

GLOBAL FORUM ON RESEARCH AND INNOVATION FOR HEALTH

# FORUM 2015 REPORT

**Global Forum on Research and Innovation for Health  
Forum 2015 Report**

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## GLOBAL FORUM ON RESEARCH AND INNOVATION FOR HEALTH

# FORUM 2015 REPORT



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## LIST OF ABBREVIATIONS

|             |  |
|-------------|--|
| ADB         | Asian Development Bank   |
| ANDI        | African Network for Drugs and Diagnostics Innovation                           |
| APAME       | Asia Pacific Association of Medical Journal Editors                            |
| APLMA       | Asia Pacific Leaders Malaria Alliance  |
| ARCADE      | African Regional Capacity Development for Health Systems and Services Research |
| ASEAN       | Association of Southeast Asian Nations   |
| CFI         | COHRED Fairness Index  |
| CHED        | Commission on Higher Education (Philippines)                                   |
| CHEPSAA     | Consortium for Health Policy and Systems Analysis in Africa                    |
| CGC         | Clark Green City   |
| COHRED      | Council on Health Research for Development                                     |
| DOH         | Department of Health (Philippines)   |
| DOST        | Department of Science and Technology (Philippines)                             |
| DOTS        | Directly Observed Therapy Short course (against tuberculosis)                  |
| DRR         | Disaster Risk Reduction  |
| EU          | European Union   |
| FERCAP      | Forum for Ethical Review Committees in Asia and the Western Pacific            |
| GTZ         | Deutsche Gesellschaft für Internationale Zusammenarbeit                        |
| HIC         | High Income Country  |
| HIFA        | Healthcare Information for All   |
| IDSR        | Integrated Disease Surveillance and Response                                   |
| IP          | Intellectual Property  |
| LMIC        | Low and Middle Income Countries  |
| NOAH        | Nationwide Operational Assessment of Hazards                                   |
| OGP         | Open Government Partnership  |
| PCHRD       | Philippine Council for Health Research and Development                         |
| PNHRS       | Philippine National Health Research System                                     |
| QOL         | Quality of Life  |
| RFI         | Research Fairness Index  |
| SMS         | Short Message Service (text message)   |
| SPEED       | Surveillance in Post Extreme Emergencies and Disasters                         |
| SIB         | Stanford-India Biodesign   |
| UKCDS       | UK Collaborative on Development Sciences                                       |
| UNICEF      | United Nations Childrens Fund  |
| UP          | University of the Philippines  |
| Urban HEART | Urban Health Equity Assessment and Response Tool                               |
| WB          | World Bank   |
| WPRO        | Western Pacific Regional Office (WHO)  |
| WHO         | World Health Organization  |



## FOREWORD

Forum 2015 marks many successful firsts in the conduct of global conferences for health research. From its previous title “Global Forum on Health Research,” Forum 2015 evolved its name into “Global Forum on Research and Innovation for Health” as we have begun to look further into the areas of public safety, and the seemingly mundane day to day concerns such as food and shelter which continue to pose newer, unprecedented health challenges in our rapidly advancing world.

The success of the Philippines to host this kind of forum for the first time was demonstrated not only by the scale of conference - as it involved over 4000 delegates representing 72 nationalities, but by the greatly expanded scope of such engagement - as it was participated in by people representing various industries, professions, and areas of interest.

The various stakeholders involved in Forum 2015 were not simply invited as participants, but contributed greatly to the development of the conference program which offered a wide variety of engagement formats. As such, these organizers from various disciplines utilized their respective specializations or expertise in designing the program around two pillars, namely; Increasing the Effectiveness of Research and Innovation for Health, and the Role of Research and Innovation in Improving Health Services to generate discussion into research endeavors that address health and equity issues.

Challenges that revolved around these pillars have been the concern of the health research community when conceptualizing and organizing this first-of-its-kind Global Forum on Research and Innovation for Health. The sheer scale of the event and the diversity of tracks pursued in presentation and discussion entailed a considerable amount of planning, preparation, coordination, and onsite conference work.

We trust that you found your involvement in Forum 2015 both valuable and rewarding. Each participant contributed in so many ways in enabling this conference to unfold into a smoothly run event with stimulating presentations, informative exhibits, engaging activities, and an atmosphere conducive for discussion and networking. In this light, we are all grateful and highly appreciative of the speakers and facilitators, participants, sponsors, and assisting personnel who ensured the success of this conference.

The global health issues of today call on all of us to cooperate and focus on understanding the critical importance of research and innovation for health. As we strive towards achieving sustainable development goals, we appreciate the necessity of more robust global partnerships in eliciting transformative results, not only on health outcomes and quality of life, but also on economic growth.

It is a shared and truly fervent hope that the Forum allowed the participants to forge new partnerships and alliances that can be nurtured to foster researches and innovations that would be relevant to the health and wellness of people across geographical, cultural, and socio-economic boundaries.

We are confident that Forum 2015 has sparked a fire to keep efforts in health research and innovation burning. May we continue to place people at the center of our efforts, and move forward towards creating effective partnerships for action to improve health, equity, and development. While Forum 2015 was held in Manila in August 2015, the impetus of this memorable event is expected to endure and flourish in the ensuing work of all its participants in the subsequent months and years, all the way into the next Global Forum on Research and Innovation for Health.

Thank you for being part of this momentous event. We hope this report will generate further action and support as we look forward to the next Forum meeting.

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## INTRODUCTION

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Today's advancements in health are not only attributed to accomplishments of health research but also to the whole range of research activities conducted by other disciplines. The Global Forum on Research and Innovation for Health (Forum 2015), widely known as the Council on Health Research for Development (COHRED) Forum, recognized the need to expand its scope to provide a unique global platform enabling worldwide research and innovation agenda to be set and solved by all – not just by a few – with the ultimate outcome of improving health, equity and socio-economic development in a sustainable manner.

With the interest of the Philippines to become a leader in shaping the world's health research agenda, the Philippine National Health Research System (PNHRS), a community of partners and stakeholders in health and health research led by the Philippine Department of Science and Technology (DOST) and Department of Health (DOH), partnered with COHRED to host the Forum 2015 - the world's leading international conference on health research and innovation.

Recognizing that people are the ultimate participants, partners, and end-users of researches and innovations that impact on health, the Forum 2015 bannered on the theme, "People at the Center of Research and Innovation for Health." Forum 2015 engaged stakeholders in the value chain from problem to solution, and goes beyond 'health research' towards 'research and innovation for health.' Over 4,000 participants and 253 speakers of 72 nationalities and from various disciplines, sectors, perspectives, and strategies specifically from government, business, and non-profit organizations joined in 94 sessions and 20 pre-conference workshops and side meetings.

In line with the theme, the forum program was organized along two major pillars. The first pillar was Increasing the Effectiveness of Research and Innovation for Health through Social Accountability, Increasing Investments, and Country-driven Capacity Building; while the second pillar was the Role of Research and Innovation in improving Food and Nutrition Safety and Security, Health in Megacities, and Disaster Risk Reduction.

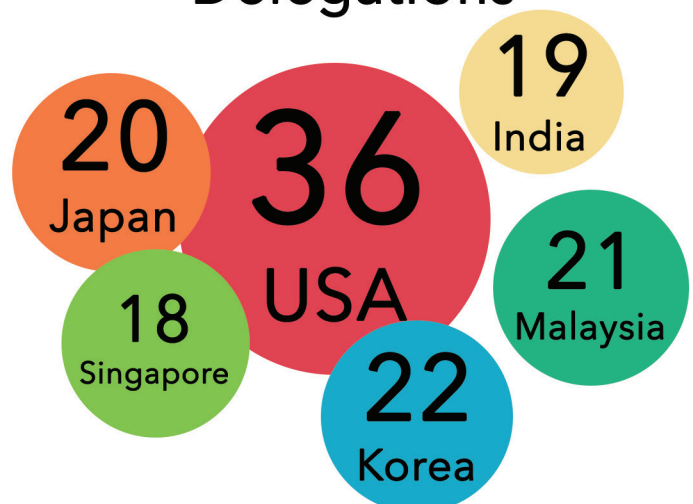
The Forum 2015 brought together editors from medical journals who discussed strategies to encourage and facilitate dissemination of research results. The Forum also served as a convening point for young filmmakers and photographers who showcased their talents in capturing and presenting the themes of the Forum. The information technology initiative attached to a business incubator, and the global debate competition which catered to young scientists, artists, young academics, provided these young partners with the venue to discuss their perspectives on the themes of the forum.

Forum 2015 generated new partnerships and alliances that can be nurtured to foster researches and innovations that would impact on health across geographical boundaries and redound to thousands of lives saved or contribute to the improvement in the quality of life for untold numbers.

## FORUM 2015 IN NUMBERS



### Biggest International Delegations



## FORUM 2015 SESSIONS

While Forum 2015 was the 15th meeting of the Global Forum for Health Research, it was also referred to as the Global Forum on Research and Innovation for Health. This was due mainly to the expansion of the scope of actual research activity into various other disciplines in which innovation could have a direct or a downstream impact on health. This conference title somewhat concurs with the concept of regarding a nation's head of state or highest leadership as its "health czar" rather than charging only the government's health minister with the entire responsibility for a nation's health. Health, after all, is not provided solely by health workers and technology, but also by various sectors of government, industry, academe, and society whose activities contribute in one way or another to the well-being of the community.

Noting how Forum 2015 was the first meeting with such multidisciplinary scope, Council on Health Research for Development (COHRED) Executive Director Professor Carel Ijsselmuiden pointed out that the thrust of global concerns in research for health has greatly evolved since its inception 25 years earlier when it was focused principally on "health research."



Philippine President Benigno Simeon Aquino echoed these sentiments in his conference opening remarks delivered by Department of Science and Technology Secretary Mario G. Montejo. The President lauded the advances made in research and development targeted towards improved healthcare, ranging from the mainstreaming of herbal medicines to highly sophisticated developments in health information technology.

The four-day event, and its supplementary conferences expounded on the overriding conference theme by focusing on people at the center of all these concerns. The multidisciplinary and multisectoral nature of the conference sessions is witness to the emphasis espoused by Forum 2015 that any aspect of research and innovation must be beneficial to the people, and that there is an engagement of people from various professions and pursuits in research activities that could contribute to health.

## THE PROGRAM

The program for Forum 2015 was built around two major pillars showcasing: (1) key principles needed to improve the efficiency and effectiveness of research and innovation for health and development, as well as (2) contemporary global health and development priorities particularly of low and middle income countries (LMICs) which were addressed by health research and innovations.

Increasing the Effectiveness of Research and Innovation for Health (through):

- Social accountability
- Increasing investments
- Country-driven capacity building

The role of research and innovation (in improving):

- Food safety and security
- Health in megacities
- Disaster risk reduction







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# INCREASING THE EFFECTIVENESS OF RESEARCH AND INNOVATION FOR HEALTH

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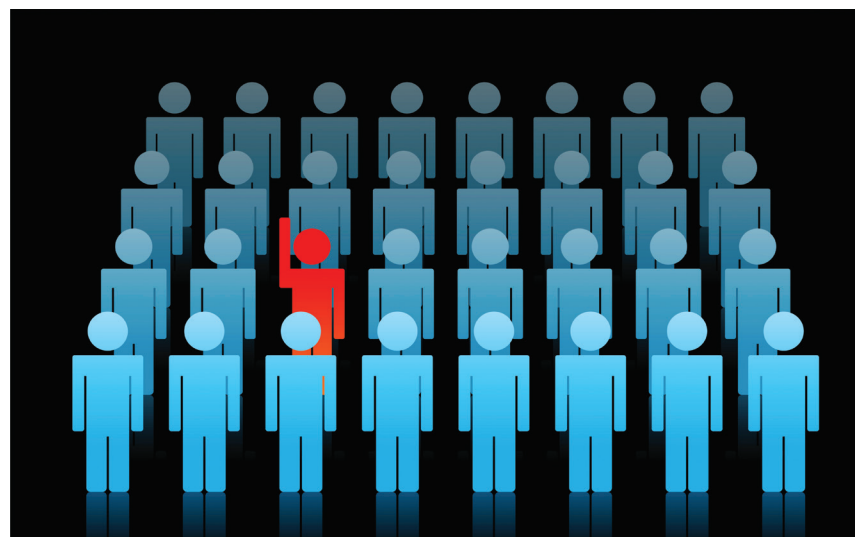
## SOCIAL ACCOUNTABILITY

>>>> Social accountability involves a two-way relationship of citizens and government, where citizens engage constructively with government to exact accountability in health research and innovation.

Social Accountability in health research and innovation is a constructive engagement between a nation's citizens and its national and regional health research centers and institutions in monitoring government's use of public resources to improve the delivery of health services and products, to protect people's health rights, and to promote people's well-being and welfare. Such accountability rests on the articulation of relationships based on the state's obligations and citizen's rights. The Rights-Based approach (RBA) affirms that all states have obligations to their citizens, and citizens, in turn, have a right to demand accountability from the state.

Innovations in health products and healthcare such as the Universal Health Coverage need to quickly reach every person who requires them, and at affordable cost. Due to the highly technical nature of national and regional research and innovation programs for health, the voice of citizens and community groups is often underrepresented or overlooked. Forum sessions on this concern reviewed and reflected on researches and innovations that showcased how citizen engagement can influence health agenda setting and enhance accountability in delivering health services to the public.

Social accountability in research and innovation for health is manifested in the Diabetes Attitudes Wishes and Needs (DAWN) which works through patient engagement in health governance, as well as through Open Government Partnership (OGP) which increases peoples' access to health, equity, and development through innovation in data and information.





>>> Given the multiple and occasionally conflicting interests and biases among different stakeholders, constructive engagement through dialogues and discussions is imperative in improving the people's condition, with the people themselves at the center of the health research and innovations.

Technological innovations promote transparency when regarding health problems experienced by groups suffering from inequality, as in the case of Guatemala, wherein the use of audiovisual technology has improved social accountability, and through online exchange such as in mClinica (<http://mclinica.com/>), which uses mobile technology to connect drug companies, their distributors, pharmacies, and patients.

Transparency and accountability are always key factors when dealing with data, information, and knowledge about health and its implications on the concept of equity – where there must be a fair share of information between stakeholders, physicians, government officials, and the general public.

Individual countries use varying kinds of systems or approaches to improve their respective health situations. Government regulations will ensure public access to health research data and induce better compliance by the various stakeholders. Evidenced-based decision-making and proactive solutions by people themselves compel policy makers to discuss the issues; and this, in turn, helps address the complaints of the patients.





# Research Fairness Initiative

## COHRED

COHRED developed Research Fairness Initiative (RFI), a reporting system that encourages governments, business, organisations and funders to describe how they take measures to create trusting, lasting, transparent, and effective partnerships in research and innovation. The RFI is designed to help create global momentum towards increasing the research and innovation capacity across the world to improve health, equity and development.

COHRED's RFI Team convened a Technical Working Group (TWG) comprising 33 high-level stakeholders with professional backgrounds in varying fields, such as ethics, finance, health research and innovation, and general research and development.

In April 2015, the COHRED Colloquium 4 was held at the Wellcome Trust in London, to create an opportunity for over 80 top and senior executives from government, business, academia, national research agencies, researchers, and key research funders from across the world to review the first proposal – then called the 'COHRED Fairness Index' or CFI. During Forum 2015, a session was held to discuss CFI for ethical equitable research collaborations to address health needs in low-and-middle- income countries.

Colloquium 4 was followed by many virtual and in-person calls, emails and virtual meetings to arrive at the new concept of the Research Fairness Initiative (RFI). Following the shift towards RFI, COHRED is currently engaged in a series of new feasibility and acceptance studies to ensure that the RFI is ready for implementation by the middle of 2016.

For more information, visit: <http://rfi.cohred.org/>

## INCREASING INVESTMENTS

>>> There is a need to align research agenda and specific areas of interest to avoid the mismatch between disease funding and empirical disease burden.

Research and innovation for health consumed billions of dollars each year, but not enough to match the complexities of large, multi-sectoral, and sustainable solutions to the pressing health problems across the globe. The situation becomes more complicated due to emerging global challenges such as climate change, economic crisis, and urbanization. While health spending has increased in past decades, expenditure on health R&D, however, has remained low. Public funding on research and innovations seems to be neglected in health expenditure worldwide, while recent increase in R&D spending can be attributed to industry, philanthropic, and voluntary health association sources.

This need is more pronounced in LMICs in which alternative funding sources are often needed to augment government capabilities due to the state's inability to adequately finance basic healthcare services, let alone costly research initiatives. Much discussion in Forum sessions dealt with identifying specific priority areas in which financial resources are more cost-effectively channeled, including actual innovation that promotes such cost-effectiveness. Social and legal issues pertinent to fostering an investment climate favorable to research and innovation that could advance healthcare were also discussed.

The capability of institutions and country health systems to absorb funds allocated for research is often an important matter that needs to be addressed, as the need for more qualified health educators, competent health workers, and knowledgeable and intuitive researchers continues to be expressed. Concerns are repeatedly raised on the ability of emerging countries to bridge the gap between them and the more developed nations vis-à-vis research and innovation for health.





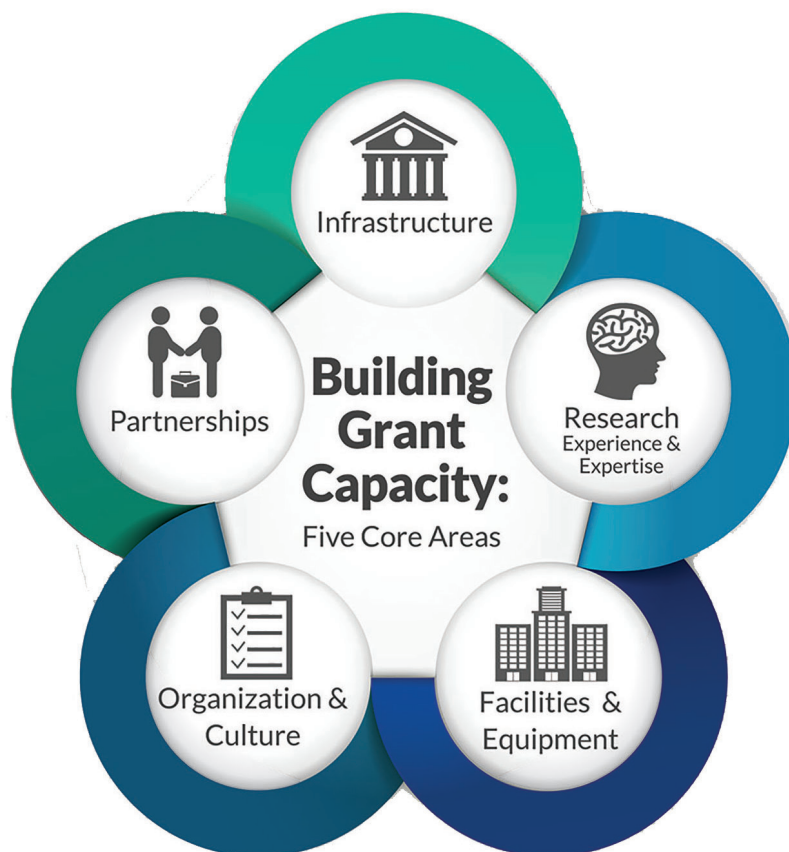
The role of partner agencies from local and national governments, financial institutions, industry, academic institutions, research centers, international developmental agencies, foundations, and the like was also highlighted at the conference. Featured at the conference were novel efforts at increasing investments in research such as the financing offered by the “Indie Bio” Berkeley Biolabs, Novartis International AG, and Hybridigm Consulting. Non-industrial entities such as the Research and Innovation Programme of the British Embassy Manila and the Asian Development Bank provide valuable funding for national and regional programs such as the APLMA Malaria Elimination Roadmap.

Amidst the headway in innovative financing approaches open to researchers, there is still an expressed need to develop and nurture a culture for innovation in LMICs to encourage more start-ups and other entrepreneurial pursuits. Governments still need to explore more innovative financing approaches in which reliable and sustainable domestic financial capital for health can supplant the old model of donor dependency. Innovations should lead to more focused, appropriate, and contextualized interventions that address barriers to disease management.

## MAXIMIZING THE POTENTIAL OF INTELLECTUAL PROPERTY

Even as much discussion is generated globally on the issue of Intellectual Property (IP) and how its protection may be detrimental to efforts in making healthcare more affordable, a Forum session explored new models and applications of this system that seek to incentivize greater research investment for neglected diseases and health priority issues, thereby nurturing innovation, and increasing access to new health solutions.





## CAPACITY BUILDING

Country-driven capacity building plays a critical role in strengthening research capacities as it engages a wide-range of national stakeholders and encourages country ownership. The realization of a country-driven capacity building will depend on good governance, adequate financing, and a responsive plan that is based on a thorough situational analysis of the resources needed for health research and the accurate identification of gaps in healthcare needs. Focused investments in national capacity building programs lead to improved national health research systems, which in turn, better promote and sustain the national health research culture—an essential step in the move towards Universal Health Care coverage.

Country experiences on capacity building reveal the importance of political will and support from government, academia, industry and other stakeholders; as well as the importance of strengthening collaborations locally and internationally. Human resource development along with the joint initiatives or partnerships, and the creation of nurturing scientific and innovation environments in universities, techno-hubs, and science parks also strengthen research and innovation activities. The access to peer reviewed journals and the use of current modes of communications facilitate the conduct and translation of health research and innovation into significant research outcomes.

>>>The development of research capabilities goes beyond education of individuals as it includes supporting a research culture and creating effective administrative systems.

Technology hubs and science parks allow the growth of industry and economy. Of course, ample infrastructure, expertise, and support services are imperative in setting up these science parks. Creating infrastructure for research and innovation attracts people and investors. Science parks and technology hubs are high quality research areas that bring together universities, industries, and the market. Keys to having successful science parks include establishing an enabling ecosystem of entities with a passion to work with one another; as well as acquiring investors and key stakeholders; and eventually, engaging the global community. Universities have become industries due to start-up enterprises surrounding these educational establishments.

>>>The potential of Low and Middle Income Countries in contributing to global health research should never be overlooked.



Private-Public research relationships have the ultimate goal of eliciting healthy and productive populations. The example of dengue emergence in a region provides a lesson. The incidence of this disease has increased to a point at which 40% of the world's population is at risk. The lack of a cure and the need for a vaccine provided an environment for research investments. The dengue vaccine research effort was developed and launched in endemic countries in the developing world, with the vaccine going through extensive trials in more than 40,000 human subjects (there were 3,500 participants in the Philippines, resulting in reduced hospitalization by 90%). The first licensure was seen in 2015.

Capacity development could be enhanced through collaboration between countries and institutions. Countries in ASEAN such as Malaysia, Thailand, and Singapore have strong international collaborations which can serve as models for other countries. North-South and South-South collaborations are different modes of engagements which can enhance capacity development in LMICs. The collaborations can be among nations with common interests such as endemic diseases like dengue, emerging diseases such as Ebola and avian flu, and disasters such as typhoons and tsunamis. These collaborations are complementary in nature, enhancing each other's strengths. A cross-border science park with other countries may be a good concept within ASEAN integration.

>>>The challenge lies in how to get the partnerships between private and public sectors going.

>>>Social media makes learning visible, creates personal learning network, and, builds a community of inquiry that allows support groups to discuss specific illnesses such as diabetes, HIV, and breast cancer.





## DEVELOPING CAPACITIES FOR RESEARCH DISSEMINATION AND TRANSLATION

Health research in LMICs is not accorded sufficient importance and priority in the global setting, as over 85% of articles found in elite development journals are authored by researchers from developed or Western countries.

Several alternatives of publishing include open access models, as they are among the enabling low cost options for publishers, researchers, and readers. Institutional databases are alternative sources of research literature that can be used to generate summaries of papers and articles for efficient literature searches.

Search engines, available databases, and the use of web technology (e.g. Global IRIS) greatly enhance access to needed information. Crowd sourced reviews, data basing, external peer review services, and large incentives for publishing are new approaches to enhancing alternative channels of information sharing.

Collaboration is essential in improving access to health research, involving building capacities in both high and low income countries, and encouraging research production among LMICs. Publishers are tasked with the role of encouraging best practices and of disciplining researchers into submitting more and better work.

Health policies, which are the ultimate goals of some researches, should be driven by evidence and good science. Because of the large gap between research and practice, translating research into policy is a challenge. Research findings have to be presented and communicated to policy makers in their language to advance the particular issues into their policy.

## BRITISH MEDICAL JOURNAL PATIENT'S REVIEW

Apart from the usual peer-review process, the British Medical Journal engages patients living with disease, a caregiver of a patient, a patient advocate acting on behalf of a patient group, or a lead part in advocating for patient participation and partnership in healthcare to comment on articles being reviewed. This unique initiative is to improve the relevance and patient-centeredness of research and generate suggestions to help authors strengthen their paper to make it useful to share and discuss with patients.



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## The role of Research and Innovation in Improving Health Services in Specific Areas

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## FOOD AND NUTRITION SAFETY AND SECURITY

The objective of food security is not only to facilitate the accessibility of nutritious and sufficient food for people, but also to provide economic and physical access to food for socially vulnerable groups, including those facing emergency food needs during disaster situations. The vulnerabilities of food supply chains that define the food safety and security risks imposed on foods are mainly a direct result of supply chains being long, global, and highly interconnected. Appropriate policies and production techniques to promote the sustainable development of the food sector and encourage a variety of healthy and nutritious food sources should be applied.

Inequity still exists between HICs and LMICs with respect to this area of concern, as many countries classified as LMICs still suffer from hunger. LMICs undergoing epidemiologic and nutrition transitions have to cope with the double burden of communicable and non-communicable diseases, while confronted with the issues of under nutrition and over nutrition at the same time.

Innovations in food production could provide the necessary solutions in food safety and security. Smart food production could address issues of food supply, security, and sustainability. Likewise, food fortification and nutrigenomics could offer solutions to the nutrition problems many LMICs are faced with.



>>> People in both nutrition and agricultural sectors need to work closely together to ensure that nutritious food is made accessible to all members of society, and always consider the environmental impact of food production to ensure sustainability of these efforts.

There is an unending challenge to provide growing populations with a sustainable and secure supply of safe, nutritious, and affordable high-quality food operating in the context of changing climates and environments, and fluctuating resources. Innovations in smart food production present answers to address nutrient deficiencies, particularly among LMICs by adopting new strategies and by increasing people's awareness in these areas.

Utilization of new technology and renewable energy can increase crop yield and ensure maximized utilization of resources. Employing updated technologies and good agricultural practices can lead to higher yield with reduced expenditure of resources, and less environmental impact. Good agronomic practices can also ensure sustainability of farming. The consideration of environmental sustainability for food crop production, along with the use of evidence-based agronomic practices fosters the long-term supply of nutritious and affordable food for populations.

People involvement can serve as a strategy to create awareness on food production. Agritourism can provide a showcase to increase people's awareness and appreciation of agriculture's role in improving the nutrition situation. This paradigm shift is necessary in considering environmental sustainability and nutritional viability for the future.



**BIOFORTIFICATION** is one approach that entails adding micronutrients to widely consumed staples such as rice to ensure that populations meet their nutrient requirements. Biofortification has led to the successes in the consumption of micronutrient-enriched staples such as the high-iron beans in Rwanda and orange maize in Zambia for the treatment of Vitamin A deficiency. Other examples of biofortification include rice enriched with pro-Vitamin A, or beta carotene, zinc, and iron which was developed to address the micronutrient deficiencies prevalent in LMICs.

### FOOD FORTIFICATION

Mandatory food fortification has been a global strategy to address micronutrient deficiencies, particularly among populations of LMICs. However, concerns such as safety issues and consumer preferences have to be considered in designing these initiatives. Micronutrient deficiencies produce a negative impact on growth, productivity, and socioeconomic status, possibly accounting for around 1.1 million child deaths among LMICs each year.

While the principal aim of food fortification is to bring nutritious and fortified foods to a large population, actual access to such food depends on its availability, affordability, success in production, and on good adherence to the program. Safeguards are necessary to ascertain that packaged fortified food products are guaranteed safe. Food products have to be culturally integrated, affordable, and accessible, particularly to those in direst need.

There are several illustrations that reveal the success of food fortification programs. The universal salt iodization fortification program has been effective in reducing the risk of goiter, and has eliminated cretinism worldwide. Eighty-three countries have programs for the fortification of wheat flour, maize flour, and/or rice. These efforts have lowered the prevalence of anemia and folic acid deficiency in those countries.

Countries such as the Philippines, Vietnam, Australia, Nepal, and Uganda have existing food fortification programs. Government support, political will, and social integration (without having to change any dietary habits) have been the driving factors for the successful implementation of these food fortification initiatives.

**>>> The success of food fortification programs requires more cohesive private and public sector involvement, with private industry opting to focus on the fortification of processed foods and commercial condiments to enhance implementation of these initiatives.**





## NUTRIGENOMICS

Advancements in nutrigenomics have the potential to allow people to understand and address nutritional problems of entire populations.

The Micronutrient Project in Brazil which examined the sample population's genome, proteome, and metabolomes as well as its physical, social, economic, and behavioral factors revealed that individuals with increased methionine cycle intermediates also experienced increased plasma levels of fat soluble Vitamin A. A replicate study revealed that individuals with low glucose levels had reduced low density lipoprotein (LDL) levels and lower total cholesterol levels.

In the Philippines, nutritional research has evolved toward nutrigenomics because of the emerging patterns of poor diet and sedentary lifestyle leading to obesity and other degenerative diseases. DNA studies have shown the protective effect of polymorphism on the incidence of Type 2 Diabetes Mellitus, the association of brown rice with lowered blood glucose levels; and improved gene expression in offspring of pregnant women given iron supplementation.

Australian studies have examined the impact of poor nutrition on genes, particularly genomic instability, and telomere attrition. Genomic instability has been associated with the increasing risk of problems in pregnancy such as pre-eclampsia, intrauterine growth, cancer, and cardiovascular and neurodegenerative disease. Diets rich in calcium folate can promote genomic integrity and can guide dietary choices. Telomeres, which are essential for chromosome stability, can be affected by diet. Shorter telomeres were associated with a diet consisting of mostly red, processed meat. Telomere shortening, which leads to eventual apoptosis, was shown to be increased with high plasma zinc and reduced folate carrier polymorphism.

A Singaporean study discussed the nutrigenomics of high fat versus high fiber diets from a molecular perspective. At least 80% of the non-communicable diseases can be prevented through healthy diet, regular exercise, and avoiding tobacco products. Research using mice showed that as plasma cholesterol increased, white adipose mass also increased. A lipogenetic dysregulation occurred such that after 10 weeks of heavy fat intake, the mice still continued to produce fat, effectively losing their control over fat production. The study was replicated but with usage of psyllium husk as a source of fiber. As expected, the cholesterol and triglycerides levels decreased.

>>> A population's nutritional genotype can provide information in understanding disease risk factors from which public health interventions such as dietary guidelines can be drawn up.

## HEALTH IN MEGACITIES

>>> It is necessary to address the social determinants of the health for Migrant Workers such as the triple threat posed by infectious diseases, non-communicable diseases, trauma, and additionally, mental/ psychosocial health.

Today, more than half of the world's population – roughly 3.5 billion people – live in cities, and the number is expected to double by 2050. This biggest demographic shift in human history carries a broad array of health challenges. From the rise of chronic non-communicable diseases and the return of infectious disease outbreaks - to road traffic injuries and mental health problems. In turn, these health issues are shaped by a wide array of political, cultural, social, economic, and environmental determinants – from poor housing conditions, unsafe water sources and low air quality, to poverty, marginalization, and limited access to basic healthcare.

Research and innovation is of utmost value in addressing the challenges posed by food and nutrition policies in a rapidly urbanizing world. Accelerating rates of urbanization pose newer, unprecedented challenges in ensuring sufficient access to high quality and healthy food for the growing population. This problem is aggravated in urban areas by the lack of access to nutritious food due to distance from farm lands, to weak distribution logistics, and to the changing food culture from quality foods to fast foods. Urban nutrition, consisting mostly of processed foods that offer convenience, is greatly impelled by mass media and advertising.

Poor access to quality food is associated with the double burden of disease produced by both under and over-nutrition, leading to conditions such as diabetes, hypertension, obesity, stunting, and iron deficiency anemia. In the Philippines, Bahay Kubo Organics is an example of an agricultural enterprise that brings food closer to people in need of it. With the use of soil-free hydroponics technology for farming, vegetables can be produced and made available to homes in urban areas. Fresh markets offer better, fresher, more nutritious, and less environmentally damaging food options for consumers.







Governments of all countries should, then, create policies to ensure access to markets through appropriate investments. The Urban Food Policy pact in Italy is an example of a policy intervention that builds awareness and consensus that seeks to engage local leadership towards sustainability. In the midst of rapid economic growth, countries must advocate good nutrition and prioritize policies to establish strong food systems for their people, especially in megacities.

Migration is one of the key factors in the growth of megacities. There is an increasing amount of attention given to migrant workers worldwide due to their rising number, to their value in national development, and to their underestimated vulnerability and social cost. The health and well-being of migrant workers has been a neglected topic due to a tendency to adopt an attitude of commodification of these workers. A migrant-centered approach, taking into account its characteristics, vulnerabilities, and environment, is needed to improve health care in this particularly diverse and vulnerable group.

Better quality of life (QOL) for residents of megacities demands life innovation and health care. Life innovations may lengthen the lives of people, but they could also give rise to new health problems, which should be addressed by evolving health policies. Such policies may address these problems by social innovation or considering the true meaning of human well-being in terms of the state of happiness and the quality of life of the cities' inhabitants.

Despite being the world's most vulnerable city to natural disasters, Yokohama City in Japan has displayed a remarkable reduction in flooded houses and deaths from the 1950s until the 2000s. Innovations lead to improved healthcare and increased lifespan, consequently giving rise to new issues such as increased healthcare demands. In response to the Asia Pacific Region's vulnerability to natural disasters, the Yokohama Agenda was set up in 2012. The Agenda has established action points such as sharing of relevant information and knowledge among Asia-Pacific cities, NGOs, and International Organizations. Included in the agenda is the launching of an alliance among the Asia-Pacific Cities. City-to-city partnership could be one of the key tools for sharing issues regarding megacities, and eventually creating solutions in terms of health, Disaster Risk Reduction, and Environment, among others.

>>> While life innovation aims to allow people to live longer, health policy in megacities should consider QOL aspects and the sense of happiness of its citizens.

>>> The health sector is tasked with taking active leadership and advocacy towards mitigating the impact of climate change.

Climate change serves as a major threat in global health. Such threat is manifested in the increase of infectious diseases and in the increase of mortality due to extreme weather events. The health sector in megacities can help in addressing the health, energy, and climate change impacts through building resilient health systems, monitoring health impacts of climate change, reducing the health sector's ecological footprint, and advocating for mitigation measures for health co-benefits. An interdisciplinary, inter-institutional, and collaborative approach to research, service delivery, and policy making is important to tackle the issues of climate change, energy, and health. The impact of climate change on health can be mitigated through active leadership and advocacy from the health sector.

### >>> There is an expressed need to build new cities to sustain the growth of the old cities.

and planning must be done properly to promote and maintain health.

The environment affects people's health: where people work, their mode of transportation, where people get their water and food, (how clean and fresh) and the amount of parks and greenery in their surroundings. Urban policy

The Clark Green City (CGC) illustrates the conversion of a former military base to a smart, green, and resilient city. The long term plans of CGC anchor on health and well-being, and adhere to building a city for the human being that aims to uplift human dignity and enhance human life.

There are healthy built environment programs based in engineering and architecture schools. An example is the University of New South Wales doing applied research to develop capacity for built environment professions, and develop new programs for the next generation.

Megacities face growing health issues. Functionality and resilience of the citizens is important in overcoming these health issues. The people's resilience is influenced by the nature of their environment, typically on whether they live in rural or urban areas. Unlike people residing in rural areas, people living in cities tend to rely excessively on infrastructure, thus weakening their human connection or social capital, and ultimately, their capability to cooperate in times of disaster. Infrastructure may unwittingly sabotage human social capital. Cooperation with other cities and partnerships can be a tool in sharing experiences and information, and in addressing fundamental issues of megacities such as quality of life and happiness. Formation of alliances among cities promotes sharing of information, knowledge, and resources, thereby contributing to solutions to overcome the health issues that may confront megacities. Multi-city partnerships, as well as public-private partnerships should be promoted to enable sharing of relevant issues and for creating action points for needed solutions.

Research and innovations in megacities must engage more sectors and maximize technology to mobilize appropriate support groups. In improving quality of life, patients and caregivers should be recognized as key players, and should be given more active roles in the development of next-generation healthcare.

### >>> People residing in megacities and other highly developed areas need to develop a sense of community and resiliency, with sustainable programs for crisis and disaster prevention and management to enable them to endure natural disasters.

The onset of megacity development has spurred the gravitation of the populace from rural to urban areas for convenience and work opportunities, thereby creating newer challenges like access to health care when hospitals are filled with patients, or connecting with one's neighbor when everybody is just thinking about work.

#### HARNESSING BIG DATA INFORMATION FOR IMPROVING URBAN HEALTH GOVERNANCE

A large volume of complex health data sets from pharmaceutical industries and hospitals and health research institutions regarding clinical data and patient behavior, among others, provides valuable trends and projections once this Big Data is collected and analyzed. Big Data improves Health Information Systems by providing real time networks of public health data, and by integrating health concerns in other sectors such as urban planning.

Big Data helps government monitor the pharmaceutical supply chain. For example, mClinica and SnapRx assist government and citizens in tracking Counterfeit or expired medicines, expired Pharma licenses and Med recalls.

Harnessing Big Data information helps in addressing health inequities and provides evidence in formulating health equity interventions in megacities through Urban Health Equity Assessment and Response Tool (Urban HEART), Urban Health Index, and Urban Health Observatories.





## DISASTER RISK REDUCTION

Governments all over the globe are taking initiatives to reduce the risk of disaster; and are in the process of adopting the Post-2015 UN landmark framework on Disaster Risk Reduction, which will follow the 2005-2015 Hyogo Framework for Action - Building the Resilience of Nations and Communities to Disasters. There is wide international agreement that efforts to reduce disaster risks and increase disaster resiliency must be systematically integrated into national policies, plans and practices.

The Ebola outbreak in Africa was challenging in the sense that the world was caught unprepared to deal with it. It was an eye-opener for the world such that the United Nations and affected countries addressed the issue, particularly in the aspects of medically containing and controlling the epidemic. Gaps in health research and development regarding Ebola have been highlighted. In the same manner, the H7N9 epidemic experienced in Hong Kong and nearby East Asian countries also presented a big challenge. The major Japan earthquake that generated a huge tsunami was also an event that caught many nations by surprise. It focused global attention, not only on the people of Japan, but also on other nations, especially those that were indirectly affected by the natural phenomenon. Typhoon Haiyan and the accompanying storm surge that struck the Philippines in 2013 also caught the attention of the global community because of the magnitude of its effects.

How did the affected countries deal with these challenges? The public action addressing needs, problems, and challenges varied from country to country. Among those mentioned are the conduct of vaccine research and development, nationwide campaigns, and awareness programs to further protect people and the communities from epidemics or disease outbreaks, formulation of relevant policies to govern containment and control of epidemics as in the case of Hong Kong, mobilization of local government units and other institutions to deal with the crisis, and the development of technology and ways to further manage disasters and challenges effectively.

>>> Strategies and innovations developed to reduce disaster risks:

1. Close medical care and attention to the health providers attending victims and vaccine research and development, as in the case of Ebola Outbreaks;
2. Development of disaster-related academic curriculum for Nursing Program, as in the case for Japan;
3. Development of an efficient information system related to the H749 influenza epidemic that has directly linked to the policy makers and program implementers, as in Hong Kong;
4. Strengthening and mobilization of local government units and communities, as in the Philippines

Some policy and programmatic action towards reducing disaster risks which were raised and highlighted during the Disaster Risk Reduction Sessions at Forum 2015 included the position that the management and reduction or mitigation of disasters should include not only climate change triggered events, but also others like disease outbreaks, social and political conflicts, and technology-associated incidents such as chemical, energy, and nuclear-related disasters.

In terms of involvement of humanitarian organizations during disasters, emphasis was made on the need for accountability, coordination, and oversight; and a definition of good practices among them. Foreign medical teams during the Haiti earthquake developed standardized systems of services to be provided which included specification of guidelines for minimal capabilities and support systems.

>>> Shared innovations meant to reduce disaster risks, and to strengthen the management of these risks.

1. The UK Collaborative on Development Sciences (UKCDS) brought together stakeholders from funding agencies, researchers, and policy makers aimed at information sharing and promotion of more research opportunities.

2. The Philippine experience highlighted the development of the DRR legal framework in the enactment of a law, Republic Act 10121, the Act Strengthening the Philippine DRR and Management System, the National Disaster Risk Reduction and Management.

Another innovation by the Philippine government was the creation of Project NOAH (Nationwide Operational Assessment of Hazards) and SPEED (Surveillance in Post Extreme Emergencies and Disasters). The latter involves short messaging system in the reporting of illness symptoms seen in evacuation centers.

The Philippine Department of Health established a unit dedicated to Disaster Risk Reduction.

Resource persons at the Forum also stressed that policies indicating clear role delineations in DRR management are necessary, particularly in delineating the role of national government vis-a-vis local government units within the context of countries that have decentralized mechanisms for disaster relief, rehabilitation, recovery, and reconstruction.

The presence and the functions, as well as the roles of volunteer Foreign Medical Teams and military contingents must be defined and well delineated for better horizontal and/or vertical links and for coordination and information dissemination among the people in affected communities.

The Forum also called for greater emphasis on building scientifically solid evidence for Disaster Risk Reduction to ensure support for the health systems strengthening in times of humanitarian emergencies and formulation of appropriate policies and action.

A call was raised for more research involving all stakeholders which should be guided by a common framework and understanding of various universally accepted and defined terms. Research agenda needing attention pertains to patterns of disaster risks, research and technology gaps, application of science and technology in decision-making among government leaders and key stakeholders, and the need to conduct reviews on post-disaster studies to draw out lessons learned and to foster the broader dissemination of information.

A call was also raised for increased priority given to research for health in disasters in some countries where a dearth of disaster literature and studies has been noted. Assessment of disaster research in health community capacity is important to developing countries which are frequently stricken with various types of disaster-causing events.

A call was also raised for more research on concerns that are found critical but seemed overlooked, as more attention is given to relief and rehabilitation material efforts. Among these overlooked areas are the nutritional status and food and nutrition needs of survivors; culture sensitive disaster food production, development, and distribution including food chain mechanisms; research on culture and gender sensitivity in service and medical care provision, especially collective mental health during post-disaster period; and enhancement of resiliency among children and youth survivors and strengthening of psychosocial response to crisis.

The Forum saw the need to further push the research and development efforts in medical/health research, particularly among the big corporate organizations and pharmaceutical companies. Innovations and tools have to be enhanced in preventing, diagnosing, and treating medical needs in humanitarian emergencies.

There was an expressed need for scientific and evidence-based research conducted on the efficacy, efficiency, and effectiveness of technological innovations being introduced and implemented in the communities by government and non-government organizations, and by academic institutions. Knowledge gaps needing attention with respect to disaster experiences of countries are the following:

- What works and does not work in DRR efforts, and why?
- What interventions were made, and what were the results and impact of these interventions?
- Which interventions have optimal effectiveness and efficacy, and are beneficial to the people?
- Research on best practices and humanitarian responses need to be conducted for knowledge sharing and formulation of much better disaster risk reduction policies and programs.



## KEY RECOMMENDATIONS

### Health Research Systems

Countries, especially LMICs, should have a health research system in place to direct, coordinate, and strengthen health research and innovation, and research translation in their respective healthcare structures.

### Priorities

Priorities should be drawn up with the people's participation and with the various stakeholders, upholding the people's health benefit as the major goal. Priorities need to be focused, manageable, culture-sensitive, and people-centered.

### Metrics

An assessment of the impact of research and innovation on desired health outcomes should be constantly monitored and should form part of the M&E system. Likewise, metrics like the COHRED's Research Fairness Initiative (RFI) to measure how health research contributes to the health goals of countries or health equity should also be monitored and assessed regularly.

### Regulation

Research ethics is a critical component of health research. Ethics training and regulations still need to be integrated in developing countries to produce relevant data and allow these nations to compete globally.

### Innovation

Innovation should be people-centered and geared towards the attainment of desired health outcomes. New strategies need to be developed to contribute to research generation and translation of evidence into viable and sustainable interventions.

### Partnerships

Multiple partnerships need to be forged to advance research and innovation and to address health inequities. This involves multi-disciplinary and multi-sector alliances, academe-industry and public-private partnerships, and global, regional, and country cooperation.

### Technology

New technologies need to be harnessed to improve health research generation, health services delivery, and ultimately desired health outcomes. Advancements in information and communications technologies and the use of social media are good prospects for reaching out to more people and stakeholders, particularly policy makers.

#### SOCIAL MEDIA

When used appropriately, social media is a promising tool that can close the communication gap between researchers, policymakers and public at large. The reach of social media is global, thus it enables a lot more individuals, from different networks, to share and access information at the same time. There is a call to the creation and strict reinforcement of policies that will ensure confidentiality, and privacy of its stakeholders. While the role of social media in healthcare is still a work in progress, each user should be encouraged to make use of this tool with high degree of caution and sensitivity.



### Career Development

Both seasoned and fledgling scientists should be nurtured and accorded due importance. Research infrastructures and appropriate support systems need to be in place to reap their full potential to generate culturally appropriate research outputs and innovations.

### Youth Involvement

Young researchers and leaders need to be nurtured and oriented on the importance of health research by engaging them early in health research and development initiatives.

### Good Governance

Health research and innovation will flourish under good governance that is grounded on social accountability, transparency, and sound ethics.

### Investment in Health

Social and financial investments in health are vital to sustain health research initiatives. Health research need not only be sufficiently financed, but also have to be socially acceptable and relevant to the needs of the country.

### Equity in Health

Health research should advocate for equity in health by providing solutions that would address the disparities between the healthy and unhealthy or the advantaged and disadvantaged.

### Information Access

Policy makers and stakeholders should have easy access to peer-reviewed articles to enable them to make sound decisions.





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## FORUM 2015 CONCURRENT ACTIVITIES

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Engaging all stakeholders. Forum 2015 encouraged all who are passionate about solving health equity through research and innovation to join in the ways that suit their contributions best.



### NEW LEADERS FOR HEALTH

Young leaders in their fields of expertise drafted the Reimagining Global Health in the 21st Century– an Imperative for New Leaders for Health as the outcome document during the New Leaders for Health Pre Forum session organized by PCHRD and #Reimagine Global Health.

### ETHICS FOR HEALTH RESEARCH

The Philippine Health Research Ethics Board (PHREB) shared the efforts for adapting conventional ethics mechanisms to rapidly emerging technological innovations in health research in the “Research Ethics Review: Can Prevailing Ethics Mechanisms Protect Human Subjects in the Contemporary Context of Research Innovation?” session. The session provided recommendations for effective and equitable ethics mechanisms appropriate for emerging contexts for innovation in health research.

### ASEAN-NDI COMMUNITIES OF PRACTICE

The session ASEAN-NDI Communities of Practice (CoP) on Drugs, Diagnostics and Vaccines Meeting and the Regional Consultation on R&D Collaboration on Environment and Health discussed health R&D priorities in the fields of drugs, diagnostics, vaccines, environment, and health and developed agenda to guide the crafting of ASEAN collaborative programs and projects.



## PNHRS ASSEMBLY

The Philippine National Health Research System (PNHRS) Assembly was a celebration of the 9th PNHRS Week. In the focus group discussions, stakeholders tackled how the PNHRS Strategy Map and 5-Year Plan will be put into action by the System. The key discussions centered on how to make the System more nimble and responsive, mobilize resources to implement the programs, and to establish baseline data for monitoring and evaluation of the System's performance.

## RECOMMENDATIONS OF THE MANILA DECLARATION

Make research information available in languages used by the producers and users of health research.

Utilize research databases and networks such as IMSEAR, WPRIM, the Asia Pacific Medical Journal Articles Central Archives (APAMED Central) and other platforms.

Make research information available in different formats to ensure accessibility and interoperability.

Use conventional and unconventional media, including social media and microblogging sites, for information dissemination.

## APAME

The Asia Pacific Association of Medical Journal Editors (APAME) presented the "Manila Declaration on Advancing Access to Health Information and Publication," a document reaffirming the commitment of members to ensure the equity in access of scientific publication in the Asia Pacific region. The Declaration commits medical journal editors in the region to make health research information free and openly available in low and middle-income countries.

## WINNERS

### **Aniecito**

*King Marc Baco*

### **A New Breed of Doctors**

*Dexter dela Peña*

## HEALTH FILM FESTIVAL

PCHRD teamed up with the Philippine Association of Communication Educators (PACE) to raise awareness on health advocacies and Forum 2015 themes through films. A total of 24 films were shortlisted where two winners were awarded a plaque and P100,000.00 while non-winning participants received P10,000.00.

### **David Glyn Harris**

*University of Cape Town  
Cape Town, South Africa*

### **Yashodhan Nair**

*University of Cape Town  
Cape Town, South Africa*

## GLOBAL HEALTH DEBATES

The first ever Global Health Debates held on 24-27 August gathered the brightest students from around the world in a debate tournament on pertinent and emerging concerns on worldwide health, research, and innovation. The electric discourse was brought to the primary movers in the health sector: policy-makers, heads of international organizations, and members of various research institutions to inspire greater action in health policy and research.

The debate was organized in cooperation with the Health Sector Catalysts, a data warehousing, analytics, and outcomes improvement company, the UP Manila Debate Circle, and DOH.

### 1ST PRIZE

### **CHEWS: Community Health Warning System**

*Marc Anthony Reyman*

### 2ND PRIZE

### **CLEAR U-13**

*Nathaniel Vincent Lubrica*

### 3rd PRIZE

### **Healthcare Innovation for Chronic Diseases: Improving Patient Outcomes through Long-Term Medical Compliance**

*Jahnn Kirby Binayao*

## IT4HEALTH

Programmers and IT developers participated in the IT4Health Contest, creating IT solutions and big data analytics to address different pressing global health problems. The winning developers pitched their ideas to the various stakeholders present at the Forum. They will undergo a social laboratory activity that will incubate their innovation for scaling-up, and make the idea more sustainable.





## FORUM 2015 EXHIBIT

Aiming to showcase innovation and technology in health and social care, the Forum 2015 Exhibition also explored the benefits that this can deliver – touching base on the different themes of the conference topics. The exhibition welcomed a host of key suppliers and partners from across the public and private sectors that showcased their latest products, innovations, and services. Many of our partners and supporters also shared their expertise and insight in the conference sessions as well.

## FORUM 2015 PHOTO EXHIBITION

The Photo Exhibition at Forum 2015 was a visual showcase of the direct impact and transformational ability of research – in all sectors that affect the health and development of people's lives. The exhibition highlighted innovative research projects that showcase their impact and value in real world situations.

Everyone working in the various areas of research for health – social enterprises, research institutions, media practitioners reporting on health research, and civil society organizations (CSOs) – were invited to join. Submitted photos were taken either with a professional camera, a basic camera, or a cell phone – showcasing how research and innovation projects affect people's health

## FORUM 2015 ORAL ABSTRACT PRESENTATION AND POSTER EXHIBIT

A research event would not be complete without a poster presentation area – where various authors of accepted abstracts were invited to present their works. Forum 2015 provided opportunities for researchers to present their works in oral presentation sessions and poster exhibits. Twenty-six researchers presented their research-in-progress in the five-minute oral abstract presentation while 36 poster presentations were featured in the poster exhibit area. In the poster exhibit area, participants eagerly read the various posters each day, and some were lucky enough to have the authors present and engage in a scholarly discussion.

## RUN FOR HEALTH RESEARCH

On August 9, two weeks prior to the conference, over a thousand people walked, jogged, and ran their way through the Cultural Center of the Philippines Complex to support the Global Forum on Research and Innovation for Health 2015.





## INNOVATIONS UNVEILED



**DOSERIGHT SYRINGE CLIP:** Misdosing of liquid medication is common and can have serious consequences – and heightened by drug regimens, especially Anti-Retroviral medications (ARVs) for HIV-positive children and infants. DoseRight Syringe Clip was designed to enhance the dosing accuracy of liquid ARV medications in resource-limited settings. DoseRight is a simple plastic clip attached to the top of a standard oral syringe. By acting as a stopping mechanism, the clip controls the amount of medication that could be drawn into the syringe. More than 213,000 syringe clips were delivered to Swaziland, where they are being used by 12,000 participants in the national Prevention of Mother to Child Transmission of HIV/AIDS.



**PUMANI bCPAP:** Acute respiratory infections are the leading cause of global child mortality, and in the developing world, oxygen therapy is the only treatment for babies suffering from respiratory diseases. However, bubble Continuous Positive Airway Pressure (bCPAP) devices cost US\$6,000 – too expensive for most developing world hospitals. Over 100 Pumanis were distributed in tertiary and secondary level hospitals in Malawi, Indonesia, Pakistan, and Haiti, and additional units will be distributed in Tanzania, Zambia, and South Africa in 2015.



**JAYAASHREE INDUSTRIES:** To address the reproductive diseases caused by poor menstrual hygiene in India, Arunachalam Muruganatham invented a sanitary making machine that operates on a small-scale. This invention not only made pads affordable for women but this machine created jobs and income for women. The mini-machines can manufacture sanitary pads for less than a third of the cost of commercial pads and have been installed in 23 of the 29 states of India.





**THE SHOE THAT GROWS** – The Shoe That Grows was intended and designed to combat soil-transmitted parasites for children living in extreme poverty who otherwise would not have access to shoes or only access to shoes in poor condition that will quickly be outgrown. The shoe(s) adjusts five sizes and lasts five years, and could therefore provide better protection for children. The 3,000 pairs of Shoe That Grows have made their way to Kenya, Ecuador, Haiti, Ghana, providing thousands of children long-lasting shoes to protect their feet.



**COLALIFE:** A charity formed by British couple Simon and Jane Berry, worked with Coca-cola to learn about the distribution channels the company uses in developing countries. With this knowledge, the couple formed the ColaLife Zambia run by Zambian NGOs to ensure life-saving treatments - 'Kit Yamoyo' (kit of life), the affordable diarrhea kit, - reach children with diarrhea in remote parts of Zambia.



**YELLOW CASSAVA CLONES:** Vitamin A deficiency is the leading cause of childhood preventable blindness 5-years and below. The current ways of combatting this are via supplements, and are not sustainable. Yellow cassava clones fortified with beta-carotene have the ability to cut childhood blindness by at least 20%. The yellow cassava clones offer a bright future for preventable childhood blindness in Sub-Saharan Africa.





Toto Health - SMS & Voice Technology

**TOTOHEALTH:** A Kenyan startup, Totohealth is a social venture that utilizes a web-based mobile solution as an informative tool that delivers timely, targeted, and vital information to flow between expectant mothers or mothers with young children, community health workers, and health institutions.



PureSleep  
Just Boil, Bite & Sleep

**PURESLEEP:** A cost effective solution for the treatment of Obstructive Sleep Apnea (OSA) – an undertreated disease in both developed and developing countries. The usual treatment is CPAP, but is quite expensive and requires electricity. PureSleep is a mandibular repositioning device that may be fitted with nothing more than boiling water.



Build It Yourself - Handcycle

**HANDCYCLE:** Santa66 shows how to build a DIY handcycle by recycling a wheelchair and a bike. The development is very apt for handicapped people in developing countries where poor roads make it very hard for wheelchairs to pass through.





**EMBRACE WARMER:** A cost-effective substitute for incubators for premature babies. Not only costing less than 1% of a standard incubator- the warmer can be re-used 50 times; can be used while the baby is in the mother's arm; easily cleaned with soap and water; easy to use and uses an innovative phase change material to rapidly stabilize temperatures especially for infants suffering from hypothermia.



**E-TOILETS:** Change the way sanitation works in India, e-toilets are unmanned toilets which work on a sensor-based technology. The toilet is a self-cleaning and water and energy conserving toilet – through sensor-based technology.



**BIOSAND FILTERS (BSFS):** Developed by Dr. David Manz of the University of Calgary, Canada, Biosand Filter has been used for community water treatment. The device is simple to use and can be produced anywhere in the world because it is built using materials that are readily available. BSF consists of a simple container with lid, enclosing layers of sand and gravel which traps sediments, pathogens, and other impurities.

## IMPACT

COVERAGE  
TRADITIONAL / ONLINE / SOCIAL

Forum 2015 was indeed well-covered by a wide variety of outlets – from traditional media (print, TV and radio), online publications and a heavy footprint in twitter with the #COHRED\_forum, at one point, the top trending hashtag in the Philippines.

The numbers are impressive: **43 unique articles** can be found online from January 25, 2015 until 3 months passed the event dates. **Twenty-six (26) unique articles were published in 12 print outlets** with the biggest broadsheets in the Philippines: Philippine Daily Inquirer, Philippine Star, and Manila Bulletin covering the event. The 3 broadsheets alone have a combined daily circulation of slightly above one million and a combined readership of above two million in the National Urban Philippines (Metro Manila plus 12 key cities in the Philippines). For television– 5 Philippines-based station were onsite including: **CNN Philippines, TV5, PTV4, Net25 and ABS-CBN**. For Radio, 3 radio stations were broadcasting live interviews including **DZRB** (in 3 frequencies), **Radio Agila & DZRH** on their main frequencies. On Twitter, during the event dates #COHRED\_forum was a top-trending hashtag with **4,367,903 impressions on 2,547 tweets**. There were 255 active tweeters – averaging 18 tweets per hour with each tweeters sending out 10 tweets. And finally on the Forum 2015 Facebook page – it has received 2,546 likes.

## FEEDBACK

*"I have three items to include in the national and global research agenda of tomorrow, if they are not already emphasized now: Obesity, Teen-age Pregnancy, and Smoking. All three of them could innovatively zero in on creative preventive measures. They are all difficult to address once started, hence they should be prevented. This is my challenge to the health systems of every country."*

**-Dr. Gelia Castillo**, Philippine National Scientist

*"It was a pleasure to participate in such an important and pertinent forum for health today. Thank you in return to the cohosts for considering my participation and for the warm hospitality and reception of my visit. It was most certainly impressive to see the extent of attendance, interest and commitment to the issue."*

**-Dr. Maria Guevara**, Regional Humanitarian Representative (ASEAN), MedecinsSansFrontieres (MSF)/Doctors Without Borders

*"At the outset, let me thank you for this wonderful opportunity, of speaking in the plenary at such an interesting and reputable conference, with a huge attendance. My talk generated a lot of interest, and all in all, it was a tremendous experience, and truly a great opportunity to showcase Operation ASHA's work."*

**-Dr. Shelly Batra**, MD, President  
Operation ASHA, India

*"Thanks. I need to appreciate the way you have organized the event. It was well run; your team and the Philippine government did an excellent job."*

**-Mmboneni Muofhe**, Deputy Director - General, International Cooperation and Resources, Department of Science and Technology South Africa

*"Thank you for the excellently organized Forum in Manila which gave us an opportunity to make new helpful contacts and to promote innovative projects in medicine."*

**-Professor Shamil Akhmedov**, MD, PhD  
Chairman of the BRICSBiomed Consortium  
Deputy Director for Innovation of RI Cardiology – Russia

*"This event helped a lot in exposing young health professionals like me on research in different areas of healthcare. It also became an opportunity to look at what is being done in other countries and determine similarities and differences in terms of health and research development in their setting and in the Philippines. Most of the sessions were thought-provoking and I consider this instrumental to my career development as a member of the academe."*

**- FRMLunar**, UP Manila





*"I learned a lot from the Forum. I felt that I am so advanced in my know-how giving me that level of confidence to do my work better such as in translating research to policy and innovation. I hope another one of this kind will be coming--- soon! "*

- **Virgie Anceno**, CRHRDC/NEDA-CAR

*"The Forum was great and well organized."*

- **SokChea (Mr.)** Gov. Official, MIH, S&T focal point Cambodia

*"Forum 2015 is a great avenue to exchange thoughts and at the same time learn new things...very informative and orderly in terms of the conduct of the different parallel sessions....the organizing team is very accommodating and very much willing to attend to the needs of the delegates...Kudos everyone,,, what a great four (4) days experiences for me...."*

- **Anonymous**

*"Forum 2015 was a good opportunity not only to hear timely topics from speakers, but also to network and touch base with researchers, funders, and policy makers."*

- **Anonymous**

*"Good avenue for meeting new/ potential partners and supporters in R & D. It was truly a wonderful experience. Having the chance to be exposed to the global perspectives through this forum will help me partake in the movement to change in my country."*

- **jes\_an95@yahoo.com**

*"I was touched when one of the speakers said, "Research for research sake is not research at all." So many academicians are conducting research for the purpose of raising their academic status and salaries.... How about making a difference in the quality of LIFE?"*

- **Anonymous**

*"The Forum 2015 was amazing. The arrangement was perfect.. liaison people, food, accommodation, transport, venue, topics of discussion, ceremonies .... Really amazing for me."*

- **Win Maw Tun**, Director (Research) Department of Medical Research, Ministry of Health Myanmar

*"The beginning of a bigger change for students, advocates, novice and expert researchers where voices are being heard. The conference gave us chances to rediscover complexities, to share, exchange and discuss; and to revision the concept of health and health equity."*

- **Anonymous**

# ACKNOWLEDGEMENTS

Our Global Forum on Research and Innovation for Health 2015 in Manila, Philippines could never have been the phenomenal success that it was without the support and assistance of a number of distinguished organizations and individuals.

We extend our warm thanks to the members of the Forum 2015 Committees for their active involvement and support. They helped us select the best of the best in each field, and developed a program that truly addresses the current global and local issues on research and innovation for health.

## SCIENTIFIC COMMITTEES

### Social Accountability

Dennis Batangan (Chair), Research Associate, Institute of Philippine Culture, School of Social Sciences, Ateneo de Manila University, Philippines

Rosemarie Johnson Herrera, Executive Director, Health Alternatives for Total Human Development Institute (HEALTHDEV), Ateneo de Manila University, Philippines

Redempto Parafina, Affiliated Network for Social Accountability in East Asia and the Pacific

Anthony Capon, Director, International Institute for Global Health, United Nations University, Malaysia

Kevin McCarthy, Policy Officer/International Aid/Cooperation Officer for Health & Research European Commission International Cooperation and Development Human Development and Migration Directorate

Sue Patricia Cant, Social Accountability Adviser, World Vision International

### Increasing Investments

Reynaldo Garcia (Chair), Senior Faculty, National Institute of Molecular Biology and Biotechnology, University of the Philippines Diliman

Isagani Padolina, Director for R & D and Business Development, Pascual Pharma Corporation

Ronald Subida, Vice President for Medical and Regulatory Affairs, Pascual Pharma Corporation

Eduardo Banzon, Senior Health Specialist, Asian Development Bank

Patricia Lontoc, Professor, Asian Institute of Management

Janis Lazdins-Helds, Associate, Council on Health Research for Development

Lindi Van Niekerk, Lead, Inclusive Healthcare Innovation initiative Bertha Center for Social Innovation and Entrepreneurship, University of Cape Town South Africa

### Country-driven Capacity Building

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