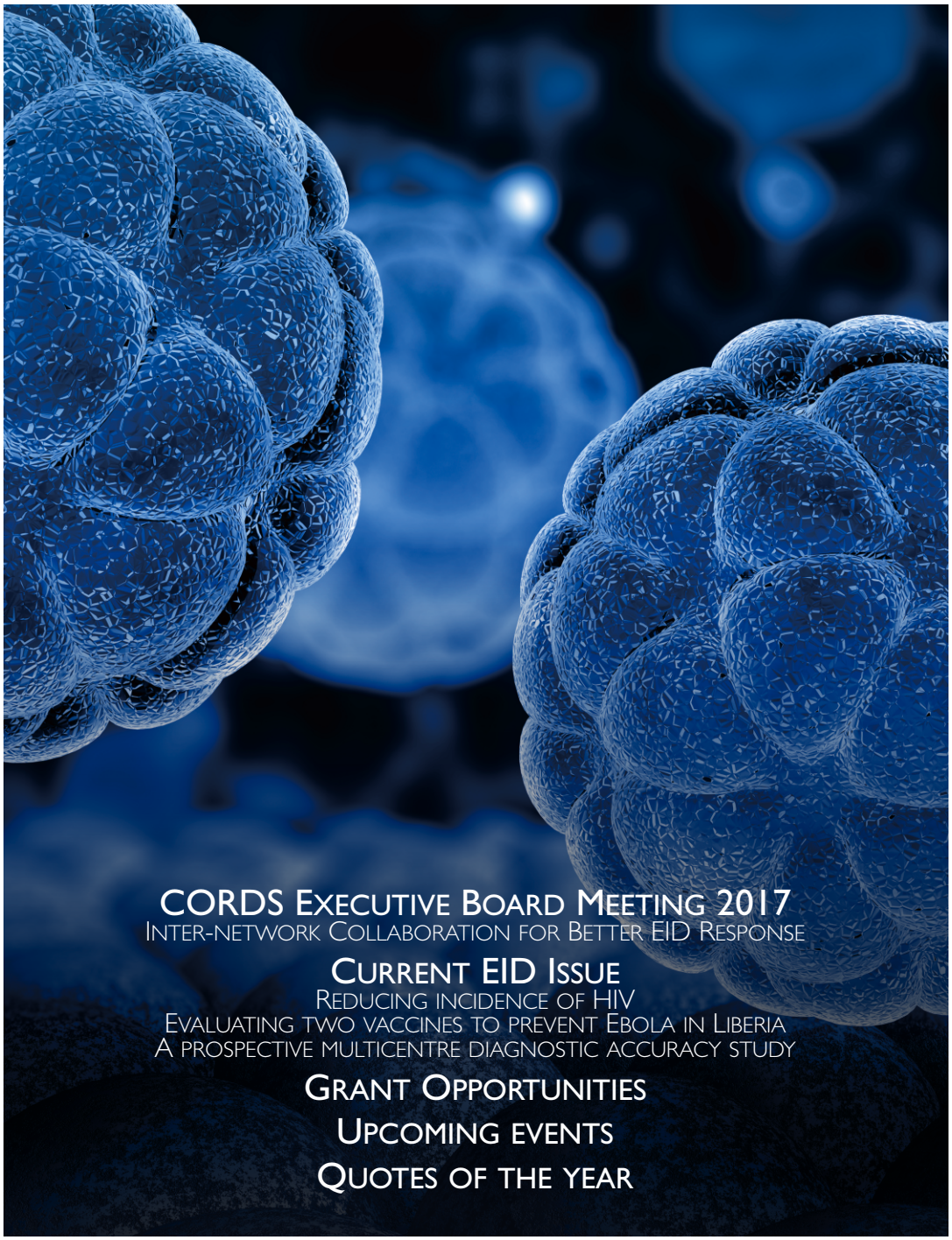
APEIR

The Asia Partnership on Emerging Infectious Disease Research **Newsletter** | **January 2018**



CORDS Executive Board Meeting 2017
Inter-network Collaboration for Better EID Response

Current EID Issue
Reducing incidence of HIV
Evaluating two vaccines to prevent Ebola in Liberia
A prospective multicentre diagnostic accuracy study

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LETTER FROM COORDINATOR

Welcome to the recent issue of the APEIR Newsletter. This edition will highlight current APEIR activities related to EID. Reflecting APEIR journey during 2017, I would like to appreciate our active collaboration that has brought many initiatives in addressing EID challenges through research and knowledge translation. Recently, we participated at Connecting Organizations for Regional Disease Surveillance (CORDS) Executive Board Meeting in Bali, on November 2017, discussing about inter-network research collaboration on AMR and other challenges. In this event, we also visited Denpasar Disease Investigation Center to learn community empowerment during Rabies outbreak control in Bali.

Aside of sharing our activities, we would like to inform the current update from global HIV research as well. Several EID grant opportunities and updated news on Emerging Infectious Disease issues also published in this edition to be used for your research enhancement.

In welcoming the new year of 2018, we invite all of you to send us your ideas and articles to be posted and covered in the next edition. We are honoured to share our journey in strengthening EID research in Asia, and we are happy to collaborate with you in our upcoming activities.

Prof. Wiku Adisasmito
APEIR Coordinator

CORDS EXECUTIVE BOARD MEETING 2017: INTER-NETWORK COLLABORATION FOR BETTER EID RESPONSE

As the world has made us interconnected, we can never tackle infectious disease challenges alone. It's still fresh in our mind when an Ebola outbreak in a remote African village only took 36 hours to spread in America, thousand miles apart from the first spot. Collaboration across disciplines and countries is extremely important to mitigate the threats.

With a vision for "A World United against Infectious Disease", the Connecting Organizations for Regional Disease Surveillance (CORDS) fills gaps in global research and surveillance communication by integrating six networks in improving coordination between animal, human and environmental sectors at national, regional and international levels.

On November 6 – 8, 2017 in Bali, Indonesia, CORDS conducted the Executive Board Meeting to facilitate communication between networks in establishing inter-regional research and surveillance activities for better global EID response. This event was attended by the representatives from CORDS network members consist of APEIR, Middle East Consortium on Infectious Disease Surveillance (MECIDS), Southeast European Center for Surveillance and Control of Infectious Diseases (SECID), Southern African Centre for Infectious Disease Surveillance (SACIDS), East African Integrated Disease Surveillance Network (EAIDSNet), The Skoll Global Threat Foundation, The Rockefeller Foundation, and the Nuclear Threat Initiative (NTI). Aside of discussing the plan for inter-network activities, several issues including CORDS current updates, organizational by laws, and the CORDS Conference 2018 preparation, were covered during the meeting.

APEIR was actively providing insight on developing inter-regional activity by proposing AMR as the priority issue. As AMR has become a global problem involving human and animal health sector, a global research movement is crucial to combat the superbugs. Furthermore, APEIR also organized the CORDS visit to Denpasar Disease Investigation Center prior to the Board Meeting, in collaboration with Udayana One Health Collaborating Center. At this event, the CORDS participants were enlightened by the utilization of traditional dance to promote Rabies disease management in Bali.

As a follow up to the meeting, APEIR is in close coordination with CORDS in strengthening the proposed concept of AMR inter-network activity, which will be discussed further at the CORDS Conference 2018. The CORDS Conference 2018 itself will be conducted back to back with the Prince Mahidol Award Conference 2018 by the end of January in Bangkok, Thailand. Prominent researchers, experts, policy makers, and donors from around the world are expected to attend this prestigious event.

Reducing Incidence of HIV: Result from Longitudinal Study in Rakai, Uganda

Grabowski et al (2017) published a journal titled "HIV Prevention Efforts and Incidence of HIV in Uganda" in the New England Journal of Medicine, November 30, 2017. According to the paper, One way to reduce human immune-deficiency virus (HIV) incidence is using combination HIV prevention (CHP). It is multiple intervention that includes antiretroviral therapy (ART) and medical male circumcision (MC), HIV testing and counselling, condom promotion, and other behavioural interventions. The scale-up of this combination strategies has been an intense focus of global health experts over the past decade. This study aimed to assess the effect of combination intervention to reduce HIV incidence. The study analysed the association between HIV incidence and the ART scale-up and medical MC in Rakai, Uganda. It also examined the changes in population-level viral-load suppression and sexual behaviour. The study was cohort by The Rakai Community Cohort Study (RCCS) that located in Rakai District. The cohort was open for people between 15-49 years old in that area. The study evaluated participants in 30 RCCS from April 6, 1999 to September 2, 2016 with 12 surveys. The study evaluated the scale up intervention using descriptive statistics and logistic regression with person-visit data per survey. Trend of the incidence of HIV was evaluated on the basis of observed ART coverage, MC coverage, viral-load suppression, and sexual behaviours. After 17 year of assessment, HIV incidence declined considerably with the scale-up of a combination intervention for HIV prevention.

Read the full version at
http://www.nejm.org/doi/full/10.1056/nejmoa1702150#t=article

This article refers to Grabowski, M. K., Serwadda, D. M., Gray, R. H., Nakigozi, G., Kigozi, G., Kagaayi, J., ... &Galiwango, R. M. (2017). HIV Prevention Efforts and Incidence of HIV in Uganda. New England Journal of Medicine, 377(22), 2154-2166.

Evaluating Two Vaccines to Prevent Ebola in Liberia: A Randomized Placebo-Controlled Trial

Stephen et al (2017) published an article titled "Phase 2 Placebo-Controlled Trial of Two Vaccines to Prevent Ebola in Liberia) in New England Journal of Medicine, October 12, 2017. Due to the Ebola pandemic happened in Western Africa, The Government of Liberia and the United States established the Partnership for Research on Ebola Virus in Liberia (PREVAIL) that aimed to evaluate the safety and efficacy of two Ebola vaccine candidates.

A randomized, double-blind trial was employed to evaluate the ChAd3EBO-Z (provided by GlaxoSmithKline) and the rVSVΔG-ZEBOV-GP (provided by Merck) vaccines were compared with a saline placebo. This study involved 1500 volunteers with 18 years of age or older that were given a 2:1:2:1 ratio of intramuscular injection of the ChAd3EBO-Z, rVSVΔG-ZEBOV-GP, and placebo. Several follow-up visits were conducted at week 1, month 1, month 2, and every 2 months within one year, and blood samples were collected at week 1, month 1, 6, and 12. The follow-up schedule was changed in April 2015 which added a visit on week 2 to observe joint problems. The rate of attendance at these visits was 98.3% among the trial groups.

Within a week after the injection, adverse events reported significantly on the active vaccines group than with the placebo, which included injection-site reactions, headache, muscle pain, feverishness, and fatigue. These events occurred in 14.0 to 28.5% of total participants. After 12 months of the injection, the adverse events seen in 8.0% of ChAd3EBO-Z group, 9.4% of rVSVΔG-ZEBOV-GP group, and 11.8% of placebo group.

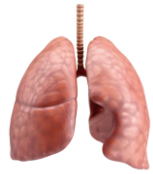
On the other hand, an antibody response developed in 70.8% of ChAd3EBO-Z group, 83.7% of rVSVΔG-ZEBOV-GP group, and 2.8% of placebo group during the first month after injection. The antibody response was measured again 12 months later, which showed 63.5% of ChAd3EBO-Z group, 79.5% of rVSVΔG-ZEBOV-GP group, and 6.8% of placebo group. These results proved the efficacy of these vaccines in eliciting immune response by 1 month after the injection, which were maintained throughout one year afterward.

Read the full version at http://www.nejm.org/doi/full/10.1056/NEJMoa1614067.

This article refers to Kennedy SB, Bolay F, Kieh M, et al. Phase 2 placebo-controlled trial of two vaccines to prevent Ebola in Liberia. N Engl J Med 2017;377:1438-1447

A Prospective Multicentre Diagnostic Accuracy Study:

Xpert MTB/RIF Ultra to Detect Mycobacterium Tuberculosis and Rifampicin Resistance



Due to the lack of highly sensitive, rapid, and accessible diagnostic, there were only 59% of new tuberculosis (TB) cases that diagnosed in 2015 and only 20% of rifampicin-resistant were identified. WHO recommended Xpert MTB/RIF assay (Xpert) to fill the gap. It is an automated, integrated,cartridge-based molecular assay. Xpert is used in more than 120 countries. However, its sensitivity is insufficient to detect TB when few bacilli are present in clinical specimen which limits Xpert diagnose patient with sputum smear negative or extrapulmonary TB such as in people with HUV and for children. To address this gap, Xpert MTB/RIF Ultra assay (Xpert Ultra) was developed. Xpert Ultra combines two different multicopy amplification targets (IS6110 and IS1081) and uses improved assay chemistry and cartridge design. This study conducted by Dorman et al (20117) was to compare the diagnostic performance Xpert with XpertUltra.

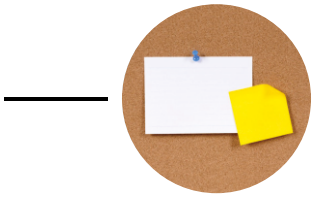
The study employed prospective, multicentre, diagnostic accuracy study. It was conducted at ten reference laboratories in eight countries (South Africa, Uganda, Kenya, India, China, Georgia, Belarus, and Brazil). The participants of the study were adults with pulmonary TB symptoms at primary health care centres and hospitals who were willing to provide up to four sputum specimens. Participants were assigned into one of two group: the case detection group or the multidrug-resistance risk group. Demographic information, medical history, chest imaging results, and HIV test results were recorded at study enrolment, and each participant gave at least three sputum specimen on 2 separate days.

Xpert and Xpert Ultra diagnostic performance in the same sputum specimen was compared with culture tests and drug susceptibility testing as reference standards. Participants in the case detection group were included in all analyses, however participants in the multidrug-resistance risk group were only included inrifampicin-resistance detection analyses.

From Feb 18, and Dec 24, 2016, 2368 participants for sputum sampling were enrolled. 248 participants were excluded from the analysis, and 1753 participants were distributed to the case detection group (n=1439) and the multidrug-resistance risk group (n=314). Sensitivities of Xpert Ultra and Xpert were 63% and 46%, respectively, for the 137 participants with smear-negative and culture-positive sputum (difference of 17%, 95% CI 10 to 24); 90% and 77%, respectively, for the 115 HIV-positive participants with culture-positive sputum (13%, 6·4 to 21); and 88% and 83%, respectively, across all 462 participants with culture-positive sputum (5·4%, 3·3 to 8·0). Xpert Ultra and Xpert specificities for case detection were 96% and 98% (–2·7%, –3·9 to –1·7) overall, and 93% and 98% for patients with a TB history. Xpert Ultra and Xpert performed similarly in detecting rifampicin resistance.Xpert Ultra sensitivity was superior compare to Xpert in patients with paucibacillary disease and in patients with HIV. Nevertheless, this increasing of sensitivity came at the expense of a decreasing of specificity.

Read the full version at
http://www.thelancet.com/journals/laninf/article/PIIS1473-3099(17)30691-6/fulltext

This article refers to Dorman, S. E., Schumacher, S. G., Alland, D., Nabeta, P., Armstrong, D. T., King, B., ... &Bablishvili, N. (2017). Xpert MTB/RIF Ultra for detection of Mycobacterium tuberculosis and rifampicin resistance: a prospective multicentre diagnostic accuracy study. The Lancet Infectious Diseases.



Upcoming Events

29 – 30 January 2018 CORDS Conference 2018
29 January – 3 February 2018 Prince Mahidol Award Conference 2018

Theme | Combined topics of biomedical and social sciences

Call for Application | Collaborative Awards in Humanities and Social Science

Type of Application | Preliminary Application

Amount of Grant | GBP 1,000,000 - 1,500,000

Project Implementation | up to 5 years

Donor | Wellcome Trust

Deadline | 9 January 2018

Website | https://wellcome.ac.uk/funding/collaborative-awards-humanities-and-social-science

Theme | Global Public Health Concern

Call for Application | Public Health Intervention Development Scheme

Type of Application | Case for Support

Amount of Grant | GBP 150,000

Project Implementation | up to 18 months

Donor | MRC

Deadline | 11 January 2018

Website | https://www.mrc.ac.uk/funding/browse/public-health-intervention-development-scheme/public-health-intervention-development-scheme-phind-jan-2018/

Theme | Biomedics

Call for Application | Biomedical Resource and Technology Development Grant

Type of Application | Preliminary Application

Amount of Grant | Up to GBP 1.5 million

Project Implementation | up to 5 years

Donor | Wellcome Trust

Deadline | 12 January 2018

Website | https://wellcome.ac.uk/funding/ biomedical-resource-and-technology-development-grants

Theme | Population and system medicine

Call for Application | Population and systems medicine - Research Boards: Research Grant; Programme Grant; New Investigator Grant; Partnership Grant

Type of Application | Case for Support

Amount of Grant | varied

Project Implementation | varied

Donor | Wellcome Trust

Deadline | 17 January 2018

Website | https://www.mrc.ac.uk/funding/browse/psmb-research-boards/population-systems-medicine-research-boards-jan-feb-2018/

Theme | Infection and Immunity

Call for Application | Infections and Immunity - Research Boards: Research Grant, Programme Grant, New Investigator Grant, Partnership Grant

Type of Application | Case for Support

Amount of Grant | Varied

Project Implementation | Varied

Donor | MRC

Deadline | 10 January 2018

Website | https://www.mrc.ac.uk/funding/browse/response-mode-infections-immunity-board/ infections-and-immunity-research-boards-jan-feb-2018/

Theme | Research Partnership

Call for Application | USAID PEER 2018

Type of Application | Proposal

Amount of Grant | Maximum $ 200,000 each application

Project Implementation | up to 2 years

Donor | USAID

Deadline | 12 January 2018

Website | http://sites.nationalacademies.org/pga/peer/index.htm

Theme | Longitudinal Study

Call for Application | Longitudinal Population Study Grants

Type of Application | Preliminary Application

Amount of Grant | Up to GBP 5 million

Project Implementation | up to 5 years

Donor | Wellcome Trust:

Deadline | 12 January 2018

Website | https://wellcome.ac.uk/funding/ longitudinal-population-study-grants

Theme | Health Systems

Call for Application | Health Systems Research Initiative: Research Grant; Foundation Grant

Type of Application | Outline Proposal

Amount of Grant | Research Grant GBP 400,000 - 800,000; Foundation Grant maximum GBP 200,000

Project Implementation | Research Grant 3 - 5 years; Foundation Grant12 - 18 months

Donor | MRC

Deadline | 30 January 2018

Website | https://www.mrc.ac.uk/funding/browse/hsri-5/health-systems-research-initiative-call-5/

For further info related to grant opportunities please check our website at http://apeir.net/apeir-updates/opportunities

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Coming together is a beginning. Keeping together is progress. Working together is success.

Henry Ford

Alone we can do so little,
together we can do so much.

Helen Keller

Teamwork is the ability to work together toward a common vision. The ability to direct individual accomplishments toward organizational objectives. It is the fuel that allows common people to attain uncommon results.

Andrew Carnegie

Talent wins games, but teamwork and intelligence win championships.

Michael Jordan

”

Our deepest condolence for the loss of

Dr. Ponpisut Jongudomsuk

He was a former member and Chairman of APEIR steering committee as well as former Director of Thailand Health System Research Institute (HSRI).

Those we hold closest to our hearts never truly leaves us.
They live on in the kindness they have shared and the love they brought into our lives.

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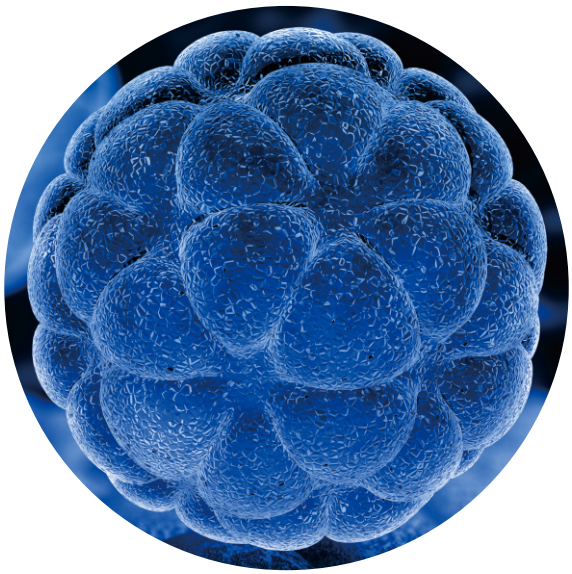
WHEN YOU NEED TO INNOVATE
YOU NEED COLLABORATION

MARISSA MAYER



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