures that individuals can take is an effective way to reduce human transmission. Risk reduction messaging should focus on several factors:

- **Reducing the risk of wildlife-to-human transmission** from contact with infected fruit bats or monkeys/apes and the consumption of their raw meat. Animals should be handled with gloves and other appropriate protective clothing. Animal products (blood and meat) should be thoroughly cooked before consumption.
- **Reducing the risk of human-to-human transmission** from direct or close contact with people with Ebola symptoms, particularly with their bodily fluids. Gloves and appropriate personal protective equipment should be worn when taking care of ill patients at home. Regular hand washing is required after visiting patients in hospital, as well as after taking care of patients at home.
- **Outbreak containment measures** including prompt and safe burial of the dead, identifying people who may have been in contact with someone infected with Ebola, monitoring the health of contacts for 21 days, the importance of separating the healthy from the sick to prevent further spread of the disease, the importance of good hygiene and maintaining a clean environment.

Controlling infection in health-care settings

Health-care workers should always take standard precautions when caring for patients, regardless of their presumed diagnosis. These include basic hand hygiene, respiratory hygiene, use of personal protective equipment (to block splashes or other contact with infected materials), safe injection practices and safe burial practices. Health-care workers caring for patients with suspected or confirmed Ebola virus should apply extra infection control measures to prevent contact with the patient's blood and body fluids and contaminated surfaces or materials such as clothing and bedding. When in close contact (within 1 metre) of patients with EBV, health-care workers should wear face protection (a face shield or a medical mask and goggles), a clean, non-sterile long-sleeved gown, and gloves (including sterile gloves for some procedures). Laboratory workers are also at risk. Samples taken from humans and animals for investigation of Ebola infection should be handled by trained staff and processed in suitably equipped laboratories.

WHO response

WHO aims to prevent Ebola outbreaks by maintaining surveillance for Ebola virus disease and supporting at-risk countries to developed preparedness plans. The following document provides overall guidance for control of Ebola and Marburg virus outbreaks: Ebola and Marburg virus disease epidemics: preparedness, alert, control, and evaluation
http://www.who.int/csr/resources/publications/ebola/manual_EVD/en/

When an outbreak is detected WHO responds by supporting surveillance, community engagement, case management, laboratory services, contact tracing, infection control, logistical support and training and assistance with safe burial practices. WHO has developed detailed advice on Ebola infection prevention and control: Infection prevention and control guidance for care of patients with suspected or confirmed Filovirus haemorrhagic fever in health-care settings, with focus on Ebola
http://www.who.int/csr/resources/publications/ebola/filovirus_infection_control/en/