15th NIH Anniversary

11th UNIVERSITY SCIENCE AND TECHNOLOGY WEEK

4th ANNIVERSARY of the Metro Manila Health Research and Development Consortium

University of the Philippines Manila

National Institutes of Health

21-22 February 2013

21 February - Unilab Bayanihan Center, Mandaluyong City
22 February - Century Park Sheraton Hotel, Vito Cruz, Manila
Unilab ‘Yan!

From Lolo’s hypertension medicines to Nanay’s supplements for managing cholesterol. From continuing education for medical professionals to promoting healthy activities for the whole family. We keep thinking of ways to help every heart stay healthy, and make quality healthcare accessible to those who need them, by working with healthcare professionals and institutions who are our partners towards a healthier nation. That’s how we’ve made more Filipinos live longer, get better and feel better over the years. Small wonder then that for generations of Filipino families, trusting Unilab is always heartfelt. Because building a healthier nation comes from the heart.
What we are
The National Institutes of Health is the research arm of the University of the Philippines Manila, the Health Sciences Center of the UP System. It was established to support the national effort to improve the health of the Filipinos by enhancing the country’s capability for health research and development.

What we believe in
VISION
To be the country’s recognized authority in health research and development and the key source of critical health information for national development in the Philippines and Southeast Asia.

MISSION
To be a major resource center for health research and capacity-building, using the framework of “Partnerships for Better Health”.

What we do
We promote science and technology research and development in health;
We promote the development of study groups and research programs;
We establish mechanisms for the dissemination and utilization of research outputs;
We complement graduate programs and faculty research human resource training in the University;
We ensure that the results of health research and development activities are utilized to improve the health of the people.
# PROGRAM

**DAY 1: 21 FEBRUARY 2013, THURSDAY, 1:00-5:00 pm**  
[SEVEN SIMULTANEOUS SESSIONS]

## HEALTH POLICY WORKSHOP
**TRANSFORMING ADVOCACY TO POLICY**

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<thead>
<tr>
<th>SESSION #</th>
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<th>Topic</th>
<th>Lead person/s</th>
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</table>
| 1         | Rm L  | Implementation of the Universal Newborn Hearing Screening Program in the Philippines | Dr Charlotte M Chiong  
Newborn Hearing Screening Reference Center  
National Institutes of Health |
| 2         | Rm M  | Sugar Consumption | Dr Maria Susan T Yanga-Mabunga  
Department of Health Policy and Administration  
College of Public Health, UP Manila  
Dr Vicente O Medina III  
College of Dentistry, UP Manila |
| 3         | Rm G  | Health Human Resource for an Aging Philippines | Dr Doris Camagay  
Dr Shelley Ann F de la Vega  
Institute of Health Policy and Development Studies  
National Institutes of Health |

## SCIENTIFIC PAPER WRITING WORKSHOP

| WORKSHOP | Room I | Writing for the Acta Medica Philippina and other journals | Dr Jose Ma. C Avila  
Acta Medica Philippina |

## ROUNDTABLE DISCUSSION

| SESSION 4 | Rm BCD  
Unilab Bayanihan | State of Maternal Nutrition in the Philippines and Its Impact on Neonatal Morbidity and Mortality | Dr Aida M Salonga  
Institute of Child Health and Human Development  
National Institutes of Health |
| SESSION 5 | Rm K  
Unilab Annex Bldg | Framework for Neglected Tropical Diseases Study and Position Statement Development for the Philippines: A Focus on Schistosomiasis | Dr Raul V Destura  
Institute of Molecular Biology and Biotechnology  
National Institutes of Health |
| SESSION 6 | Rm H  
Unilab Annex Bldg | Use and Management of Mercury-Containing Devices in the Healthcare Facilities: Focus on Dental Amalgams | Dr Noel R Juban  
Institute of Clinical Epidemiology  
National Institutes of Health  
Dr Vicente O Medina III  
College of Dentistry, UP Manila |
## DAY 2: 22 FEBRUARY 2013, THURSDAY, 8:00am – 8:00pm

### [PLENARY SESSIONS]

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<th>Time</th>
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<th>Participants</th>
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</table>
| 8:00-8:30 am | Opening Ceremonies                                                                       | Chancellor Manuel B Agulto  
University of the Philippines Manila  
Assisted by:  
Executive Director Vicente Y Belizario Jr  
National Institutes of Health  
Dr Shelley Ann F de la Vega  
Chair, Organizing Committee  
15th NIH Anniversary Celebration  
Dr Vicente O Medina III  
Co-Chair, Organizing Committee |
|            | Invocation and National Anthem                                                            | UP Manila Chorale                                                                                 |
|            | Welcome Remarks                                                                            | Dr Shelley Ann F de la Vega  
Chair, Organizing Committee                                                                      |
|            | Opening Remarks                                                                           | Dr Vicente Y Belizario Jr  
Executive Director, National Institutes of Health                                                   |
|            | Message                                                                                   | Dr Manuel B Agulto  
Chancellor, University of the Philippines Manila                                                   |
|            | Message                                                                                   | Hon Alfredo E Pascual  
President, University of the Philippines System                                                   |
| 8:30-9:45 am | Plenary 1                                                                                 |                                                                                                  |
|            | Moderator: Dr Leo D Cubillan  
*Institute of Ophthalmology, National Institutes of Health*                                      |
|            | State of Maternal Nutrition in the Philippines and Its Impact on Neonatal Morbidity and   | Dr Juanita A Basilio  
*National Center for Disease Prevention and Control Department of Health*                      |
|            | Mortality (P1)                                                                            |                                                                                                  |
|            | Framework for Neglected Tropical Diseases Study and Position Statement Development for    | Dr Remigio M Olveda  
*Research Institute for Tropical Medicine Department of Health*                                  |
|            | the Philippines: A Focus on Schistosomiasis (P2)                                          |                                                                                                  |
|            | Use and Management of Mercury-Containing Devices in the Healthcare Facilities: Focus on   | Dr Vicente O Medina III  
*College of Dentistry*  
*University of the Philippines Manila*                                                                  |
|            | Dental Amalgams (P3)                                                                       |                                                                                                  |
|            | Implementation of the Universal Newborn Hearing Screening Program in the Philippines      | Dr Charlotte M Chiong  
*Newborn Hearing Screening Reference Center National Institutes of Health*                       |
|            | (P4)                                                                                      |                                                                                                  |
|            | Sugar Consumption (P5)                                                                    | Dr Rose Anne Q Rosanes  
*College of Dentistry*  
*University of the Philippines Manila*                                                                  |
|            | Health Human Resource for an Aging Philippines (P6)                                       | Dr Shelley Ann F de la Vega  
*Institute of Health Policy and Development Studies National Institutes of Health*               |
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|            |                                                                                           |                                                                                                  |
|            | OPEN FORUM                                                                                |                                                                                                  |</p>
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| 9:45-10:30 am | **Introduction of the Keynote Speaker**  
Hon. Enrique T Ona  
Secretary  
Department of Health |
|               | **Keynote Address**  
His Excellency Benigno S Aquino III  
President  
Republic of the Philippines |
| 10:30-10:45 am| **Intermission Numbers**  
UP Manila Chorale |
| 10:45-12:00 nn| **PLENARY 2**  
**Moderator:** Dr Imelda G Peña  
Institute of Pharmaceutical Sciences, National Institutes of Health |
|              | **Translational Health Research (2.1)**  
Dr Eva Maria C Cutiongco-de la Paz  
Institute of Human Genetics  
National Institutes of Health |
|              | **Development of Low-Cost Dengue Kit and Scaling Up for Commercial Use (2.2)**  
Dr Raul V Destura  
Institute of Molecular Biology and Biotechnology  
National Institutes of Health |
|              | **Herbal Medicine Research and Development: From the Academe to the Filipinos and the Industry (2.3)**  
Dr Nelia P Cortes-Maramba  
College of Medicine  
University of the Philippines Manila |
|              | **Herbal Research: Academe to the Market (2.4)**  
Dr Francis Wade Z Gomez  
New MarketLink Pharma Corp |
|              | **Open Forum** |
| 12:00-1:30 pm| **Luncheon Symposium**  
Sponsored by Pfizer Philippines |
|              | **Pentoxifyline Therapy Among PreTerm Neonates ≤ 1500 grams in Reducing Mortality from Neonatal Sepsis: A Double-Blind, Randomized Placebo-Controlled Trial (LS1)**  
Dr Jessamine C Sareno  
NIH-Pfizer PEER Health Program |
|              | **A Randomized Controlled Trial of Kangaroo Mother Care Versus Conventional Care in Increasing the Rate of Weight Gain among Low Birth Weight Neonates (LS2)**  
Dr Fay S de Ocampo  
NIH-Pfizer PEER Health Program |
### PLenary 3

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<th>Time</th>
<th>Session</th>
<th>Speaker(s)</th>
<th>Institution/Institute</th>
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<tr>
<td>1:30-2:45 pm</td>
<td>Health Promotion Framework as Applied in the Philippine Context (3.1)</td>
<td>Dr Ma Sandra B Tempongko</td>
<td>SEAMEO Tropical Medicine Network</td>
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<td>Institute of Herbal Medicine, National Institutes of Health</td>
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<td>Cebu Longitudinal Health and Nutrition Survey (3.2)</td>
<td>Dr Nanette Lee Mayol</td>
<td>University of San Carlos</td>
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<td></td>
<td>Emergency Response in Disasters: Streamlining Efforts and Addressing Gaps in Providing Health Care and Sanitation (3.3)</td>
<td>Dr Gina Itchon</td>
<td>Xavier University</td>
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<td>A Healthy Province - Bukidnon (3.4)</td>
<td>Governor Alex Calingasan</td>
<td>Province of Bukidnon</td>
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<td></td>
<td>Open Forum</td>
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### PLenary 4

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<th>Time</th>
<th>Session</th>
<th>Speaker(s)</th>
<th>Institution/Institute</th>
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<tr>
<td>2:45-3:45 pm</td>
<td>Effects of Persea americana Mill. (avocado) Leaf Extract on Serum Uric Acid Level of Hyperuricemia-induced ICR Mice (4.1)</td>
<td>Dr Dolores V Viliran</td>
<td>Institute of Medicine</td>
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<td>Far Eastern University-Dr. Nicanor Reyes Medical Foundation (FEU-NRMF)</td>
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<td></td>
<td>Normal Lung Sound Enhancement and Characterization for Automatic Identification of Lung Pathologies (4.2)</td>
<td>Mr Cadwallader C Chua</td>
<td>Department of Computer Technology</td>
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<td>De La Salle University Manila (DLSUM)</td>
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<td>In Vivo Studies of the Antihypertensive Activity of the Crude Methanolic Extract of Selaginella uncinata Desv. ex Poir. (Selaginellaceae) (4.3)</td>
<td>Mr Jehrald Timothy T Chua</td>
<td>Faculty of Pharmacy</td>
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<td>University of Santo Tomas (UST)</td>
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<td>Time</td>
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<td>Speaker</td>
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<tr>
<td>3:45-5:00 pm</td>
<td>Economics of Health for Productivity: Role of Economic Evaluation in Policy (5.1)</td>
<td>Dr Carlo Irwin A Panelo</td>
<td>College of Medicine University of the Philippines Manila</td>
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<td>Health or Wealth: Are There Trade-Offs When Taxing Sin (5.2)</td>
<td>Prof Stella Luz A Quimbo</td>
<td>School of Economics University of the Philippines Diliman</td>
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<td>Cost-Effective Analysis of Universal Newborn Hearing Screening Program in the Philippines (5.3)</td>
<td>Dr Charlotte M Chiong</td>
<td>Newborn Hearing Screening Reference Center National Institutes of Health</td>
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<td>Burden of Road Traffic Accidents in the Philippines (5.4)</td>
<td>Dr Carlos Primero D Gundran</td>
<td>Department of Emergency Medical Services Philippine General Hospital</td>
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<td>Role of Cost-Benefit Analysis on Policy Making (5.5)</td>
<td>Dr Hilton Y Lam</td>
<td>National Institutes of Health</td>
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<tr>
<td>5:00-5:30 pm</td>
<td>Closing Ceremonies</td>
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<td>Summary and Closing Remarks</td>
<td>Dr Vicente O Medina III</td>
<td>Organizing Committee</td>
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<tr>
<td>5:30-8:00 pm</td>
<td>Cocktails</td>
<td>Dr Noel R Juban</td>
<td>Institute of Clinical Epidemiology, National Institutes of Health</td>
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MESSAGE

My warmest greetings to the National Institutes of Health of the University of the Philippines Manila on your 15th Anniversary.

Medical research plays a critical role in understanding the human body, in finding cures to diseases, and in advancing public health. For the past 15 years, you have been at the forefront of this agenda by acting as the country’s recognized authority on health research and development, and a key source of important health information. Your efforts have greatly added to our collective body of medical knowledge and improved the practices of our physicians and health care professionals. May this anniversary inspire you to pursue your endeavors with even more passion, dedication, and excellence, that we may uphold our people’s welfare and create a robust, productive citizenry.

The previous year saw the passing of crucial legislation—particularly, the Sin Tax Reform Act of 2012 and the Responsible Parenthood and Reproductive Health Act of 2012—that has brought our nation closer to our goal of providing adequate and accessible health care for our countrymen. With your solidarity, we can secure a healthy, balanced life for our people and sustain our advancement in this time of daylight and revitalization.

I wish everyone a happy anniversary.

BENIGNO S. AQUINO III

MANILA
21 February 2013
MESSAGE

Warmest greetings and congratulations to the officers and members of the University of the Philippines Manila National Institutes of Health (UPM-NIH) as they hold their 15th Anniversary.

The Department of Health (DOH) shares your vision of providing the impetus for a stronger health research and policy for a better health care system in the country. The Aquino Health Agenda of Kalusugan Pangkalahatan, focuses on achieving universal health for all through the three thrusts of PhilHealth enrolment, enhancement of health facilities, and attainment of the Millenium Development Goals.

Health professionals as well as health researchers play a vital role in these three thrusts being the service provider, educators, and conduit of quality health care. You have taken it as your mandate to paticipate in the continuing education of the public on prevention of diseases, health maintenance, and programs that promote health, wellness, and fitness.

The partnership between the DOH and the UPM-NIH should further develop in way that could create more responsive solutions for our country's health care. Your support and commitment in promoting and strengthening health research and policy is greatly appreciated. Let us continue in striving for excellence and relevance as we aim for Universal Health Care or Kalusugan Pangkalahatan.

Mabuhay tayong lahat!

Secretary of Health

ENRIQUE T ONA, MD
Secretary of Health
MESSAGE

I am pleased to express my warmest greetings to the National Institutes of Health of the University of the Philippines Manila (UPM-NIH) on the occasion of its 15th anniversary celebration together with the 11th University Science and Technology Week and the 4th Metro Manila Health Research and Development Consortium.

The partnership of UPM-NIH and the Philippine Council for Health Research and Development (PCHRD) through the years has created a strong foundation for health research in the country to flourish. By working together towards a common goal, we have achieved major achievements based on health researches that impact the social and economic development of the Philippines.

Congratulations and I wish you every success in your future endeavors.

_Mabuhay ang NIH!

Jaime C. Montoya, MD, MSc, CESO III
Executive Director
Philippine Council for Health Research and Development
MESSAGE

Congratulations to the National Institutes of Health (NIH) on its 15th Anniversary!

Congratulations as well to the success of its joint activities - the University Science and Technology Week and the 4th Metro Manila Health Research and Development Consortium Anniversary!

As the National Center for Excellence for Health Research and Development, the NIH has truly embodied the spirit of - UP: Shaping minds that shape the nation. Since its inception in 1998, the NIH has conducted cutting-edge research and promoted significant policies that advanced national health programs. To this day, the NIH continues its ardent pursuit of improving the health and well-being of Filipinos.

Each year, the NIH celebrates its anniversary by discussing timely and pertinent health issues - rampant and deadly diseases, children's rights, the fulfilment of the Millennium Development Goals on health, and so on. This year is no exception. "Science and Health for Social and Economic Development" tackles yet another aspect of development where health figures prominently. Newborn screening, maternal health, tropical diseases, herbal medicines, and sin taxes are some topics where the health sciences have direct impact on social and economic development.

In addition, I commend the NIH's quest to institutionalize the Philippine National Health Research System through HB 6735, which has recently been approved by the Lower House on its final reading.

The NIH indeed epitomizes the UP traditions of honor, excellence, and service to the nation. May it continue to persevere in its pursuit of improving the quality of life of Filipinos through health research and policy.

Padayon UP! Onward UP on the path to greatness!

ALFREDO E PASCUAL
President
MESSAGE
Souvenir Program for the NIH Anniversary

The rest of the UP Manila community extends warm greetings to the National Institutes of Health on the celebration of its 15th anniversary. I congratulate the leadership, faculty, and staff of the Institute for one and a half decades of significant contributions to health through the conduct of researches with policy and program implications.

Happily, this occasion dovetails with recent developments that will hasten the pursuit of translational researches. Construction work on the new NIH Building that will house new and modern laboratories will commence soon. UP Manila has just concluded its Management Action Planning Workshop of which relevant and doable plans for NIH are integrated.

The theme “Science and Health for Social and Economic Development” highlights the fundamental role of science and health in the survival and progress of our country. Undoubtedly, the contributions of health research to overall human development are immense. However, it is a fact that the translation of evidence into appropriate policies and usable forms is partial and slow. A wide gap exists between the quantity of technologies and innovations generated and those that were already translated to policies.

This forum that tackles the imperative to move science into policy is auspicious and encouraging. We are pressed for time as the deadline for the achievement of the Millennium Development Goal targets nears and with the soon-to-be implemented Kalusugang Pangkalahatan program of the government. To be successful, these undertakings hinge greatly on our ability to accelerate the movement of S and T into policies and patents that can transform society and people. There is need for a wider and stronger collaboration among the academe, government, industry, non-government organizations and the rest of the private sector in utilizing the benefits of science for a healthier citizenry.

The university can serve as a catalyst to translation. As the country’s health research center, NIH and other concerned units can initiate more activities that can help bring science closer to and more understandable, accessible, and usable to policy makers and the public.

MANUEL/B. AGULTO, MD
Chancellor
MESSAGE OF UP-NIH EXECUTIVE DIRECTOR

MESSAGE

Greetings to the participants and organizers of the 15th National Institutes of Health Anniversary, the 11th University of the Philippines Manila University Science and Technology Week, and the 4th Metro Manila Health Research and Development Consortium Anniversary!

This year, this triple celebration revolves around the theme “Science and Health for Social and Economic Development”. We celebrate this significant occasion by coming together to share new discoveries and new perspectives on health research that is transformative and relevant. We highlight research outputs that contribute not only to knowledge production, but also to efforts toward social and economic development in the country. We draw attention to the broader impact of health research outputs to national development.

Through this year’s gathering, I fervently hope that we will be inspired to participate more actively, seek and establish more venues for collaboration, and work together towards discovering new knowledge in the various areas related to health that can contribute to social and economic development in the Philippines. May we all do our part in making health research count in all aspects of national development.

VICENTE Y. BELIZARIO, JR., MD, MTM&H
Vice Chancellor for Research, UPM and Executive Director, NIH
MESSAGE

Greetings to the participants of the National Institutes of Health Anniversary, and the UP Manila Science and Technology Week. The Institute of Health Policy and Development Studies, your host institute for this celebration, seeks to play an active role by bringing together decision makers to discuss critical policy issues.

The scientific program was strengthened by months of preparation wherein vital researches were gathered and presented to stakeholders thru multiple policy workshops. We are optimistic that these policy recommendations would help lead to our attainment of the Millennium Development goals and Kalusugang Pangkalahatan. In addition, new health issues such as health human resource on aging, hearing screening, sugar consumption and others, were pursued in order to provide updated information that will drive future health policies.

This year’s Organizing Committee represents the best and the brightest of the UP Manila Community. Together with the Metro Manila Health Research and Development Consortium, our partners and sponsors, the NIH seeks to fulfill the vital mission to influence policy makers in the enactment of health laws, policies and guidelines which improve delivery of quality health programs. We hope that thru this convention, we move closer to attaining social and economic development thru science and health research.

SHELLEY F DE LA VEGA, MD, MSc
Overall Chair, Anniversary Organizing Committee
Director, Institute of Health Policy and Development Studies and Institute of Aging
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**KEYNOTE**

**HIS EXCELLENCY BENIGNO S AQUINO III**  
President, Republic of the Philippines

**OPENING AND CLOSING SESSIONS**

**HONORABLE ENRIQUE T ONA**  
Secretary of Health

**HONORABLE ALFREDO E PASCUAL**  
President, University of the Philippines System

**DR MANUEL B AGULTO**  
Chancellor, University of the Philippines Manila  
Professor, Department of Ophthalmology and Visual Sciences, College of Medicine, UPM

**DR VICENTE Y BELIZARIO JR**  
Vice Chancellor for Research, UPM  
Executive Director, National Institutes of Health, UPM  
Professor, Department of Parasitology, College of Public Health, UPM

**DR SHELLEY ANN F DE LA VEGA**  
Director, Institute of Health Policy and Development Studies, NIH, UPM  
Associate Professor, Department of Medicine, College of Medicine, UPM

**DR VICENTE O MEDINA III**  
Dean, College of Dentistry, UPM  
Associate Professor, Department of Clinical Dental Health Sciences, College of Dentistry, UPM

**PLENARY SESSIONS**

**DR JUANITA A BASILIO**  
Medical Officer, and Chief of Child Health Division, National Center for Disease Prevention and Control, Department of Health

**DR REMIGIO M OLVEDA**  
Director, Research Institute for Tropical Medicine, Department of Health

**DR VICENTE O MEDINA III**  
Dean, College of Dentistry, UPM  
Associate Professor, Department of Clinical Dental Health Sciences, College of Dentistry, UPM

**DR CHARLOTTE M CHIONG**  
Officer-in-Charge of the Office of the Vice Chancellor for Planning and Development, UPM  
Director, Newborn Hearing Screening Reference Center, NIH, UPM  
Research Associate Professor, Philippine National Ear Institute, NIH, UPM

**DR ROSE ANNE Q ROSANES**  
Assistant Professor, and Chair, Department of Community Medicine, College of Dentistry, UPM
LIST OF SPEAKERS

DR SHELLEY ANN F DE LA VEGA
Director, Institute of Health Policy and Development Studies, NIH, UPM
Associate Professor, Department of Medicine, College of Medicine, UPM

DR EVA MARIA C CUTIONGCO-DE LA PAZ
Director and Research Associate Professor, Institute of Human Genetics, NIH, UPM

DR RAUL V DESTURA
Director and Research Associate Professor Institute of Molecular Biology and Biotechnology, NIH, UPM

DR NELIA P CORTES-MARAMBA
Professor Emeritus, College of Medicine, UPM
Program Coordinator, National Integrated Research Program on Medicinal Plants

DR FRANCIS WADE Z GOMEZ
President, New MarketLink Pharmaceutical Corporation

DR JESSAMINE C SERRANO
Grantee, NIH-Pfizer PEER Health Program

DR FAY S DE OCAMPO
Grantee, NIH-Pfizer PEER Health Program

DR MARIA SANDRA B TEMPONGKO
Deputy Coordinator, SEAMEO Tropical Medicine Network

DR NANETTE LEE MAYOL
Office of Population Studies, University of San Carlos

DR GINA S ITCHON
Department of Preventive and Community Medicine, Jose P Rizal School of Medicine, Xavier University

HONORABLE ALEX CALINGASAN
Governor, Province of Bukidnon

DR DOLORES V VILIRAN
Institute of Medicine, Far Eastern University-Dr. Nicanor Reyes Medical Foundation

MR CADWALLADER C CHUA
Department of Computer Technology, De La Salle University Manila

MR JEHRALD T CHUA
Faculty of Pharmacy, University of Santo Tomas

DR CARLO IRWIN A PANELO
Associate Professor, Department of Clinical Epidemiology, College of Medicine, UPM

PROF STELLA LUZ A QUIMBO
Professor and Chair, School of Economics, University of the Philippines Diliman

DR CARLOS PRIMERO D GUNDRAN
Associate Professor, Department of Emergency Medical Services, Philippine General Hospital, UPM

DR HILTON Y LAM
Research Associate Professor, Institute of Clinical Epidemiology, NIH, UPM
P1. Transforming advocacy to policy: maternal nutrition and its impact on neonatal morbidity and mortality

Convenors: Department of Health; and Institute of Child Health and Human Development, National Institutes of Health, University of the Philippines Manila

Lead persons: Juanita A Basilio, Aida M Salonga

Maternal and child undernutrition results in 3.5 million deaths worldwide per year. According to a Food and Nutrition Research Institute survey in 201, one (1) in every 4 pregnant women in the Philippines are assessed to be nutritionally at risk, with adolescent pregnant women (<20 years old) being more nutritionally at risk (35.7% vs 23.3%) than older pregnant women. This high risk group is more likely to suffer from difficult labor and major complications like hemorrhage, infection, and hypertension. Chronic undernutrition results in maternal short stature, which requires caesarean delivery largely due to cephalopelvic disproportion. A meta-analysis has shown a 60% increased need for assisted delivery among women in the lowest quartile of stature (146 - 157 cm) compared with women in the highest quartile.

A study of 10,240 infants from Austria reveals that a higher maternal pre-pregnancy weight is associated with higher birth weight and bigger head circumference. Conversely, a significantly higher incidence of low birth weight (LBW) infants was seen in underweight women compared with normal weight, overweight, and obese women.

Low birth weight infants may result from poor maternal nutrition. More than 20 million infants worldwide have low birth weight with 95.6% occurring in developing countries. The Philippines ranks 7th in the incidence of low birth weight in 2005 -2010 (WHO). Though LBW is rarely a direct cause of death, it indirectly contributes to neonatal deaths, particularly those due to birth asphyxia and infection which together account for about 60% of neonatal deaths.

Clearly, maternal malnutrition does not only affect morbidity in the pregnant woman but also has short term and long term effects on the newborn infants. Intergenerational cycle of growth failure is perpetuated by maternal undernutrition, ie, an undernourished mother is more likely to deliver a low birth weight infant. Therefore, greater efforts on the alleviation of low birth weight infants will translate to improvement in nutrition in all physiological stages - infancy, childhood, adolescence, and adulthood; and in women: pregnancy.

The following are important outputs from the round table discussion: 1) The current statistics on the status of maternal nutrition and incidence of low birth weight in our country may not be truly reflective of the real Philippine situation; 2) Several government programs and policies on nutrition are already in place but gaps in the implementation and monitoring of these programs need to be addressed and resolved; 3) There is inadequate integration of programs addressing maternal and infant nutrition; and 4) There is insufficient educational programs and researches addressing issues on maternal and infant nutrition.

Several recommendations were suggested by the group to address the issues identified. First, there should be accurate national statistics on maternal malnutrition and low birth weight. There should be standardized recording of incidence and severity of maternal malnutrition in all hospitals and other health facilities, health centers, and birthing facilities. Status of maternal nutrition should be included in the final diagnosis of all pregnant women. This will compel health providers to assess the nutritional status at each encounter with the pregnant woman. There should be a standardized definition for maternal malnutrition. At present, the NNS survey defines maternal malnutrition (nutritionally at risk) as being a weight < the 95th percentile of the pregnant women’s weight per height computation. A dynamic definition of maternal malnutrition in the different trimesters is recommended to be able to detect and correct any nutritional deficiencies as early as possible. Maternal stature, weight gain per trimester, and weight/height parameters per trimester should be incorporated in the definition/evaluation of maternal malnutrition. Chronic undernutrition may result in maternal short stature, which requires caesarean delivery, largely due to cephalopelvic disproportion. A meta-analysis of epidemiological studies found a 60% (95% CI 50-70) increased need for assisted delivery among women in the lowest quartile of stature (146 cm to 157 cm) compared with women in the highest quartile.

There should be accurate and adequate recording and reporting of the incidence of low birth weight infants in all health care settings: hospitals, health centers, and birthing centers. Low birth weight incidence is not an integral part of any nutrition survey as well as local government statistics. Low birth weight should be written as part of the final diagnosis of all newborn infants born with birth weights < 2500 gram (WHO definition).
P1. Transforming advocacy to policy: maternal nutrition and its impact on neonatal morbidity and mortality

Convenors: Department of Health; and Institute of Child Health and Human Development, National Institutes of Health, University of the Philippines Manila

Lead persons: Juanita A Basilio, Aida M Salonga

Second, the implementation and monitoring system of current government programs on maternal and child health should be strengthened. There is a need to emphasize and strengthen the “N” in the Maternal, Newborn and Child Health and Nutrition (MNCHN) (Administrative Order 2008-0029 [9 September 2008] – Implementing Health Reforms for Rapid Reduction of Maternal and Neonatal Mortality). Specific programs which involve food supplementation, food assistance, and nutrition education in every encounter with the mother and child in all the MNCHN initiatives should be developed. MNCHN is a very successful DOH initiative already in place so that additional focus on nutrition is very feasible. The EINC is another nationwide DOH program which has been successfully implemented in many regions in the Philippines (Administrative Order 2009-0025 [1 December 2009]–Adopting New Policies and Protocol on Essential Newborn Care). Among the nutritionally at risk mothers, in addition to the early initiation of exclusive breastfeeding included in the key steps of EINC, teaching mothers on maternal and infant nutrition may significantly improve pregnancy outcomes.

Promotion of Breastfeeding Program / Mother and Baby Friendly Hospital Initiative (RA 7600 – The Rooming-In and Breastfeeding Act of 1992 and Executive Order 51 of 1986 – The Milk Code). In the currently promoted Ten Steps to Successful Breastfeeding, an additional step addressing maternal and infant nutrition through education of families and health care providers should be added. Fortified foods should be made available to all women of childbearing age either through the school system or fortification of basic table foods (eg, iodized salt, fortified bread). Folic acid and iron are very important micronutrients in fetal development. Folic acid should be given at 400 mcg/day to all women of child bearing age. Iron and folic acid supplementation through the Food Fortification Program (RA 8976) should be provided to all at risk groups (infants, toddlers, adolescents, women of child bearing age in general, and pregnant and lactating women).

Nutrition services should be integrated in the various service packages for all age groups. The principles and strategies of the Essential Nutrition Action (ENA) should be adopted. Collaboration among different government units, professional societies, and advocates is likewise recommended. Involvement of health care professionals and their organizations (Philippine Obstetric-Gynecological Society, Philippine Pediatric Society, Integrated Midwives Association of the Philippines, and others) as well as the local government units, the Department of Interior and Local Government, Department of Trade and Industry, Department of Agriculture, and Department of Education in the formulation and implementation of the programs will play a vital role in the conceptualization of maternal nutrition programs.

Participation of target population, such as the mothers and women of reproductive age is also encouraged so that programs will be better accepted by them. Advocates of maternal and child health will help in the education and implementation of nutrition programs among the stakeholders. Engagement of stakeholders and advocates in complementation of nutrition interventions to have an enabling environment for nutrition will greatly affect implementation of nutrition programs.

Third, curricular enhancement should be developed. Recognizing the need for better nutrition from fetal life to adulthood, academic units on nutrition should be included in the K-12 curriculum at every level. Maternal nutrition should be incorporated in the medical, nursing, midwifery, and other health sciences curricula as well as in informal education.

Lastly, research on maternal nutrition should be encouraged. Data on maternal malnutrition in the Philippines and even in developed countries are still lacking. Aforementioned is the need for accurate data gathering and reporting on the incidence of maternal malnutrition. Other research topics which are recommended include: outcome studies on maternal malnutrition, nutritional intervention in all women of child bearing age, nutritional supplementation in pregnant women, cost-analyses and cost-benefits of improving maternal nutrition, and barriers to nutritional intervention, among others.
P2. Transforming advocacy to policy: framework for neglected tropical diseases study and position statement development for the Philippines: a focus on schistosomiasis

Convenors: Institute of Molecular Biology and Biotechnology (National Institutes of Health, University of the Philippines Manila; Research Institute for Tropical Medicine

Lead persons: Raul V Destura, Remigio Olveda

Schistosomiasis affects 240 million people worldwide and is second in prevalence only to malaria in tropical and subtropical countries. It is endemic in 78 countries, with more than 10% of the global population at risk of developing the disease, especially those in poverty-stricken areas of the developing world. Control programs, although successful in reducing morbidity and the number of infected people, have neither reduced the estimated number of those at risk for infection nor prevented the disease from spreading to new geographic regions. Schistosomiasis remains a so-called “neglected disease” and is left untreated and overlooked, as chronic infections manifest with subtle morbidities and delayed-onset pathology.

The Philippine situation is no different from that of other developing countries. In 2010, the country alone accounts for 78% of people requiring annual treatment for schistosomiasis in the Western-Pacific region of WHO. The rest of the cases are accounted for only by China, Lao People’s Democratic Republic, and Cambodia. On an economic perspective, a study demonstrated that infected individuals from Northern Leyte lost at least 45.4 days due to disability brought about by schistosomiasis prior to treatment.

The disease is caused by the trematode blood fluke of the Schistosoma genus. In the Philippines, S. japonicum is the only species present. Humans become infected with the parasite when free living cercariae penetrate the skin in fresh water.

The national Schistosomiasis Control Program (SCP) was created in 1961 due to the success of control measures in 3 pilot municipalities of Leyte. However, due to its relatively huge financial requirement, the control program was integrated into the health program of the rural health units. The provincial health officer and regional health directors assumed the responsibility of program management.

In spite of several reengineering events, the SCP, now the Schistosomiasis Control and Elimination Program (SCEP), is currently a part of the Department of Health (DOH) and has recently achieved control of schistosomiasis morbidity based on the WHO framework. The program now aims to eliminate the disease as a public health problem in all endemic areas. The objectives of the SCEP are to reduce the prevalence to 1% in endemic provinces, or reduce the prevalence of heavy intensity infection to less than 1% in all sentinel sites. Program strategies include active case finding and surveillance, preventive chemotherapy and selective treatment, environmental sanitation, environmental modification, snail control, and health education.

Research institutions, international organizations, and disease-based initiatives have also improved the country’s strategies and progress in basic and translational research. These include the Research Institute for Tropical Medicine’s (RITM) Schistosomiasis Research Program, the National Institutes of Health-UPM, and College of Public Health-UPM, which have contributed to the advancement in control-related, academic, and vaccine research for schistosomiasis. The United States Agency for International Development (USAID), through the Family Health International (FHI) 360 under the Ending Neglected Tropical Disease (END Asia) project, and the WHO provide support through funding, drug donation, and consultancy work.
P2. Transforming advocacy to policy: framework for neglected tropical diseases study and position statement development for the Philippines: a focus on schistosomiasis

Convenors: Institute of Molecular Biology and Biotechnology (National Institutes of Health, University of the Philippines Manila; Research Institute for Tropical Medicine

Lead persons; Raul V Destura, Remigio Olveda

In spite of advances in the SCEP and efforts from various research institutions, schistosomiasis still remains an important public health problem in the country. This position statement, led by the Department of Health (DOH) and the National Institutes of Health (NIH) in partnership with various stakeholders, reviews the current status of the policy, programs, and research of schistosomiasis in the Philippines through the following mechanisms: 1) literature review of published journal articles, news articles, and related non-scientific papers; 2) structured interviews with identified key stakeholders; 3) videography; and 4) round table discussions. Reflecting present-day successes and challenges of control programs and initiatives to reduce the social and economic repercussions of schistosomiasis may aid policy-makers to effectively decide the trend of legislation for the overall improvement of the country’s health situation.

References:

Mercury is a naturally occurring element that is found in various products. All forms of mercury are highly toxic to humans. Exposure usually occurs through inhalation of mercury vapor, ingestion of contaminated seafood, and occupational exposure.

The harmful effects of mercury to humans and the environment have been well documented and studied after the Minamata disease incident occurred in Japan in the 1950s. This event increased public awareness and vigilance to the potential risks of exposure to mercury containing substances.

Strategies are being implemented to limit the use of mercury-containing products, through the World Health Organization Policy Paper on Mercury in Health Care. The Philippines supported this effort by implementing Administrative Order 2008-21 or Gradual Phase-out of Mercury in all Philippine Health Care Facilities and Institutions. In the issue of dental amalgam, continued use is still warranted until the association of dental amalgam use to human disease is determined conclusively. Further research on both dental amalgam and its alternatives are advocated.

The recently concluded Minamata Convention on Mercury in Geneva, Switzerland, last 19 January 2013 spearheaded by the UNEP, has completed a global legally binding document to phase-out of mercury by 2020. Due to the lack of existing alternatives, vaccines and materials used in religious or traditional activities were exempted in this phase-out. Likewise, a phase-down in the use of amalgams in dental fillings was agreed upon.

Based on the review of literature of available studies on dental amalgams and alternative restorative materials, the policy group has noted that there are limited published controlled studies about oral health that demonstrated the significant systemic adverse effects from amalgam restorations. However, we cannot disregard the fact that there were case reports on adverse health effects for both dental amalgams and composites/cements.

Thus, the policy group agreed with the earlier WHO consensus statement that emphasized the need for further research on alternatives to dental amalgam. Likewise, during the publication of the paper, there has been no conclusive scientific evidence showing benefit from the removal of amalgam restorations.

Currently, AO 21 has paved the way for the implementation of Mercury Minimization Programs in most of the hospitals in the Philippines. Though the said order has also mentioned mercury dental amalgams as part of the phase-out program, no concrete recommendations are prescribed for its implementation. There are several issues that need to be addressed so that specific steps should be considered in its implementation.

While amalgam has been used for about 150 years, it is expected that the trend will decline in the future. It was also emphasized that prevention is of paramount importance, including community interventions, proper use of fluorides, fissure sealants, and re-mineralization strategies including improvement in alternative restorative materials as well as composites.

In summary, majority of the international health organizations have called for the reduction in the use of mercury in general. In the issue of dental amalgam safety, continued use is still warranted until such time that the safety of the alternatives have been completely assessed and conclusive evidence comes to light.

At this time, there is a paucity of research evidence. The bulk of evidence from scientific investigations that were reviewed for this paper is limited and remains unclear to support a conclusive finding of a significant association between the use of dental amalgams and human disease. However, the fact remains that elemental mercury is still considered an environmental pollutant with known adverse health effects. Thus, further research on both dental amalgams and restorative materials should be undertaken.
P3. Transforming advocacy to policy: use and management of mercury-containing devices in the healthcare facilities - focus on dental amalgams

Convenor: Institute of Clinical Epidemiology, National Institutes of Health; and College of Dentistry University of the Philippines Manila

Lead persons: Noel R Juban, Vicente O Medina III

Policy Recommendations

With reference to current evidences which were reviewed and critically appraised, we support the statement of the WHO and UNEP regarding the use of amalgam and recommend the following:

For the Government
1. To establish a baseline on the use of mercury in health facilities to monitor compliance to the AO 21 directives by DOH
2. To fast-track the initiatives on interim temporary storage and chemical regulations (importation, use, handling, storage, and final disposition) of mercury by the EMB
3. To strengthen disease prevention and health promotion activities on oral health programs on public health initiatives in order to prevent dental caries and reduce the necessity of using dental fillings, provide resource and funding support including policy/ implementing mechanisms by the DOH
4. To review and revise the licensure exam particularly the practical phase under PRC Board of Dentistry
5. To engage all stakeholders, particularly national organizations and private clinics, to formulate policies on the implementation of the phase-down of dental amalgams in the country.

For the Health Practitioners
1. To minimize the mercury-alloy ratio in dental restorations, to include among others, the use of amalgam capsules instead of bulk mercury, to decrease the mercury waste during dental restoration procedures
2. To formulate best practice guidelines on the use, handling, and interim storage of mercury by the Philippine Dental Association, PRC Board of Dentistry, EMB and the DOST.
3. To increase awareness and public information activities to ensure adherence to AO 21 among private medical and allied medical practitioners.
4. To provide accurate and timely information on the preventive/promotive oral health care approach rather than restorative practices. Likewise, they shall provide information on the benefits and risks of dental amalgams and alternatives to help patients make informed decisions.

For the Academe
1. To conduct further studies on the safety profile and durability of alternatives to dental amalgams, like resin composites, and encourage the search for new and better alternative materials in collaboration with concerned stakeholders
2. To standardize and include restoration using dental amalgam alternatives in the curriculum of dental schools, by the Commission on Higher Education

For the General Public
1. To encourage the general public to practice healthy lifestyle including good oral hygiene and reduction in sugar consumption
2. To reduce use of mercury-containing devices by shifting to the use of non-mercury-containing medical devices and lighting fixtures in the home.
P4. Transforming advocacy to policy: implementation of the Universal Newborn Hearing Screening Program in the Philippines

Convenors: Philippine National Ear Institute and Newborn Hearing Screening Reference Center, National Institutes of Health, University of the Philippines Manila

Lead persons: Charlotte M Chiong, Generoso T Abes, Honorata Catibog

Key stakeholders and implementers as stipulated in RA 9709 or the Universal Newborn Hearing Screening and Early Intervention Act of 2009 will convene to discuss the “roll out” of the UNSHP. A general plan and strategic directions will be discussed and the Manual of Operations will be presented. Finally, a draft policy will be created at the end of the session to guide the final implementation of the enabling law of UNHSP.
P5. Transforming advocacy to policy: sugar consumption

Convenors: College of Dentistry and College of Public Health, University of the Philippines Manila

Lead persons: Vicente O Medina III, Maria Susan T Yanga-Mabunga, Rose Anne Q Rosanes

A growing epidemic of chronic diseases such as obesity, diabetes, dental caries, hypertension, and cardiovascular disease has been affecting both developed and developing countries. Diet, together with other principal risk factors, ie, tobacco use, alcohol consumption, and an unhealthy lifestyle, are essential in the etiology of these chronic diseases. In particular, a high intake of free sugars threatens the nutrient quality of diets and contributes to unhealthy weight gain and dental caries. The percentage of overweight Filipino children 0-5 years old increased to 4.3% from 2.8% (weight for height)\(^1\). Dental caries prevalence, as reported by the National Oral Health Survey of public school children in 2006, is at 97% and 78% for 6-year-old and 12-year-old children, respectively\(^2\).

With 14M elementary and 5.76M high school students\(^3\), the public school system is an excellent venue for initiating and promoting healthy lifestyle practices. The WHO’s Global School Health Initiative is aimed at encouraging schools to foster healthy lifestyles using all existing resources; the engagement of health and education personnel, teachers, students, parents, and community leaders to promote health; and the provision of a safe and healthy environment for all through collaboration with the community and school programs\(^4\). Policies that limit the availability of products high in salt, sugar, and fats are encouraged and actions to provide health information and health literacy in the school and community are recommended\(^5\).

The Department of Education (DepEd) has several food-related policies. DepEd Order No. 14 s. 2005: Instructions to Ensure Consumption of Nutritious and Safe Food in School encourages school children to buy food and beverages only at their school canteen and requiring the class advisers to supervise recess time. The policy encourages school children to make choices of healthy foods and snacks. However, this opportunity to limit sugar-based beverages (SBBs) through this Order is not maximized for a variety of reasons:

- There is no real awareness about sugar levels in foods and drinks served or prepared, and no encouragement of students to limit the sugar content in their food and beverages. The food prepared is usually based on the food pyramid guidelines which, unfortunately, do not include any information about sugars. Snack trays served to the elementary children during recess usually include SBBs. There also is a misconception that artificially-flavored juices are more acceptable than cola drinks, though both are SBBs. Furthermore, water is seldom served or offered as an alternative to SBBs.
- SBBs, particularly soft drinks, are available in 11 of 14 elementary and high school canteens visited. These are openly sold in 6 out of 7 high school canteens. For high school students, the drinking of SBBs seems to be some kind of status symbol. There are serious concerns not only about the availability of these SBBs in public schools but also about the practice of beverage companies arranging for contracts with the schools in exchange for their providing some assistance or contribution to the school.
- While the schools may have potable water, the lack of faucets, drinking fountains, and other sanitary implements prevents children from actually having access to water. There is also a general mistrust in the water system and the integrity of water pipe connections. Schools try to ensure the safety of water by buying mineral or purified water which they sell by cups or glasses (at PhP 2.00 per cup) or by bottles to the children. Some schools have invested in filtering machines. Free access to potable water, essential to a healthy environment in school, is inadequate for all schoolchildren.

There is a need to increase awareness on sugar consumption and to strengthen the health environment in schools. The policy recommendations presented here are intended to achieve these goals through a decrease in sugar consumption to levels prescribed by the World Health Organization and the Recommended Energy Nutrient Intake (RENI) for Filipinos.
P5. Transforming advocacy to policy: sugar consumption

Convenors: College of Dentistry and College of Public Health, University of the Philippines Manila
Lead persons: Vicente O Medina III, Maria Susan T Yanga-Mabunga, Rose Anne Q Rosanes

Policy Recommendations

1. Labelling

The sugar content should be included under nutritional facts for all foods and drinks in measurements that are easily understood and appreciated by the lay person. All consumers should be informed about the proper levels of sugar consumption and RENI, and proper labelling can add to this desired consciousness. This will allow consumers to be guided into identifying healthier food options.

2. Ban on sugar-rich foods and sugar-based beverages

In the spirit of the DepEd Order No. 14, s. 2005, all high-sugar containing foods and beverages should be completely banned in all public school canteens.

3. Integration of health and nutrition concepts across all subjects

A deliberate and planned integration of health and nutrition concepts broadly across all school subjects must be done to increase and reinforce the students’ understanding of what constitutes a healthier diet.

4. Health promotion programs

Public health programs in schools, as noted earlier, must be strengthened to increase chronic disease prevention and enhance health promotion. Free and potable water as a public health good must be provided to all students immediately.

5. Policy implementation sanctions

Though a number of food-related policies have been issued by the DepEd, these are inconsistently implemented, in part due to the absence of definite and enforceable sanctions. This must change and we strongly recommend continuous monitoring and evaluation of all policies, as well as the use of sanctions when indicated, by the responsible authority.

References:

1. Life stage approach in assessing and monitoring nutritional status: Results from2011 Survey on Updating the Nutritional Status of Filipino Children and Other Population Groups. Nutritional Assessment and Monitoring Division, Food and Nutrition Research Institute, Department of Science and Technology


P6. Transforming advocacy to policy: health human resource for an aging Philippines

Convenors: Institute of Health Policy and Development Studies and Institute on Aging, National Institutes of Health, University of the Philippines Manila

Lead persons: Shelly Ann F de la Vega; Doris Camagay

The increasing population of older persons poses a great challenge particularly to the health sector, considering that old age is accompanied by increased health problems. Republic Act 9257 /9994 stated a provision of comprehensive healthcare and rehabilitative services to the disabled elderly, and requires all hospitals to have a geriatric ward. Furthermore, the Philippine Plan of Action for Senior Citizens (of the Department of Social Welfare and Development) calls to institutionalize geriatric courses/subjects in the curriculum of all medical, nursing, allied professions, and caregiving schools.

It is through the concerted efforts of various agencies that we would be able to determine if the health sector is prepared enough for the challenge of an aging Philippines. One of the important aspects that must be looked into is health human resource (HHR), defined by the World Health Organization as “people whose job it is to protect and improve the health of their communities”.

As a founding member of the Health Human Resource Network, the IHPDS convened the First Round Table Discussion on “Health Human Resource for an Aging Philippines”. The first RTD focused on the “Current Situation and Needs Assessment”. The group of Filipino professionals representing government, academic, technological and professional institutions and organizations, actively participated. Discussion groups were formed, guided by the question: “How can we improve current HHR for an aging Philippines?”. Policy recommendations were drafted on HHR major themes of training, deployment, team work, and funding.
2.1 Translational health research

Institute of Human Genetics, National Institutes of Health, University of the Philippines Manila

Eva Maria C Cutiongco-de la Paz

Translational research is what has been known as the “bench to bedside” approach. It carries various meanings to different people. For health care providers and their patients, it is the increased utilization of scientific research to improve health care. In the academic setting, it refers to the confirmation and validation of new concepts. For those in industry, it is the development and commercialization of products from biomedical research. Translational research is the process of transforming scientific breakthroughs into clinical applications to improve human health.

An overview of translational health research will be presented, including its relevance in addressing health disparities.

2.2 Development of low-cost dengue kit and scaling up for commercial use

Dengue Diagnostic Program, National Institutes of Health, University of the Philippines Manila

Raul V Destura

The need for early diagnosis and intervention of dengue infections prompts the medical community to look for technologies that detect dengue infection in its earliest stage possible. Early symptoms of dengue virus infection mimic those of other flaviviral diseases, thus clinical diagnosis alone is not conclusive (WHO, 1997). Viral isolation in cell cultures, followed by direct detection using immunofluorescence (IF) is considered a definitive diagnostic test; however, these methods are time-consuming, laborious and resource-demanding (Samuel and Tiagi, 2006). Serological tests such as immunoblots using IgM offer faster alternatives; however, serological diagnosis requires paired sera collection and is, in general, less specific than diagnosis by culture (WHO, 1997).

Nucleic acid-based testing has replaced the majority of the viral detection methods because of its faster turn-around time, as well as offering higher sensitivity and specificity. A rapid and accurate simultaneous detection and serotyping of dengue virus infection offers the advantage of rapid diagnosis in the clinical setting while providing seroepidemiological surveillance information for public health officials in formulating and evaluating health policies.

Novel tools like nucleic acid amplification such as PCR proved to be promising but highly sophisticated equipment are necessary and may not be applicable in the field particularly in certain outbreaks. A newly developed procedure, the Loop-Mediated Isothermal Amplification (LAMP) Assay proposed by Notomi et al. (2000) offers several advantages which can augment for the shortcomings of existing nucleic acid-based protocols. Furthermore, this research initiative miniaturized the technology (Biotek-M) by developing a portable heating element to allow performance of the test even at primary care centers with basic laboratory equipment.

This talk focuses on the results of the Dengue Diagnostic Program and its continuing journey to reach its target end-user: the Filipino people.
2.3 Herbal medicine research and development: from the academe to the Filipinos and the industry

*National Integrated Research Program on Medicinal Plants (NIRPROMP)*

Nelia P Cortes-Maramba

A resurgence in the interest of medicinal plants started in 1973 when the then Department of Education, Culture, and Sports officially encouraged public schools to establish herbal gardens and health educators to include medicinal plant preparations for first aid treatment. This mandate prompted a group of researchers from the academe to undertake a multidisciplinary integrated studies program in medicinal plants.

In 1977, the then National Science Development Board funded the pioneering scientific studies of the National Integrated Research Program on Medicinal Plants (NIRPROMP). To meet the goals and objectives of NIRPROMP, steps were developed based on two missions. Mission I had the objective to propagate the use by our people of herbal medicines of proven therapeutic efficacy and safety to meet the need of providing medicines to the poor. The research priorities were symptomatics, namely, antitussives, antiasthmatics, analgesics, antidiarrheals, antispasmodics, antihypertensives, antidiabetics, and diuretics; two (2) curatives were antifungals and anthelmintics. These were medicines included in the Primary Health Care List of the Department of Health. To achieve Mission I objectives, the Phase I researches consisted of the following: Cultivation and propagation of selected plants; Preclinical animal studies to determine safety and pharmacologic activity of the common plant preparations; Pharmaceutical development for dosage formulations and quality control; Bioassay for batch potency determination; and Clinical studies for rapid clinical screening using galenicals and formal clinical drug trials of the pharmaceutical formulations.

Mission II goals consisted of the following: to discover better cures among Filipinos, and to support scientific research and the Filipino drug industry. The focus of Mission II included medicines for the heart, antimicrobials, antipathogens, and antineoplastic agents. The objectives were to study the medicinal plants in depth (chemical isolation and synthesis, determination of their actions, pharmacokinetics, and clinical trials of pharmaceutical formulations) for local use and possible export.

The successful implementation and fulfillment of NIRPROMP’s goals and objectives can only be achieved with the transfer of the knowledge gained and the generated technology to other government sectors and ultimately to the private sector. Thus, the impact of this research program can only be considered meritorious based on the extent to which its outputs are accepted and utilized at the national level by all segments of society.

2.4 Herbal medicines: from academe to industry

*New MarketLink Pharmaceutical Corporation*

Francis Wade Z Gomez

The best way to study the successful commercialization of a well researched herbal product as a drug is by looking at the case of lagundi (for cough and asthma). It shows how research can develop a multi-million peso (over PhP 600M) product and industry leader. From horticultural researches in the fields to randomized double-blind clinical trials in hospitals and clinics funded by the Department of Science and Technology – Philippine Council for Health Research and Development (DOST-PCHRD) and the Department of Health – Philippine Institute of Traditional and Alternative Health Care (DOH-PITAHC), all done properly by the National Integrated Research Program on Medicinal Plants (NIRPROMP), led to a body of knowledge that was compiled into a technology transfer document. This made it easy for pharmaceutical companies in the Philippines to produce, register, and market lagundi into what it is today. The research on lagundi has generated jobs, taxes, and royalties that benefit not just the government and researchers but the country as a whole - a showcase of how Filipino scientists and researchers can create an impact on a country’s economy.
LS1. Pentoxifylline therapy among preterm neonates ≤ 1500 grams in reducing mortality from neonatal sepsis: a double-blind, randomized placebo-controlled trial

NIH-PEER Program [Providing an Enabling Environment for Health Research]

Jessamine Mae C Sareno

Pentoxifylline, a xanthine derivative, has raised new interest in neonatal research due to its immunomodulatory functions and its potential role in reducing mortality from sepsis. Two small studies done on per-protocol analysis have shown promising results. This larger trial done on an intention-to-treat basis will try to confirm or refute the efficacy of pentoxifylline therapy for neonatal sepsis.

The study determined if the use of pentoxifylline as an adjunctive therapy for sepsis in preterm neonates (≤36 weeks) weighing <1500 grams will result in a reduction in the all-cause mortality. It was a double-blind, randomized, placebo-controlled trial, parallel-design study done at the neonatal intensive care unit (NICU) of a large tertiary, training, government hospital

Preterm infants ≤1500 grams with suspected infection admitted at the NICU were eligible for inclusion to the study. After informed consent, they were randomized to receive either pentoxifylline at a dose of 6 mg/kg/hour or placebo. Patients with major congenital malformations, congenital infections, and severe hemorrhage were excluded from the study. Pentoxifylline was administered as 6-mL infusion for 6 hours for 6 days. The control group received normal saline in the same manner as the pentoxifylline infusion. Patients, parents, and physicians (outcome assessors) were blinded to the treatment assignments.

The primary outcome was analyzed on an intention-to-treat basis. The primary outcome measured in the study is the occurrence of all-cause mortality between the two groups. Secondary outcomes measured include mortality from sepsis, adverse drug reactions, and length of hospital stay.

A total of three hundred twelve (312) neonates were included in this interim analysis: 156 in pentoxifylline group and 156 in the control group. Baseline characteristics were comparable between the two groups. In this analysis, there was no difference in the occurrence of death among patients in the pentoxifylline group versus placebo group (RR: 1.08 [0.83, 1.41]). There was no statistical difference in the risk of death from septic shock (RR: 1.03 [0.67, 1.59], p=1.0). There was also no significant difference in the length of hospital stay in the two groups (36 days treatment group vs 35 days in control group, p=0.910). No significant adverse drug reactions were noted with pentoxifylline use.

We conclude that pentoxifylline as an adjunct therapy for sepsis did not show a decrease in the all-cause mortality. There was also no difference in the occurrence of death from sepsis and length of hospital stay. No adverse drug reactions were noted with pentoxifylline.
LS2. A randomized controlled trial of Kangaroo Mother Care versus conventional care in increasing the rate of weight gain among low birth weight neonates

NIH-PEER Program [Providing an Enabling Environment for Health Research]

Fay S de Ocampo, Maria Esterlita V Uy

This study aimed to determine the effectiveness of Kangaroo Mother Care (KMC) in increasing the rate of weight gain among low birth weight neonates and to determine if it will decrease sepsis rate and shorten hospital stay among the group.

Stable low birth weight infants (<1500 grams) were enrolled in the study. They were randomized to either the KMC or control group (conventional care). KMC group went through the KMC procedure for at least 6 hours per day while the conventional group received the usual care in the neonatal intensive care unit. Pertinent data included daily measurements of weight and weekly measurements of body length, head circumference, and chest circumference until discharge. Occurrence of hypothermia and sepsis were likewise noted as well as the length of stay.

The KMC group had better mean weight gain per day (KMC 28.11 + 12.41 vs 19.38 + 6.64, p=0.0015). There was no statistical difference in the length, head circumference, and chest circumference between the two groups (p=0.0544, p=0.5772, p=0.1753, respectively). Sepsis and apnea rates were also not statistically significant between the two groups (p=0.087, p=0.616, respectively). However, there was a significantly higher proportion of neonates who experienced hypothermia in the control group (p<0.002).

Neonates in the KMC had higher weight gain compared with neonates in the control group. KMC significantly protected the neonates against hypothermia. The incidence of sepsis was the same between the two groups.

3.1 Health promotion framework as applied in the Philippine context

SEAMEO Tropical Medicine Network

Maria Sandra B Tempongko

The public health landscape of the Philippines today presents both challenges and opportunities for health promotion. From an epidemiological perspective, the country is in an “epidemiologic transition”, ie, experiencing the worst health problems of both developing and developed countries. This situation is compounded by the emergence of new diseases and the increasing frequency of natural disasters that impact not only on the country’s economy but also on the health of the people.

The political health environment is defined by the Universal Health Care agenda of the current administration, the passage of the Sin Tax Bill and the long awaited and much debated Reproductive Health Bill, and the corporatization of medical centers. As far as the progress in terms of the Millennium Development Goals (MDGs), the country is on track for some indicators but is lagging for others. On the technological front, the Philippines has been tagged as the Social Networking Capital of the world. This is the context where health promotion is expected to operationalize to contribute to the country’s efforts in achieving its vision and mission on health.

Health promotion was defined as “the process of enabling people to increase control over and to improve their health” (WHO, 1986). It has five actions enshrined in the Ottawa Charter, namely, (1) building healthy public policy, (2) creating supportive environments, (3) strengthening community action, (4) developing personal skills and self-efficacy, and (5) reorienting health services. These health promotion actions are encompassing and address all the dimensions/determinants of the public health landscape of the country. Addressing these different dimensions of public health is the function of health promotion. Health promotion should not be limited to developing personal skills tackled through health education only.
3.2 Cebu Longitudinal Health and Nutrition Survey

Office of Population Studies Foundation, University of San Carlos

CLHNS Study Team, Nanette Lee Mayol

The Cebu Longitudinal Health and Nutrition Survey (CLHNS) is an ongoing collaborative study that follows a cohort of children and their mothers. This was initiated by the USC-Office of Population Studies Foundation, Carolina Population Center at UNC-Chapel Hill, and Nutrition Center of the Philippines. The CLHNS was conceptualized to study infant feeding, but was expanded to address a wide range of health-related topics specific to each stage of the life cycle.

In 1982, 17 urban and 16 rural barangays in Metro Cebu were randomly selected. All pregnant women expected to give birth between May 1983 and April 1984 were recruited. The baseline sample included 3,327 women on their 6th or 7th month of pregnancy, with resulting 3,080 live births. Subsequent surveys took place immediately after birth, then bimonthly for 24 months. Follow-up surveys were conducted in 1991, 1994, 1998, 2002, 2005, and 2009. Data were gathered during in-home interviews using structured questionnaires with core modules collecting comparable socioeconomic, demographic, environmental, diet, and anthropometric data. Recent surveys collected blood samples for analysis of key biomarkers and DNA. Community level data were also gathered.

In 2006, the CLHNS joined birth cohorts from Brazil, Guatemala, India, and South Africa to form the Consortium of Health Orientated Research in Transitioning Societies (COHORTS). The consortium aims to produce high-quality scientific evidence on the early origins of chronic diseases and on human capital using data from low- and middle-income countries. CLHNS key findings on (1) birth outcomes; (2) infant feeding, growth, and health; (3) developmental origins of young adult disease risk; (4) child development, schooling, and young adult work; (5) reproductive health; and (6) family dynamics and intimate partner violence have been published and disseminated. The time depth, breath, level of detail, and quality of the data are significant strengths of the CLHNS, making it valuable for life-course study.

3.3 Emergency response in disasters: streamlining efforts and addressing gaps in providing health care and sanitation

Jose P Rizal School of Medicine, Xavier University

Gina S Itchon

Flooding is one of the most widespread of climatic hazards and poses multiple risks to human health, yet there has been very little systematic research work on health outcomes. Health services offered immediately after floods are usually done through “medical missions” provided by various individuals, government agencies, and non-government organizations, usually on a voluntary basis.

In an effort to better understand this gap in knowledge and service delivery, a research was conducted to determine the pattern and magnitude of health data obtained from the emergency room of the Northern Mindanao Medical Center during and immediately after the flood triggered by Tropical Storm Washi (Sendong). A retrospective descriptive study was done involving a review of emergency room data, taking into consideration the patients’ demographic data specifically gender, age, and chief complaint, the most common medical conditions during the study period, and the trend of emergency room consultations from 16 December 2011 to 13 January 2012.

Results showed that about a third of all emergency room consultations were children aged 0-12 years; there more adult males than females. The top three complaints during the study period were fever, diarrhea, and vomiting followed by physical injuries and vehicular accidents. Among the top five complaints, however, physical injuries and wounds occurred mostly on the second and third days, while fever, diarrhea, and vomiting peaked at 10-14 days after.

Thus, an organized system of delivering medical care should involve delivery of surgical, medical, and preventive care, specifically, sanitation, to ensure that no additional mortality and morbidity will occur among the survivors.
3.4 A healthy province - Bukidnon

Province of Bukidnon

Alex Calingasan

The province. Bukidnon is a landlocked plateau on Northern-Central Mindanao dubbed as the Heart of Mindanao. The province is composed of four (4) congressional districts with twenty (20) municipalities and two (2) component cities, having a total land area of 1,049,859 hectares with a population of 1,299,192 as of 2010 and with a growth rate of 2.03.

The Bukidnon health system. “The Bukidnon health system is envisioned to provide comprehensive health care services to achieve a healthy constituency through an effective, efficient, accessible, and equitable health care for the total development of the province.” The Bukidnon health system is a 3-pronged health system with the rural health units operated by the local government units (LGUs) but more aligned to the implementation of the DOH mandated functions, ie, the preventive aspect of health; promoting health and educating the people on maintaining their health; and the 14 provincial health stations initiated and constructed by the province to support its Provincial Indigency Health Program (PIHP), focused on the delivery of the Primary Care Benefit Package of the Philippine Health Insurance Corporation’s Sponsored Program (these stations continue to act as gatekeepers to keep our people from being hospitalized); and the Bukidnon Provincial Medical Center (BPMC) and seven (7) Bukidnon provincial hospitals (BPH) intended to provide the curative aspect of health.

The Provincial Economic Enterprise Development and Management Office. The Office is envisioned to provide effective financial management to the different component income centers particularly along the sustainability of the eight (8) provincial hospitals; to engage in business activities as an added source of revenue; and to ensure the attainment of its projected income and service delivery sustained in a most efficient and effective delivery of health services to its constituents. The Bukidnon Provincial Hospital as an economic enterprise exercises fiscal autonomy on hospital operations and standardized wages and benefits of health workers. Due to the influx of in-patients in the hospitals, upgrading of level and increase in authorized bed capacity were facilitated to accommodate the increase. Coupled with these are proposals for the expansion and construction of additional buildings for wards. Ongoing processing of requirements for the licensing and accreditation for upgrading are facilitated to realize the plan. This will ensure provision of healthy quality care to the constituency especially the PIHP members.

A healthy province - Bukidnon. Health is a concern that touches other critical aspects but with a great resolve and political will, addressing primarily health issues and concerns is tantamount to giving the people access to social justice and unburdens them to face other challenges and opportunities in life.
4.1 Effects of Persea americana Mill. (avocado) leaf extract on serum uric acid levels of hyperuricemia-induced ICR mice

_Institute of Medicine, Far Eastern University - Dr Nicanor Reyes Medical Foundation_

FEU-NRMF first year medical students Section C - School Year 2010-2011, Dolores V Viliran, Mari-Ann B Bringas

The potential effects of _Persea americana_ Mill. leaf extract against elevated serum uric acid (UA) levels in ICR mice was investigated in this study. Specifically, the objectives of this study were (1) to determine if avocado leaf extract can decrease the blood uric acid levels of hyperuricemic mice, (2) to test the most effective dosage of the extract among 10-, 25-, and 40 mg/kg body weight, (3) to determine the time at which the maximum effect of the most potent dose is evident, and (4) to compare the most effective dosage with the standard hypouricemic agent, allopurinol. This study was limited to the antihyperuricemic effect of the avocado leaf extract. Other factors, such as the possible effects on cholesterol and triglyceride, and effects of the extract on other body systems were not evaluated.

Potassium oxonate was utilized to induce hyperuricemia in five test groups. Three groups were treated with _Persea americana_ Mill. leaf extract in doses of 10-, 25-, or 40 mg/kg body weight of mice. These were tested against allopurinol and normal saline solution as positive and negative controls, respectively. Serum uric acid levels were determined utilizing the uricase method. Serum UA levels were checked at 0H, 1H, 2H, 3H, and 4H. Hypouricemic effects were observed in the 25 mg/kg and 40 mg/kg dosage groups, with significant effect in the latter group. Effect of allopurinol was not significantly different to that of 40 mg/kg dosage of the leaf extract during the third hour and fourth hour.

4.2 In vivo studies of the antihypertensive activity of the crude methanolic extract of Selaginella uncinata Desv. ex Poir. (Selaginellaceae)

_Faculty of Pharmacy, University of Santo Tomas_

Jehrauld Timothy T Chua, Kaycee Allen Z Francisco, Margaret Anne S Ngo, Jay-Arr V Pingol, Noel C Tan Jr, Andrey Paul C Tomenbang, Maria Nerissa Dianne U Victa, Giselle Ann D Yu, Andrea Q Carigma

_Selaginella uncinata_ Desv. ex Poir. contains 0.56% amentoflavone which causes relaxation of vascular muscle. Hence, relaxation of the vascular tone can be correlated to antihypertensive effect that can be possibly exhibited by the plant of interest. Prior to the main test, acute oral toxicity test was conducted on both sexes of Sprague-Dawley rats to measure the lethality of the plant extract.

This study was designed to determine the antihypertensive activity of the crude methanolic extract of the whole plant of _S. uncinata_ on 18 epinephrine-induced and 12 Goldblatt’s model renal stenosis-induced hypertensive female Sprague-Dawley rats. Test for antihypertensive activity was divided into two groups: group A (test for sympathetic antagonistic effect) and group B (test for angiotensin-converting enzyme inhibiting effect). Positive controls utilized were terazosin for group A and captopril for group B, while normal saline solution was used as negative control for both groups. Five days dosing of controls and crude extract was done for both groups.

At a dose of 2000 mg/kg body weight, no mortality and no signs of toxicity were seen on the 12 rats administered with extract. Statistical results were obtained using Two-way Analysis of Variance repeated measure and Post-Hoc Analysis (Bonferroni correction) with p<0.05. Results showed that the crude plant extract exhibited similar effect to that of terazosin but not with captopril, with p-value of 0.042 and 0.389, respectively.
4.3 Normal lung sound enhancement and characterization for automatic identification of lung pathologies

(1) Department of Computer Technology, De La Salle University
(2) Philippine General Hospital, University of the Philippines Manila

Cadwallader C Chua (1), Kevin Lloyd D Cocuaco (1), Macario O Cordel II (1), Joel P Ilao (1), Alexis Jamie R Lao (1), Eldridge Sherwin S Tan (1), Adrian Paul J Rabe (2)

Respiratory sounds are considered as non-invasive measurement of airway condition. Using a stethoscope, physicians can determine abnormalities by observing the patterns in lung sounds; this method is called auscultation. However, in a typical environment, auscultation is performed in rooms susceptible to different sounds such as vocal sound, ventilation machines, and ambient noise, which may impede the subjective evaluation of patterns heard from the lung sounds.

This work presented a simple signal enhancement scheme for normal lung sounds in order to successfully extract the key signal patterns or features. Results showed that the enhanced signal had features (bandwidth, peak frequency, and center frequency) in the 300 to 700 Hz range while the raw and 'denoised' signals had features below 300 Hz. Listening test showed improved score in enhanced signals over the raw and 'denoised' signals with an average score of 1.3 (out of 3) as compared with 1.03 in raw and 0.82 in ‘denoised’ signals.

5.1 Economics of health for productivity: role of economic evaluation in policy

Department of Clinical Epidemiology, College of Medicine, University of the Philippines Manila

Carlo Irwin A Panelo

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Policy makers, service providers, and even families make use of economic tools to choose health care interventions, given the scarce resources. These tools range from the fairly sophisticated to the simple, intuitive or back of the envelope calculations.

This presentation focuses on the application of economic tools for healthcare decision-making by governments or large insurance systems. Examples will be provided on how these economic evaluation tools are applied to arrive at specific health care policy decisions and their impacts on health outcomes. These specific examples will also allude to the papers that will be presented as part of this panel. The role of economic evaluation will also be contextualized in the light of other considerations and bases that influence decision-making.
5.2 Health or wealth: are there trade-offs when taxing sin?

School of Economics, University of the Philippines Diliman

Stella A Quimbo

In the Philippines, the debates surrounding the recent passage into law of the Sin Tax Bill focused on an important policy question: are there health and revenue trade-offs when taxing sin? With substantial increases in excise taxes on cigarettes, will health gains from reduced smoking come at the expense of reduced tax revenues? Should the government have considered smaller increases in excise taxes so that gains can be had from both increased tax revenues and reduced cigarette consumption?

The Philippines is one of the countries in the Western Pacific Region with high cigarette consumption and large economic burden of smoking-related diseases. Close to one-third of all adult Filipinos consume a tobacco product while about a quarter of 13-15 year olds are reportedly smoking. The economic costs of smoking are substantial, with huge amounts of resources spent to treat smoking-related diseases, shortened income streams due to premature deaths attributable to tobacco, and reduced labor productivity due to smoking.

Cigarette taxation is perhaps the most effective policy handle to reduce smoking, with the potential benefit of raising tax revenues. However, it is not always the case that increased cigarette taxes are accompanied by increased tax revenues. Economic analysis suggests that the presence and size of the trade-offs depend on the "price elasticity of demand," a measure of how responsive demand is to changes in price. Demand that is "price inelastic" means that 1% price increase will be accompanied by a smaller than 1% reduction in demand. When demand for cigarettes is sufficiently "price inelastic," meaning that smoking rates will not substantially change despite price increase, it can be shown that there is no trade-off in consumption and tax revenues.

Simulations using data from the Family Income and Expenditure Survey (FIES) show that the ideal tax on cigarettes is a high uniform specific tax. Using behavioral parameters (ie, estimates of price elasticities) from the Family Income and Expenditure Survey 2003, a tax rate of PhP 28.30 per pack would result in significant increases in average cigarette prices. This will result in substantial reductions in cigarette consumption. Moreover, because of the nature of the demand for cigarettes, total cigarette sales will increase and thus result in significant tax revenues (over PhP 50 billion). These figures suggest that increased cigarette taxes do not come with a trade-off in health and government revenues.

I then supplement these simulations with a simple sensitivity analysis, where I consider two possibilities: one where smokers have elastic demand and another where smokers have inelastic demand for cigarettes. If demand is elastic, fewer people will smoke and get sick but revenues will be lower. If demand is inelastic, people will continue smoking but revenues will be high to help cover the cost of smoking-related diseases. Under both scenarios, I argue that a high tax continues to be the dominant strategy.
5.3 Cost-effective analysis of Universal Newborn Hearing Screening Program in the Philippines.

*Universal Newborn Hearing Screening Program*

Victor L Mendoza, Bernadette Tumanan-Mendoza, Hilton Y Lam, Charlotte M Chiong

Given that the implementation of RA 9709 is expected following the imminent approval of the Manual of Operations (MOP) this year, a study on the cost-effectiveness of the Universal Newborn Hearing Screening Program (UNHSP) in the Philippines was undertaken. This will put in proper perspective a new health program that is envisioned to address a very important and common disorder afflicting newborns – that is disabling permanent congenital hearing loss.

Using accepted algorithms for the implementation of UNHSP, it will be very important to prove its cost-effectiveness from the viewpoint of individual and society in general. A preliminary study that looked at cost analysis was important for the enactment of an enabling law but a formal cost-effective analysis (CEA) was deemed important prior to a roll out of the program. The findings will be presented in this forum.

5.4 Burden of road traffic accidents in the Philippines

*Department of Emergency Medical Services, Philippine General Hospital, University of the Philippines Manila*

Carlos Primero D Gundran

5.5 Role of cost-benefit analysis on policy making

*University of the Philippines Manila*

Hilton Y Lam

Cost effectiveness analysis (CEA) is one of the more rigorous and widely accepted methods to evaluate policy proposals. Economic theory puts a premium on marginal cost effectiveness, adjusted for future discounting, and sensitized for significant risk uncertainties. Value for money can be determined by comparing the adjusted cost of achieving each unit of benefit of different interventions.

In this paper, we describe an actual cost-effectiveness analysis between 2 pneumococcal vaccines (PCV10 and PCV13), narrating the processes involved in assessing the effectiveness and costing evidence in the local context, and other issues that lead to policy makers to revisit the CEA. Issues that found the CEA to be constrained included: societal equity, CEAs of interventions in other sectors, strategic investments, lack of a set Philippine CEA threshold, and budget impact analysis.
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