FULL SPEED AHEAD

17th National Health Research Forum for Action

Full Speed AHEAD: Accelerating Universal Health Care through Health Policy and Systems Research

September 19–20, 2018 | EDSA, Shangri-la Hotel, Mandaluyong City

www.doh.gov.ph
www.pchrd.dost.gov.ph

REPUBLIC OF THE PHILIPPINES · DEPARTMENT OF HEALTH ·

PHILIPPINE COUNCIL FOR HEALTH RESEARCH AND DEVELOPMENT

FULL SPEED AHEAD

17th National Health Research Forum for Action

Full Speed AHEAD: Accelerating Universal Health Care through Health Policy and Systems Research

September 19–20, 2018 | EDSA, Shangri-la Hotel, Mandaluyong City

www.doh.gov.ph
www.pchrd.dost.gov.ph

TABLE OF CONTENTS

ABBREVIATIONS

ACP	Aftercare Program
ACR	All-Case Rates
ADB	Asian Development Bank
AeHIN	Asia eHealth Information Network
AHEAD	Advancing Health through Evidence-Assisted Decisions
AHP	Analytical Hierarchy Process
ANOVA	Analysis of Variance
AO	Administrative Order
APO	Asia Pacific Observatory on Health Systems and Policies
ASEAN	Association of SouthEast Asian Nations
BAU	Business-As-Usual
BHW	Barangay Health Worker
BNS	Barangay Nutrition Scholar
BRTTH	Bicol Regional Teaching and Training Hospital
CGA	Comprehensive Geriatric Assessment
CKD	Chronic Kidney Disease
CMHI	Compulsory Migrant Health Insurance
CME	Continuing Medical Education
COPD	Chronic Obstructive Pulmonary Disease
CPD	Continuing Professional Development
CRVS	Civil Registration and Vital Statistics
CSMBS	Civil Servant Medical Benefit Scheme
DBM	Department of Budget and Management
DepEd	Department of Education
DMO	Development Management Officer
DOH	Department of Health
DOST	Department of Science and Technology
DPRI	Drug Price Reference Index

DRRM	Disaster Risk Reduction and Management
DRRMH	Disaster Risk Reduction and Management in Health
DSWD	Department of Social Welfare and Development
DTTB	Doctors To The Barrios
EHIA	Environmental Health Impact Assessment
EIS	Environmental Impact Statement
EMR	Electronic Medical Record
ESRD	End-Stage Renal Disease
EU	European Union
FEC	Formulary Executive Council
FGD	Focus Group Discussion
FHO	Family Health Office
FRP	Financial Risk Protection
GAF	Global Assessment of Functioning
GDP	Gross Domestic Product
GIDA	Geographically Isolated and Disadvantaged Areas
GKE	Global Kidney Exchange
GP	General Practitioner
GPP	Good Procurement Practice
GPRA	Government Procurement Reform Act
HD	Hemodialysis
HEMB	Health Emergency Management Bureau
HIA	Health Impact Assessment
HIS	Health Information Systems
HiT	Health Systems in Transition
HPDP	Health Policy Development Program
HPSR	Health Policy and Systems Research
HRDU	Human Resource Development Unit
HRH	Human Resources for Health

HTA	Health Technology Assessment
ICER	Incremental Cost-Effectiveness Ratio
ICT	Information Communication Technology
ICUR	Incremental Cost-Utility ratio
IHPP	International Health Policy Program
ILHZ	Interlocal Health Zone
JKN	Jaminan Kesehatan Nasional
KAP	Knowledge, Attitude, and Practice
KII	Key informant interview
KP	Kalusugan Pangkalahatan
KT	Kidney Transplant
LCE	Local Chief Executive
LGU	Local Government Unit
LMD	Logistics Management Division
LMIS	Logistics Management Information System
LOS	Length of Stay
ManDev	Management Development
MCH	Maternal and Child Health
MH	Mental Health
MNCHN	Maternal, Newborn, and Child Health and Nutrition
NBB	No Balance Billing
NCD	Non Communicable Disease
NCLE	National Council Licensure Examination
NCR	National Capital Region
NDD	Non-Directed Donor
NDHS	National Demographic and Health Survey
NDP	Nurse Deployment Project
NGO	Non-Governmental Organization
NHES	National Health Expenditure Survey

NHRFA	National Health Research Forum for Action
NHSPMU	National Health Sector Performance Monitoring Unit
NIP	National Immunization Program
NKTI	National Kidney and Transplant Institute
NLE	Nursing Licensure Examination
NNC	National Nutrition Council
NTA	National Transfer Account
NTP	National Tuberculosis Control Program
OFP	Overseas Filipinos Program
OFW	Overseas Filipino Worker
OOP	Out-of-Pocket
OPHELIA	OPtimising HEalth LIterAcy
PAR	Population At Risk
PATCH	Pre-test for Attitudes toward Computer in Health Care
PD	Peritoneal Dialysis
PeHSFP	Philippine eHealth Strategic Framework and Plan
PGH	Philippine General Hospital
PHA	Philippine Health Agenda
PHC	Primary Health Care
PhilHealth	Philippine Health Insurance Corporation
PNDP	Philippine National Drug Policy
PNF	Philippine National Formulary
PPCS	Philippine Primary Care Studies
PPM	Provider Payment Mechanism
PR	Price Ratio
PRC	Professional Regulations Commission
PSN	Philippine Society of Nephrology
PSP	Personal and Social Performance
PWD	Persons With Disability

QALY	Quality-Adjusted Life-Year
QoL	Quality of Life
RA	Republic Act
REDCOP	REnal Disease COntrol Program
RHU	Rural Health Unit
RIA	Research Impact Assessment
RMANOVA	Repeated Measures Analysis of Variance
SCLM	Supply Chain Logistics Management
SCMIS	Supply Chain Management Information System
SCMU	Supply Chain Management Unit
SDG	Sustainable Development Goals
SDN	Service Delivery Network
SHI	Social Health Insurance
SIL-Asia	Standards and Interoperability Lab – Asia
SPC	Single Period of Confinement
SPIKPA	Skim Perlindungan Insurans Kesihatan Pekerja Asing
SSS	Social Security Scheme
T2DM	Type 2 Diabetes Mellitus
TB	Tuberculosis
TMC	Tondo Medical Center
TSP	Travelling Salesman Problem
UCS	Universal Coverage Scheme
UHC	Universal Health Coverage
USAID	United States Agency for International Development
WHO	World Health Organization
WTP	Willingness to Pay
ZFF	Zuellig Family Foundation

FORUM OVERVIEW

Universal Health Care (UHC) is ensuring that all people have access to needed health services (including prevention, promotion, treatment, rehabilitation and palliation) of sufficient quality to be effective while also ensuring that the use of these services does not expose the user to financial hardship.

The movement towards UHC, which started in 2008, has become a global commitment, as reflected in the 2030 Sustainable Development Goals. The path towards UHC, however, is not always straightforward. Progress needs to be monitored, a new way of improving health and health systems explored. As demonstrated by countries that have achieved or are on track to achieving UHC, investing in research particularly health policy and systems research (HPSR) is an indispensable part of the UHC strategy.

Because HPSR is sensitive and responsive to the knowledge needs of those who are responsible for the planning and performance of health systems – decision-makers, health practitioners, citizens and civil society – it cannot be managed simply as a stand-alone research endeavour. It needs to be embedded in the decision-making processes, policy and program implementation where the meaningful exchange between the various actors are cultivated.

Ultimately, HPSR is envisioned as the catalyst to instilling a culture of evidence and accountability in the health sector. This is a commitment of the current Fourmula One Plus for Health Agenda of the Department of Health (DOH).

The 17th National Health Research Forum for Action (NHRFA) is a platform to showcase the country's HPSR accomplishments to date and seeks to galvanize support for efforts to build a critical mass of HPSR researchers in the sector as well as in the DOH.

WELCOME REMARKS

UNDERSECRETARY MARIO C. VILLAVERDE

Department of Health - Health Sector Reform Cluster

Magandang umaga po sa inyong lahat. Welcome to the 17th National Health Research Forum for Action.

This concept of a National Health Research Forum for Action started in 2001 and began solely under the initiative of the Department of Health. There were instances where we had two forums in a year. Our presentations have always been clustered into thematic areas related to the major thrusts of the Department of Health for the entire health sector. This forum has engaged partnerships with the Department of Science and Technology's Philippine Council for Health Research and Development.

As many of you are already aware, the Department of Health has issued its medium-term reform agenda – the Fourmula One Plus for Health, a comprehensive strategy covering four pillars of financing, service delivery, regulation, governance and a cross-cutting pillar of performance accountability. The financing pillar focuses on securing sustainable investments to improve health outcomes and ensuring equitable use of health resources. This pillar emphasizes the importance of rationalizing health spending and focusing on high impact interventions.

The service delivery pillar, on the other hand, ensures the availability of quality health services at appropriate levels of care, especially those most needed by the poor and marginalized. This entails the strengthening of the service delivery network and the provision of comprehensive service delivery packages to meet the demands of our population.

The third pillar is health regulation, which guarantees high-quality health products, devices, and health facilities and services. This shall be done by streamlining and harmonizing our regulatory systems and processes and the development of innovative regulatory mechanisms so that we can realize our goal of easing the business process in the Philippines.

The fourth pillar is on governance, which involves strengthening our sectoral leadership and management and evidence-generation from research. This is to guide our policy development and program implementation.

The cross-cutting pillar on performance accountability incorporates the performance governance system across all the four pillars to enable public accountability and transparency.

Our program for the next two days has included all these pillars as the thematic areas as discussion of research to be used for policy development and program implementation. A critical element that cuts across all the F1+ pillars is ensuring that all policies and programs are based on sound evidence. Hence, the Department of Health is proud to present its medium-term health research program AHEAD, or Advancing Health through Evidence-Assisted Decisions, which was conceptualized with many of you during the last research forum, back in 2016.

This forum, aptly entitled Full Speed AHEAD, seeks to generate consensus on how we can catalyze a culture of evidence in health policymaking. In the next two days, we promise you an exciting program starting with an inspiring message from the Secretary of Health and featuring so many other topics that we hope will be relevant.

Our challenge remains to be the translation of evidence into policies and actions that will lead to better health outcomes. Engagement among our researchers and academicians with our policymakers and health managers is very crucial. We hope that sharing our experiences in the next two days will enhance the expected outcomes of this forum. We hope that you share the same excitement and optimism we have for this event. Again, we thank all of you for participating in this event. *Magandang umaga sa inyo at mabuhay tayong lahat.*

KEYNOTE ADDRESS

SECRETARY FRANCISCO T. DUQUE III

Department of Health

It is my honor to be your keynote speaker in this forum. To all our colleagues from research institutes and academic institutions, both from the government and private sector, fellow policymakers and decision-makers, a pleasant morning to all.

Since 2008, there has been a global movement to achieve Universal Health Care, or UHC, embraced by world leaders and leading authorities in public health. This was further strengthened in 2015 when 193 United Nations Member States agreed upon an ambitious agenda as part of the Sustainable Development Goals: a safer, fairer, and healthier world by 2030 through UHC. The Philippines' journey towards UHC began in 2010 and it is a commitment we intend to fulfill.

The Department of Health is launching FOURmula One Plus for Health, a transformative agenda for the health sector that focuses on four strategic pillars of financing, service delivery, regulation, and governance that are critical to strengthening our health system. An additional cross-cutting initiative of performance accountability, the "Plus" in F1+ for Health, is aimed at ensuring that policies and programs are better executed and that the DOH is held to account for its performance.

F1+ for Health is indeed an ambitious agenda for the health sector that envisions Filipinos to be one of the healthiest people in Southeast Asia by 2022. It is one in which the DOH takes the lead in the development of a productive, resilient, equitable, and people-centered health system.

That being said, our current health system is surrounded by opportunities and threats. Opportunities in the form of widespread global, national, and local

support for UHC such as the Universal Health Care Bill, and threats in the form of long-standing issues that continue to plague our system such as our persisting problems with tuberculosis (TB) despite of such drastic increases in government spending for health. This points to a complex environment within which our health system now operates, one in which new problems intermingle with old ones, and where clearly we need relevant information and evidence to guide our decisions.

And while the DOH has long recognized the value of research, as the continued hosting of the National Research Forum for Action since 2001 shows, we have only recently recognized the value of Health Policy and Systems Research or HPSR in particular. HPSR not only helps us to better understand health systems but also underlying mechanisms and dynamics in and around these systems. Because of this, HPSR can fill an important knowledge gap within the DOH that "traditional" public health research cannot.

The Advancing Health through Evidence-Assisted Decision program, or AHEAD, established in 2017, builds on the experiences and gains of the previous Health Systems Research Management program. The program envisions a health ecosystem in which health policy and system researchers and decision-makers are committed to generating and utilizing the best evidence in all policies, plans, and programs to achieve the country's health system goals. Strategic changes were made specifically to contribute to this ecosystem.

With AHEAD, we now have 10 study groups doing in-house analytic work focused on the strategic pillars of F1+. The recent work on sugar-sweetened beverage taxation contributed significantly to the TRAIN Act, while health care financing informed the discussions on the Universal Health Care Bill. We have awarded three-year grants to five institutions working on health promotion, mental health, healthy aging, an aftercare program for drug users, and patient safety. We also have 22 more projects underway and positioned to support F1+ for Health, such as the National Health Expenditure Survey that will provide us the evidence we need to achieve equitable health care financing.

Furthermore, in support of HPSR in general, we have recently collaborated with the International Health Policy Program of Thailand to map and assess HPSR institutional capacities in the Philippines. And we have also institutionalized a single joint ethics review process since March 2018 through our Single Joint Research Ethics Board.

Seventeen years on, the National Health Research Forum for Action continues to serve as a relevant and dynamic platform to advance collaborations among researchers, policymakers, and policy entrepreneurs. Through this forum and our other research initiatives under AHEAD, we hope to build a strong culture of research not just within DOH but within the entire health sector and, more importantly, to realize our health system goals under the F1+ for Health.

Hence, I encourage all of you to support the full implementation of F1+ through your contribution to health policy development and decision-making. Let us communicate openly, collaborate creatively, but also criticize fairly, if necessary. The DOH, more than ever, needs your support to enact reforms that may be difficult at first, but are expected to be truly beneficial for the people. Let us all work together towards a healthier Philippines. *Mabuhay at maraming salamat!*

AHEAD
Institutional Grants

From 2016 to 2017, various research fora sponsored by the DOH and the Department of Science & Technology provided the avenue for key stakeholders to articulate the design of an ambitious yet responsive grants program. The agencies responded to the challenge and in April 2017, the first call for the AHEAD Institutional Grants was published. It sought research projects that featured the following key elements: 1) tackles a priority research area aligned with the DOH medium-term research agenda, 2) intentionally develops capacity of emerging cadre of health policy and systems researchers within the team, 3) fosters creative engagement by the research team with users, be it decision makers or communities and 4) renders timely policy support through assistance in evidence synthesis and policy instrument development. From a total of 15 applications, ten applications advanced to the shortlisting stage where each was given 45 minutes to present their project before an International Panel of five Reviewers. Subsequently, five institutions were awarded grants to conduct research in the areas of health literacy, mental health, substance abuse, patient safety, and aging.

1 An Evaluation of the Effectiveness of the Optimising Health Literacy (Ophelia) Process in Improving Health Literacy Across Chosen Life Stages

EpiMetrics, Inc.
Principal Investigator: John Q. Wong, MD, MSc
Emerging Investigators: Stephanie Ann L. Co, Krizelle Cleo Fowler, Cheyenne Ariana Erika Modina, Ricci Rodriguez, Abigail Tan, Jac Lin Yu

The World Health Organization (WHO) describes health literacy as the ability to engage with health information and services. More specifically, it refers to the "personal characteristics and social resources needed by individuals and communities to access, understand, appraise and use information and services to make decisions about health, or that have implications for health". This includes being able to communicate, assert, and enact decisions on health. In the Philippines, the role of health literacy is poorly understood in health policies. The National Health Literacy bill has not been passed. However, a lot of health promotion efforts have been done through the DOH-Health Promotion and Communication Services.

This study aims to evaluate the effectiveness of the OPtimising HEalth LIterAcy (OPHELIA) process in improving health literacy across selected life stages. OPHELIA is outcomes-oriented and focuses on assessing the strengths and weaknesses of participating communities, and asking how communities themselves can interpret and respond to this assessment to improve health equity and outcomes. The study is being conducted in four areas across the Philippines, determined through purposive sampling, with varying Human Development Index scores. To capture the five life stages, interventions for children and adolescents are conducted in schools in partnership with the Department of Education, in the workplace for adults, and primary care clinics for the elderly and breastfeeding mothers. The methodology is divided into three phases:

Phase 1: Assessment – The health literacy profile is built from specific life stages in specific settings.

Phase 2: Co-creating the intervention plans – a list of co-created possible health literacy interventions with pre-test results.

Phase 3: Trial the interventions – a short list of piloted interventions with the potential to improve health literacy and outcomes for each program.

TABLE 1. SELECTED STUDY SITES

Zone	Median HDI	Province/Municipality	HDI	Category
Luzon	0.5775	Oriental Mindoro	0.478	Low HDI
NCR	0.805	Parañaque	0.837	Very High HDI
Visayas	0.504	Leyte	0.566	Medium HDI
Mindanao	0.4605	Surigao del Sur	0.463	Low HDI

Phase 2 is currently underway in Palo, Leyte. Initial Phase 2 results from Palo, Leyte indicates that a typical person in this cluster is a female, with an average age of 16 years old. They are students at Palo National High School. Some common ailments are asthma and arthritis. When presented with health information, the students in this cluster are able to understand it well enough to know what to do. They are also confident of their ability to find good health information. On the other hand, they strongly feel that they are not well understood and lack support from health-care providers and they feel the need for more information about managing their health.

The research is expected to provide policy support in the following areas:

Health Literacy and Vaccination Program Utilization

- The concern is the utilization of the DOH programs by the community.

Health Literacy and Service Utilization and Primary Health Care

- The concern is that those with higher literacy rates usually utilize the private sector rather than the public sector.

- According to some studies, patient health literacy has a meaningful impact on the perception of patients on the quality of primary care. Thus, greater efforts are needed in order to encourage patient-centered primary care to those with low health literacy.

Health Literacy and Socioeconomic Status

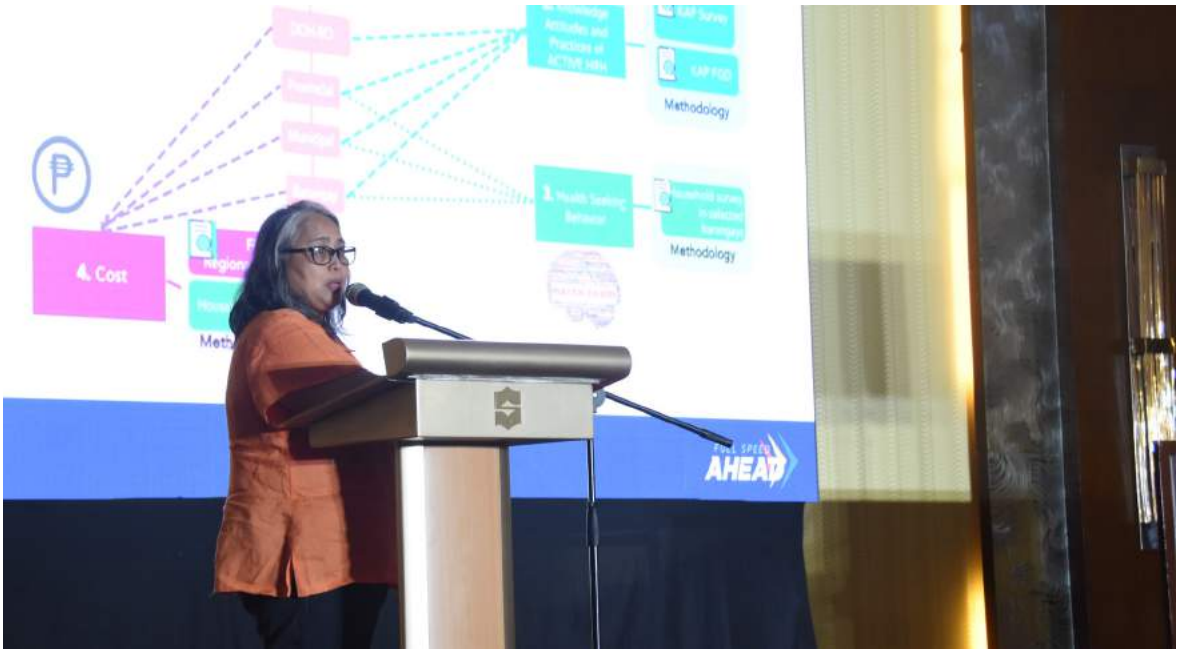
- Patients with lower socioeconomic status are more likely to have lower health literacy levels. At the same time, health literacy levels can account for disparities in health outcomes among various socioeconomic groups. As such, health literacy interventions targeting the lower socioeconomic classes is recommended.

2 Analyzing Mental Health in the Philippines: Perception, Access, and Delivery

Ateneo School of Medicine & Public Health
Principal Investigator: Dinah Palmera Nadera, MD
Emerging Investigators: Lourdes Tanchanco, Reginaldo Pamugas, Allen dela Fuente, Mikahela Malonzo, Monica Pacquing

Mental illness is a leading cause of morbidity and mortality. By 2030, it is estimated that "unipolar depressive disorder" will be the second leading cause of morbidity and mortality in the world. The global effort to address mental health is enshrined in Sustainable Development Goal 3.4 which states that premature mortality from non-communicable diseases must be reduced by one-third by 2030 "through prevention, treatment, and promotion of mental health and wellbeing." In the Philippines, this commitment is shown under Guarantee 1 of the Philippine Health Agenda 2016-2022, which includes mental illness as a disease of rapid urbanization & industrialization.

The study aims to determine how mental health is experienced, perceived, and accessed in the Philippines. The research is mapping mental health resources at the regional, provincial, municipal, and barangay level through document reviews and key informant interviews. Knowledge, attitude, and practices are evaluated through a survey and focus group discussions (FGDs) on current practices, particularly referral systems. Household surveys are being conducted to evaluate the health-seeking behavior of the community members. To determine the cost, an FGD will be conducted among persons who have been admitted to regional facilities with in-patient services.



Data has been gathered in two provinces. The initial results show that there are 49 facilities in seven provinces that provide mental health services. In all meetings at the regional level, there was great interest in mental health. The research will continue collecting data and resource mapping, with FGDs starting in 2019.

Republic Act (RA) 11036, also known as the Mental Health Act, states that mental health services should be provided at all levels as part of one's basic right to health. Part of the provisions of the Mental Health Act is the creation of a Philippine Council for Mental Health and the restructuring of the Department of Health to create a division on mental health. This study is going to feed into the division, who will be responsible for creating the mental health program. By the time the study is finished in 2020, the study hopes to contribute enough data to craft a program that is appropriate and relevant to all settings.

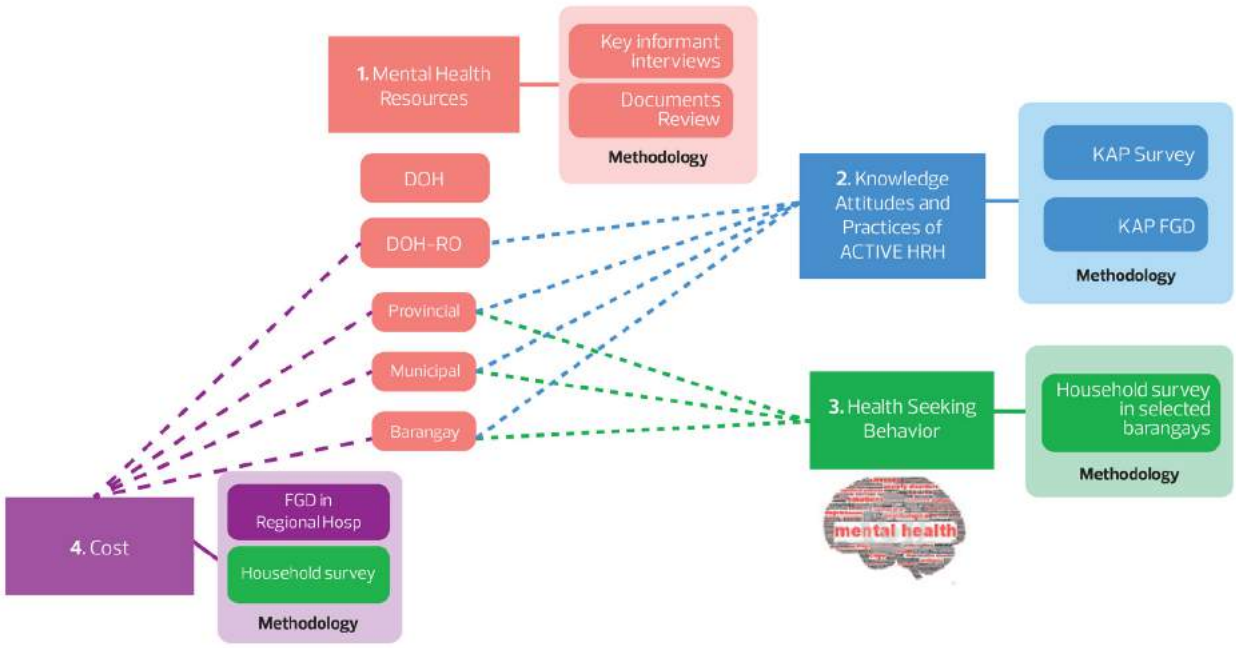


FIGURE 1. METHODOLOGY OF THE STUDY

3 Assessing and Designing Evidence-Based, Culturally-Appropriate and Cost-Effective Aftercare Programs and Services for Drug Users in the Philippines

Addictus Research and Intervention Center, Inc.
Principal Investigator: Leonardo R. Estacio Jr., PhD
Emerging Investigators: Zen Leonard R. Estacio IV, John Joseph S. Ocbina, Carmella Joyce L. Mergenio, Kyla Leane M. Olmo

The drug problem in the Philippines remains a national security and public health issue. Despite the increase in demand, there are only 44 DOH-accredited treatment centers nationwide with a net capacity of only 6,000 clients per treatment cycle. In addition, most government-run treatment centers do not have comprehensive aftercare programs and services, a crucial intervention that should be provided after the drug users that underwent treatment leave the center. Consequently, there is reportedly high relapse rate among drug users that have undergone treatment. Aftercare programs (ACP) for drug users remain unassessed.

This study aims to assess and design an evidence-based, culturally-appropriate, and cost-effective aftercare program. The research is divided into three phases:

- Phase 1: Evidence and aftercare program design generation
- Phase 2: Evidence and aftercare program intervention
- Phase 3: Appraisal

Assessment of current ACPs is underway in eight treatment rehabilitation centers spread throughout the National Capital Region (NCR), Luzon, Visayas, and Mindanao. Initial findings show that the average drug user in the Philippines is a young, unemployed, single, well-educated male from a lower-middle class family who is exposed to various drugs at a very young age. The drug problem is found to be more of a problem of social relations than of the drug itself. This means that the top reasons for initial, continued, and relapsed drug use include peer influence, curiosity, or family problems. Initial results also found that treatment and rehabilitation centers are highly effective in providing residential treatment.

ACPs are generally perceived as culturally appropriate. This denotes that the programs are responsive, holistic, rights-respecting, and participatory. They are also perceived as cost-effective. However, the cost-effectiveness of ACP is context-driven.

TABLE 2. DEMOGRAPHY AND DRUG USE CHARACTERISTICS

Age	29 (Mean Age)
Sex	Male (89%); Female (9%); LGBT (2%)
Civil Status	Single (27%)
Employment Status	Unemployed (39%)
Educational Attainment	College Level (32%), HS (32%)
Economic Status	PhP 22,756.80 (Ave/Mo)
Drugs/Substance Abuse	Shabu (97%); MJ (73%); Cocaine (11%); Ecstacy (8%); Inhalant (13%); Alcohol (94%), Tobacco (93%)
Age of 1st Use	15-24 y.o (48.4%); 14 & below (36.8%)

The initial findings imply that ACPs should be holistic and cover legal, economic, and biopsychosocial aspects of rehabilitation. Methods towards recovery should be rights-respecting, gender- and culture-sensitive, participative, and responsive to the individual needs of the clients. Policy-wise, ACPs should practice continuity of care principles that ensure the availability, affordability, accessibility, and acceptability of treatment and rehabilitation.

4 Assessment of Performance Measures and Indicators of Patient Safety in Select Government and Private Hospitals in the Philippines

University of the Philippines-College of Medicine
Principal Investigator: Agnes D. Mejia, MD
Emerging Investigator: Diana R. Tamondong-Lachica, MD

There is a tremendous shift towards patient safety as a global health priority spurred by the fact that at least 44,000 people, and perhaps as many as 98,000 people, die in hospitals each year as a result of preventable medical errors.

In 2008, the DOH directed more attention towards patient safety, through its Administrative Order (AO) 2008-0023 that aims "to ensure that patient safety is institutionalized as a fundamental principle of the health care delivery system in improving health outcomes." The policy emphasized building a culture of patient safety and implementing patient safety programs in facilities that are in accordance with policies and standards developed by the DOH National Patient Safety Committee and the PhilHealth Benchbook on Safe Practice and Environment. While the AO called for an "effective and efficient monitoring system that will link all patient safety initiatives", an overall assessment of the many interventions done from the publication of the policy and its actual impact on the status of patient safety in the country is still lacking.

The research seeks to 1) assess current performance measures and indicators in achieving International Patient Safety Goals (ISPG) and identify whether these are structural, process, or outcome measures and 2) recommend a dashboard of valid, reliable, standardized, and patient-centered measures for hospitals.

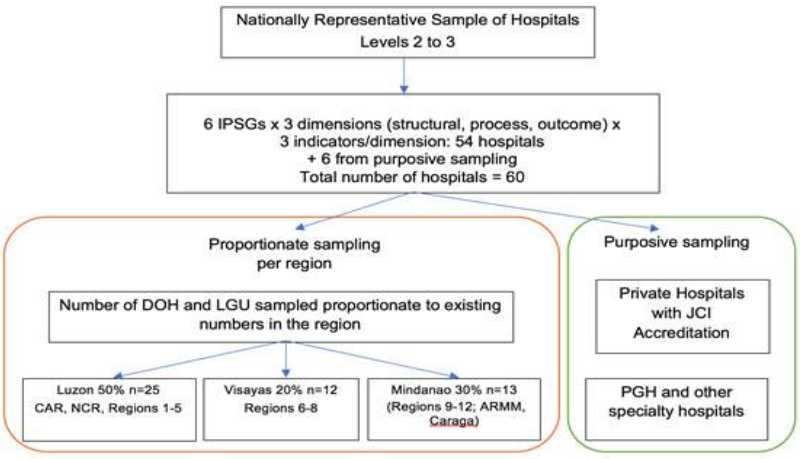


FIGURE 2. SAMPLING FRAME OF THE STUDY

The study utilizes a mixed-methods approach. Proportionate sampling was done at the regional level for DOH-retained and local government unit (LGU) hospitals, taking into consideration the level of hospital classification. Purposive sampling includes the Philippine General Hospital, being a national university hospital, as well as for four to five private hospitals that have Joint Commission International (JCI) accreditation.

A hospital patient safety questionnaire has been developed through a literature search for measures set by local regulatory agencies and international standards. The research team conducted a writeshop with representatives from local regulatory agencies and patient safety experts to elicit engagement and share knowledge on relevance and feasibility. The tool has undergone pilot testing in a public tertiary hospital.

The research anticipates paucity and heterogeneity of currently used performance indicators in hospitals. Most measures are input-based, structural, process measures with large gaps in monitoring outcome measures. Patient-centeredness is an important but often overlooked dimension of these measures.

Building a culture of patient safety and quality requires capacity-building between front-liners, regulators, policymakers, and advocates to address identified gaps in care quality and safety. A culture that promotes transparency, effective communication, continuous feedback, and teamwork is a requirement for success but is hard to attain.

5 Focused Interventions for FRAIL Older Adults Research and Development Program

Institute of Aging, University of the Philippines-National Institute of Health
Principal Investigator: Shelley Ann F. de la Vega, MD, MSc
Emerging Investigators: Angely Garcia, RN, Emmanuel Tangco, MD, Lizza Nava, RPh, Hanna Pellejo, PTRP, Dana Tanuecoz, RPh

The Philippines is aging, with approximately 7 million of its population at the age of 60 years and over. While aging is inevitable, frailty is not. Frailty is defined as reduced strength and physiological malfunctioning that predisposes an older person to increased dependency, vulnerability and death.

There are various international frameworks on aging that the Philippines have sought to follow. In the early 2000s, the WHO's promoted the Active Aging Framework. Recently, the WHO developed the Global Strategy and Action Plan on Aging and Health. It is hoped that by 2020, countries have adapted this framework and developed strategies to achieve it.

TABLE 3. ACCOMPLISHMENTS OF THE RESEARCH PROJECT AS OF SEPTEMBER 2018

Stage of Data Collection	NCR # (%)	Region IV-A #(%)
ICF	142 (106)	95 (60)
CGA	114 (85)	87 (55)
Medical exam	99 (74)	73 (46)
Dental exam	42 (31)	72 (46)
Other screening tests (MoCA, MNA, TUGT, WHOQOL, GS)	99–106 (74–84)	73 (46)
Laboratory tests	0 (0)	0 (0)

Through a mixed methods approach, the investigators are creating a FITforFRAIL framework on Healthy Aging. The research aims to 1) understand the current policy landscape, services, workforce, health status, frailty states, and socio-environmental support systems for healthy aging and 2) conduct multiple training and capacity building workshops that improve the current skills and human resource for both healthcare and research on Healthy Aging and Frailty.

Data collection is underway in NCR and Region IV-A. Analysis of disability data from 2010 census is 20% complete. Six out of 12 participant observations and in-depth interviews have been conducted with:

- 1 male and 1 female (pre-frail)
- 1 male and 1 female (frail)
- 1 male and 1 female (robust)

Moving forward, site visits and stakeholder meetings will be held in Cebu and Davao. Policy briefs and initial findings will be submitted to the DOH. Successful implementation of the research will help lead the way to viable health programs and longitudinal research.

OPEN FORUM

Shifting from advocacy to practicalities through the AHEAD Grant

Advocacy used to be based on observation and not backed up by evidence. The AHEAD grant has enabled the institutions to gather robust data as evidence for their advocacy.

Capacity-building of researchers

Training is an explicit requirement of the grant, particularly for building research capacity. This has allowed the institutions to build capacity not just in research, but on the specific skill set required to conduct the research topic of each institution.

Resources to standardize in the Philippine setting

It is important for the research to gather the indigenous population perspective. For mental health, it is expected that FGDs will reveal the role of faith or traditional healers in the referral system. There is also great interest in the Comprehensive Geriatric Assessment (CGA) to be conducted with the indigenous population, as well as a National Comprehensive Geriatric Assessment Program for the elderly.

Financial safety net of the elderly

The CGA is 13 pages long with 1000 variables generated per person. This includes questions on finance regarding an elderly's pension, sources of payment for monthly bills, adequacy of their finances to meet their daily needs, and adequacy of their finances to meet their health needs.

Indicators for patient safety and regulation at the facility level

The patient safety study hopes that if the methodology is correct, it can be rolled out to other areas, particularly the primary care facilities. Initial survey results found that indicators are more structural in nature but hopefully, best practices at the regional level will show outcome measures as well.


TH CARE
MS RESEARCH

PARALLEL SESSIONS

HEALTH GOVERNANCE

Effective health sector governance is a powerful foundation for improving health. Attaining UHC may introduce reforms that change the roles, responsibilities, and relationships between the institutions involved in the management, finance, and delivery of health services. A large body of evidence suggests UHC is transformative, highly political, and depends on the features of a country's governance. Due to the broad reach of UHC, it is imperative to generate evidence on the influence of governance on the design and implementation of UHC reforms and vice versa.

1 Work Preferences in Rural Health Job Posting Among Medical Interns in the Philippines - A Discrete Choice Experiment

Presenter: Dr. Julius R. Migriño, Jr.

Timely empirical evidence is important in the success of health systems. In health human resources in the Philippines, such evidence is necessary for informed policymaking to address imbalances in the health workforce. There is sufficient evidence of an overall scarcity of health workers globally and this is compounded by inequitable distribution of healthcare workers between urban and rural or remote areas of the world. In the Philippines, where more than half of the population live in rural and remote areas, more government physicians are situated in urban areas such as NCR and Southern Tagalog, compared to rural and remote provinces in Mindanao, and Western and Eastern Visayas. There is relatively limited data on assessment of influencing factors or effective strategies to address gaps in health human resources, both internationally or locally. Traditional studies rely on qualitative methods such as cross-sectional surveys and informant interviews, studies that do provide vital information. The limitation of this approach is that the end-users of such research, the policymakers, may not necessarily have a firm grasp as to how to best utilize such data.

The primary objective of this study was to determine the association of different job incentives and uptake rates of rural health job posts among medical interns in the Philippines.

The conceptual framework shows the different factors that influence the probability of take up of rural health job posts, which include health worker education, governmental regulations, financial incentives, and support mechanisms. This also shows the influence of medical graduate demography on the probability of take up. The specific incentives that were measured in the study were only limited to those that can be modified and measured using specific national or local policies on human resources for health.

The study utilized a discrete choice experiment involving three phases:

1) identification of incentives and levels using key informant interviews and focus group discussions, 2) selection of scenarios utilizing an experimental design, and 3) administration of the survey. Chi-square analysis, conditional logistic regression analysis, and calculations for willingness to pay and the probability of uptake were done using the data from Phase 3.

Phase 1 generated a list of 20 feasible and relevant job incentives and the top seven incentives were identified:

- Base salary
- Quality of life
- Status of equipment
- Family location
- Presence of supervision
- Avenues for career development
- Availability of CME/CPD

These different incentives were mixed and matched in Phase 2 to generate the 13 choice sets which were eventually used in Phase 3. There were a total of 345 respondents across the country in Phase 3. Most respondents are female, single, belonging to the middle to upper-income brackets, living primarily in an urban environment, and with a mean age of roughly 26.5 years old.

There is a significant association between type of background and considerations for rural practice among the respondents; those who said "yes" are twice more likely to have come from a rural background. The respondents tend to put more value into non-wage rural job posting incentives than small to modest base salary increases.

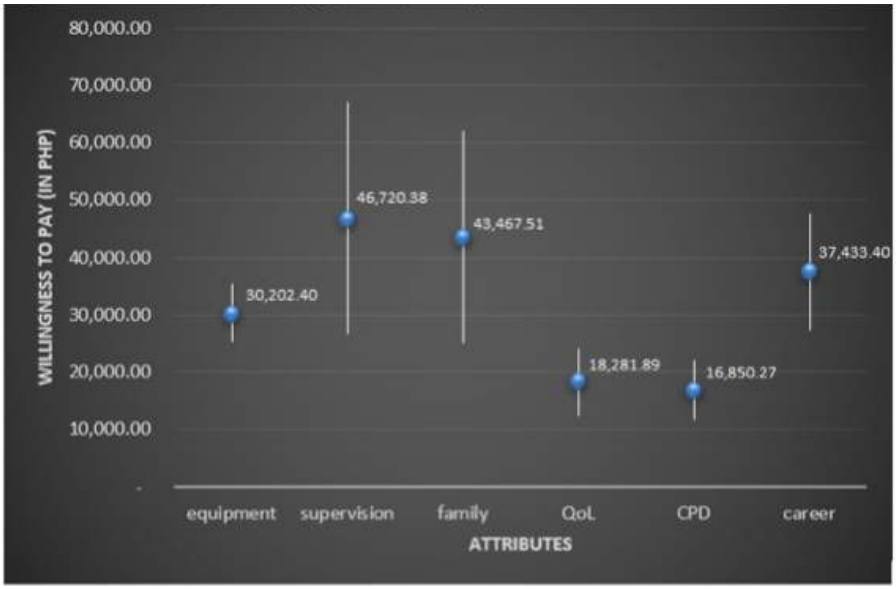


FIGURE 3. WILLINGNESS TO PAY FOR SPECIFIC INCENTIVES (AT 95% CI)

This figure shows how much the respondents are willing to trade off from their monthly salary to get other incentives. The most significant willingness to pay are those for "supervision" and "family". Presence of supervision has been identified as a major factor in both qualitative and quantitative studies regarding rural job post preferences.

In terms of increasing uptake rates of rural health job posts, figure 5 shows that some non-wage incentives can impact doctor recruitment in rural areas which are comparable to modest to high salary increases. All things equal, the estimated increase in uptake rates if supervision is added onto the package is comparable to about 130% increase, or more than double of the base salary, which was pegged at P36,000. In contrast, a 42% increase in base salary can produce an increase in uptake rate which is smaller compared to even the "least impactful" non-wage incentive, which is CPD.

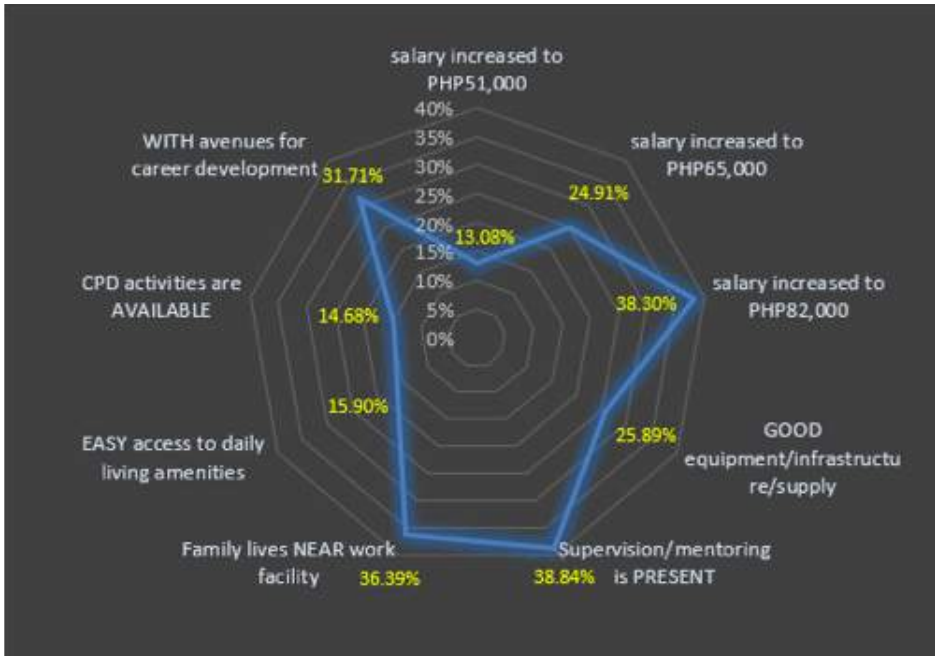


FIGURE 4. UPTAKE RATES FOR SELECTED JOB INCENTIVES COMPARED TO BASELINE, IN % (N=345)

TABLE 4. SUMMARY OF RECOMMENDATIONS

Education Recommendations	Emphasis on rural background/experience in student selection
	Support for CPD provision
Personal and Professional Support Recommendations	Improvements in living conditions
	Provision of acceptable equipment and supervision
	Availability of avenues for career growth
Financial Incentives Recommendations	Inclusion of non-wage incentives in planning

Qualitative data, as well as econometric models, should be used by policymakers to create or evaluate cost-effective incentive packages for rural health job posts to increase the attraction of medical practitioners. Future studies should provide data on specific cadres of physicians in the rural sector (i.e. Doctors to the Barrios or DTTB, physicians absorbed by the local government units, rural private practice) as well as specific subpopulations of medical doctors (e.g. medical school background, place of origin, etc.).

2 The Introduction of Dengue Vaccine in the Philippines: A Retrospective Policy Analysis

Presenter: Bayani DB, Almirol BQ, Bautista NB, Go JC, Matias AM, Reyes CL, Taneo MS, Uy GC

Background and Rationale

The introduction of the dengue vaccine in the national immunization program of the Philippines gained massive public contention among several stakeholder groups. Much has been said about the issue in mainstream media and legal proceedings, but none from an academic perspective.

Objectives

This study aims to apply a known model for policy analysis, and assess relative power and influence of actors, institutions and evidence in the introduction and implementation of the dengue vaccination program.

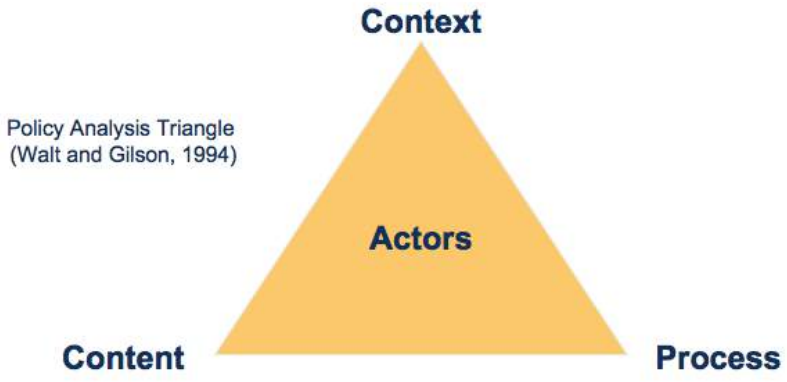


FIGURE 5. POLICY ANALYSIS TRIANGLE

Methods

A retrospective health policy analysis will be conducted to present the content and context of the policy and the different processes undertaken by the actors from policy formulation to implementation. The role of evidence in decision making as well as the role of institutions in the development of this critical vaccination policy will also be investigated. Data will collected from publicly available domains such as mainstream media and government websites. A policy analysis will be carried out using Walt and Gilson's policy triangle framework, and an analysis of relevant stakeholders will be conducted.

Potential Impact

The use of retrospective policy analysis can inform similar policies in the future. This research also aims to contribute to the body of knowledge on the role of evidence and institutions in policy development.

3 Perspectives on Intersectoral Collaboration for School-Based Nutrition in the Philippines: Q-Methodology Study

Presenter: Kenneth Jim Joseph Jimeno

The Philippines is experiencing double burden of malnutrition, where there is a concurrent high prevalence of undernourishment and obesity in the population (Kolčić, 2012) that may aggravate to triple burden, i.e., addition of micronutrient deficiencies, if the problem is not promptly addressed. A school health program perfectly exemplifies intersectoral collaboration for health. As unhealthy diet is one of the NCD risk factors found in children and adolescents in the Philippines, nutrition policies should not be limited to access to healthy food in school canteens and gardening but include broader activities that impact dietary behavior. This calls for scaling-up of school-based nutrition initiatives in a way that engages multiple sectors for maximum effects.

As healthcare transitions from a medico-centric mentality toward systems thinking that make use of knowledge from other disciplines in improving health outcomes, it is important to view intersectoral collaboration from a constructivist lens where interaction and context both give meaning in isometric fashion. This philosophical stance focuses on the social process and recognizes the agency of the people in organizing themselves rather than passive reactors to external stimuli. Intersectoral collaboration, therefore, should be seen as dynamic and fluid mimicking the current social realities. Examining how intersectoral collaboration is constructed and reconstructed shall unpack how the different policy actors become socialized to the concept in such a way its attached meaning has eluded close scrutiny.

In order to address the multifaceted nutrition policy processes, the root cause of the problem shall be ascertained (Goshtaei et al., 2016). Starting with the education sector where some collaborating mechanisms are in place may be the best way forward to champion intersectoral collaboration for health. This claim is corroborated by a Dutch study (van der Kleij et al., 2015) showing that implementation completeness of ISC is highest between the education and health sectors. Therefore, this study aims to describe and explore the perspectives on intersectoral collaboration for school-based nutrition in the Philippines.

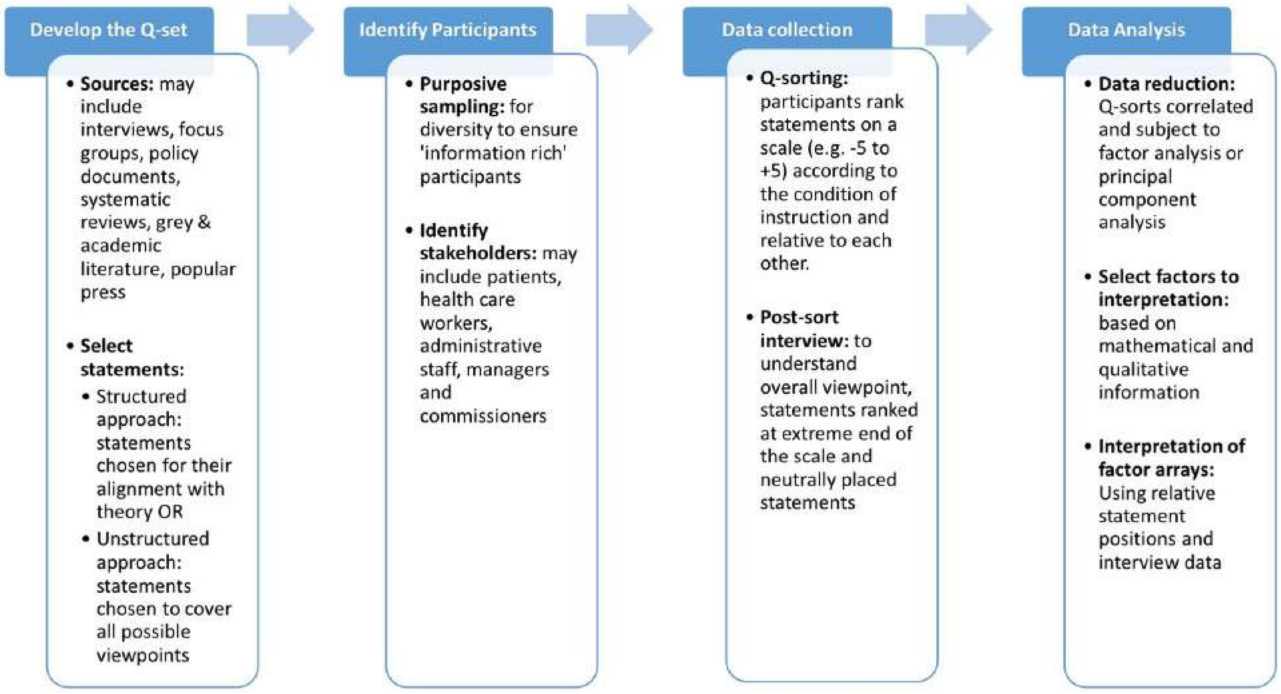


FIGURE 6. WORKFLOW IN Q-METHODOLOGY (ALDERSON ET AL. 2018).

This research employs Q-methodology, a mixed method approach developed by Stephenson (1935) to systematically analyze subjectivity. Twenty participants from the national and local government agencies, private sector, and civil society were purposively selected to rank 25 statements on policy measures about intersectoral collaboration. An interview was conducted to probe the participant's ranking process. A special software will be utilized in the analysis that will conduct the by-person correlation, factor analysis, and varimax rotation. The quantitative results will then be triangulated with the participants' backgrounds and interview transcript to make sense of the identified factors.

4 Health Policy and Systems Research in the Philippines: A study on existing portfolio, researcher networks, and research impact

Presenters: Aliyah Lou A. Evangelista, MSc, Arizaldo E. Castro, MSc, Amadeus Fernando M. Pagente, MHSS, Devon Ray Pacial, RMT, and Roselyn Ann P. Obrique

Background

Global movers recognize the importance of Health Policy and Systems Research (HPSR) in health systems strengthening as supported by the four-fold rise in academic contributions to the discipline and the trend of increasing monetary investments to it. Considering the process of evidence production and the nature of evidence generated through HPSR, this emerging field of research provides support to governments in the realization of their national health goals. HPSR in the Philippines is an infant field, with few institutions and researchers producing studies even if there is a high demand for evidence-based health policies. This study is a response to the absence of baseline research on Philippine HPSR investments and capacities with an ultimate goal of informing a Research Impact Assessment (RIA) plan applicable to the context of the Department of Health (DOH).

Methods

Gray HPSR literature were sourced from the databases of the DOH Philippine Institute for Development Studies (PIDS). International gray HPSR were sourced from the databases of the World Health Organization (WHO) and Asian Development Bank (ADB).

Literature were categorized according to WHO's health systems building blocks and granular content per literature reviewed was also captured.

Authors (primary and co-investigators) were identified from HPSR studies sourced from the DOH and PIDS databases

Measures of density and cetrality (degree, betweeness, closeness) were used to describe the HPS researcher networks

General and specific assessment questions aimed at how research influenced research-related products and activities, policy-making, and service delivery, were formulated.

A consultative approach was employed to valudate and vet a final set of input, process, output, and outcome indicators to be included in the RIA plan.

Most literature found were technical reports, with very few available policy briefs and research in the area. This may reflect as a disconnect among researchers, policymakers, and the people, hence the need to translate and disseminate information properly.

OPEN FORUM

Moving toward Universal Health Care

Good health governance can close the gap of Human Resources for Health (HRH) from the urban to rural areas. Furthermore, effective mechanisms for financing, good data for decision-making, and an established infrastructure for information technology are necessary to secure UHC. The health sector needs to collaborate with other sectors to maximize the gains of UHC and look towards other disciplines to validate evidence for effective decision-making.

Improving program interventions

After the Dengvaxia case, it has become clear that decision-making processes should be transparent and stakeholders should work to institutionalize a better evidence advisory system for public coverage. As for all programs placed under public scrutiny, fact-checking and policy-based journalism ensures that media reports are consistent with the message of the researchers and policy-makers. Bridging the communication gaps of the researchers, policymakers, and the public can impact the policy and its service delivery.

Deployment programs

The absorption of deployed health workers, such as the DTTB, into municipalities and other rural areas is still highly variable. Incentives other than salary and monetary benefits should be explored in order to mitigate this. Training conducted every quarter should have official academic credit. Other factors such as supervision and career growth are important factors that can incentivize the stay in rural area programs.

HEALTH SERVICE DELIVERY

Equitable access to services is essential to attaining UHC. This entails delivering a full spectrum of health services to the population that includes health promotion, prevention, treatment, rehabilitation, and palliative care. There is a growing awareness that improved access must be accompanied by efforts to improve the quality of health services. Thus, there is a corresponding growing need for countries to develop a quality policy strategy based on evidence, expertise, and experience in service delivery science.

1 Policy Research on Disaster Risk Reduction and Management for Resilient Local Health Systems in Selected LGUs in Eastern Samar

Presenter: Dr. Carmelita C. Canila

Records dating from 1897 to 2013 show that many typhoons have hit the Visayas area. Between those years, five strong typhoons have landed near Tacloban with notable damages and fatalities in the years 1897, 1912, 1952, 1984, and 2013. National policies were in place at the time of Typhoon Yolanda in 2013. This includes the Climate Change Act of 2009 and the National Disaster Risk Reduction and Management Act of 2010. However, Typhoon Yolanda resulted in over 35,000 casualties and over Php 39 billion in damages.

This research utilized a cross-sectional design using qualitative methods of document review, key informant interviews, and focus group discussions in purposively sampled study sites (Figure 10). This study had four objectives:

- To assess the current mechanism and plans of DOH-Health Emergency Management Bureau (HEMB) Central Office and DOH-HEMB Region 8 to provide support to LGUs in the development, implementation, and monitoring of the Disaster Risk Reduction and Management Plan for Health (DRRM-H) and its harmonization with related Disaster RIsk Reduction and Management (DRRM) plans required by other agencies;

- To assess effectiveness and efficiency in the creation and implementation of the Health Emergency/Resilience policies in local levels;

- Identify best practices in health resiliency planning, implementation, and monitoring among four identified municipalities that can be mainstreamed or adopted by other government agencies and local governments, and;

- Describe planning, implementation, and monitoring processes in selected barangays, aligned to DRRM-H of the four municipalities.

There is evidence of disaster resilience at the individual, household, and community level. There is stronger family preparedness, although this is still limited to Go Bags and emergency supplies. Volunteers and communities have databases of vulnerable population coupled with efforts for their prioritization. The LGU response has centered on constantly increasing awareness on disaster preparedness in the communities. Competent leadership by the municipal mayor and barangay officials was observed through the synchronized translation of policies and management and leveraging of funds for DRRM. However, monitoring and evaluation of DRRM implementation was weak.

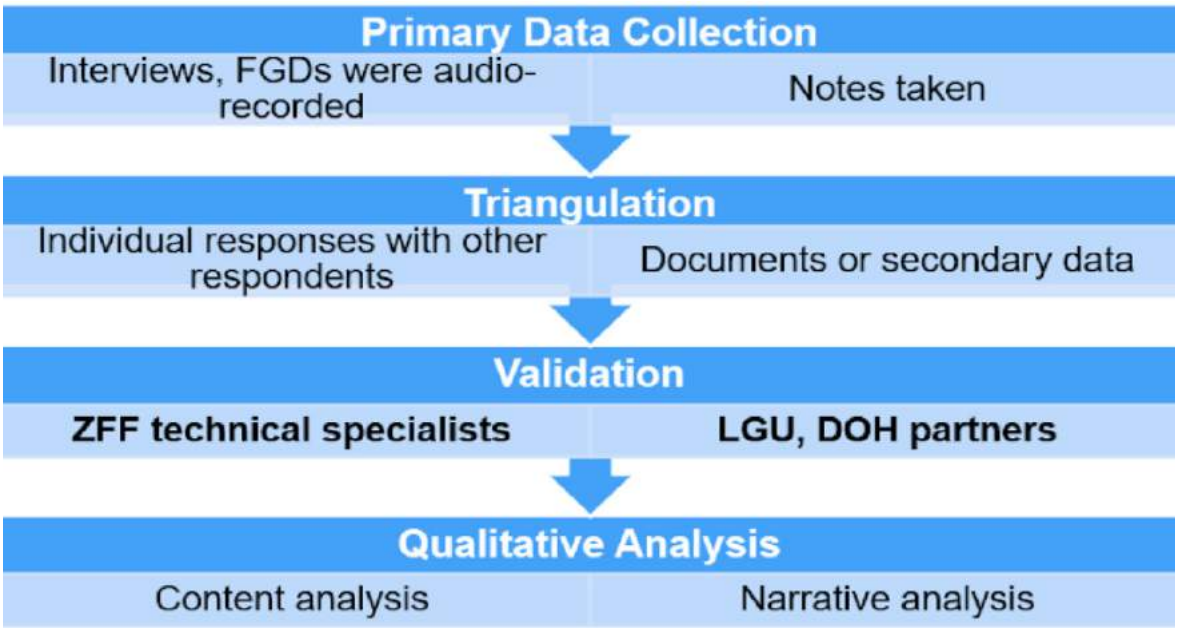


FIGURE 7. STUDY DESIGN

Implementation challenges at the municipality level include the weak absorptive capacity of the municipality, as well as weak coordination mechanisms. These were particularly highlighted immediately after Typhoon Yolanda, when there were duplication of projects in partnerships with civil society organizations and international non-governmental organizations (NGOs). This duplication was driven by a number of factors, such as the insistence of some non-governmental organizations to implement their own projects and weak capacity to oversee and monitor the projects.

The following recommendations are made:

- There is a need to formulate a robust monitoring and evaluation system for DRRM-H that can be implemented at the barangay level.

- Provincial-level LGUs should provide an avenue for technical exchange and lessons learned among different municipalities on workable solutions or initiatives for DRRM-H that generates results for families.

- LGUs should develop a mechanism for sustainable and meaningful people's participation in planning, implementing, monitoring and evaluating DRRM-H and DRRM in general.

2 Untangling the Burden of Repeated Adolescent Pregnancies in the Philippines

Presenter: Joemar Calderon Maravilla, RN, PhD (c)

The Philippines currently ranks first among the Association of South East Asian (ASEAN) countries and third in the Western Pacific Region in adolescent pregnancy. From 1994 to 2013, the number of previously or currently pregnant teen per 100 teens increased from 6.3% to 13.6%. From 1993 to 2013, the adolescent fertility rate rose from 40 to 57 births per 1,000 teenagers. Hindrances on adolescent reproductive health may be attributed to poor postpartum family planning coverage and a non-supportive environment to finish education (Figure 11). In 2015, there was a 61% unmet need for family planning among women in the first year postpartum. In 2013, 22.9% of out-of-school youth entered into union or marriage.

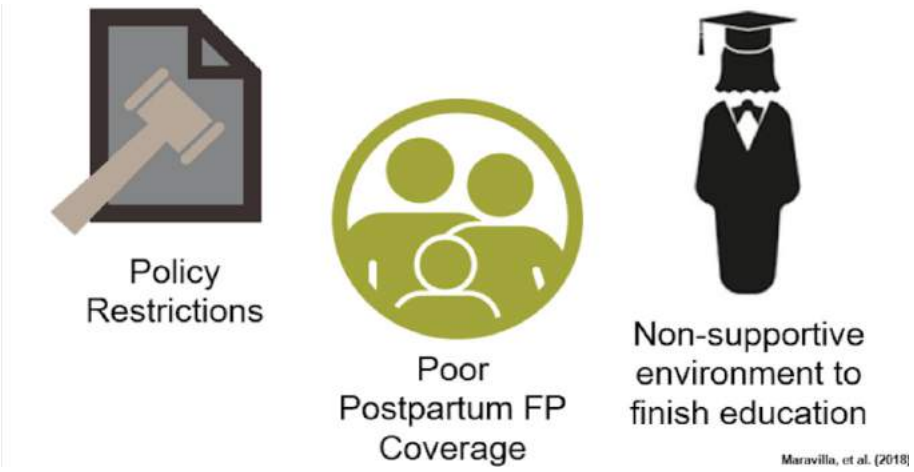


FIGURE 8. HINDRANCES TO ADOLESCENT REPRODUCTIVE HEALTH

The study aimed to:

- Investigate the prevalence and trends of repeated adolescent pregnancy;
- Assess poor maternal outcomes and offspring stunting associated with repeated adolescent pregnancy, and;
- Explore individual, partner-related, and socio-demographic factors of repeated adolescent pregnancy.

The research utilized five years of data from the Philippine National Demographic and Health Survey and three generations of a community-based cohort from the Cebu Longitudinal Health and Nutritional Survey. The study used three analytical tests:

- Cochran–Armitage Trend test with age–year interaction;
- Regression models with interaction by age and inter–pregnancy interval, and;
- Mediation tests using longitudinal data.

Over a 20–year prevalence trend, the study found that one in five teenage mothers had a repeat teenage pregnancy, with one in 10 having experienced a repeat birth. Compared to young adults, teenage mothers are ten times more at risk of pregnancy complications and three times more labor complications. Adverse outcomes for the child include over two times more stunting at 24 months and thrice more persistent stunting. These are attributed to the poor practice of complementary feeding.

The study also found that repeat pregnancies are correlated with teens with older partners or teens younger than 18 years old at the time of their first birth. At the systems–level, correlators include low socioeconomic status and teens who use traditional healers as the prenatal care provider during their first pregnancy. Teens who dropout of school, are depressed, or have an increased number of sexual partners were found to be predictors for repeat pregnancies.

The study recommends secondary pregnancy prevention through the encouragement of accessing prenatal care with a skilled service provider as early as the first pregnancy. Community health workers should conduct home visits to poor households. Mental health should be integrated into the primary care service which includes 1) counselling during postpartum care, 2) building life skills and employment capacity, and 3) school engagement.

3 A Decision Support System for the Philippine National Health Sector Performance Monitoring Unit's Site Visit Prioritization and Selection of Field Monitoring Visits

Presenter: Emmanuel Y. Gloria

The Philippine National Health Sector Performance Monitoring Unit (NHSPMU) was established due to the need for effective, efficient, and responsive decision making for health sector performance monitoring. Part of their mandate is to plan and conduct field monitoring visits to validate received data at a higher administrative level. However, the monitoring unit's field visit operations follow a traditional and subjective approach to evaluating and selecting site locations. This is problematic due to bias from intuition judgments and deviance to evidence-based decision making. Site selection and prioritization are critical since not all geographical-political subdivision in the country can be covered. However, it is expected to ensure adequate representation across the program performance spectrum and therefore, the success and accountability of their operations are dependent on the choices of areas to visit and their ability to prioritize based on evidence-based and sound scientific processes.

The objective of the study is to describe the current site visit operations of the NHSPMU and develop a decision support system for site prioritization and selection. The study employed a sequential mixed-method research design that started with informal interviews and consultations. This was followed by a two-stage multi-criteria decision-making process and a road network model via Travelling Salesman Problem (TSP). The qualitative methods inquired on how the NHSPMU operationalize their field monitoring visits. The quantitative method was based on the October 2017 data submissions of the monitoring unit and estimated distances of health centers and regional offices from Google Maps. The qualitative data was analyzed by creating a summary of findings and highlighting the important points in the discussion. The quantitative data, on the other hand, were analyzed using the Analytical Hierarchy Process and TSP package in R by Hahsler and Hornik.

Results showed that site prioritization and selection is an issue in the NHSPMU for two main reasons: no policy for a systematic system in prioritization and selection, and the monitoring unit is still in its infancy stage. It was also able to define prioritization as expressed by unofficial criteria: Compliance, Completeness, Innovation, and Accuracy, but with a more realistic set of weights – 12.91%, 23.06%, 11.37%, and 52.66%, respectively. These were used to evaluate the most to least problematic regions and provinces. At the city/municipality level, a list from nearest to farthest facility was obtained with its corresponding optimal tour length.

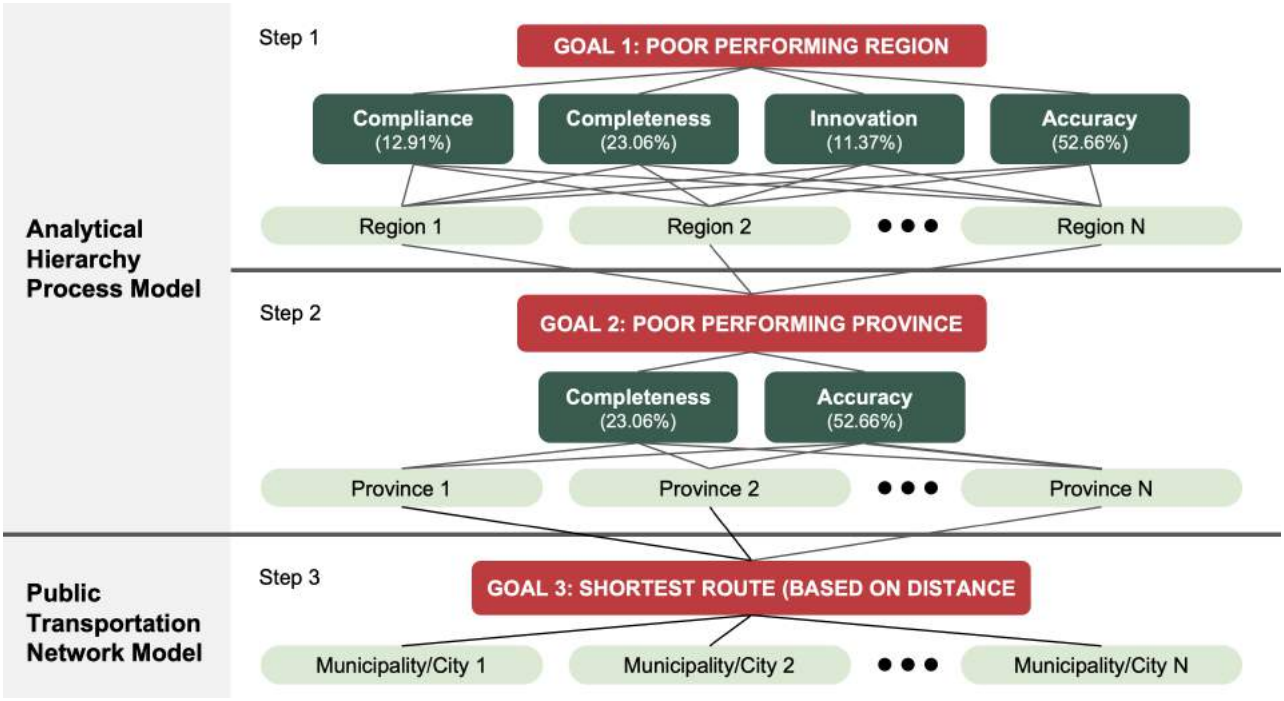


FIGURE 9. PROPOSED DECISION MODEL FRAMEWORK FOR SITE VISIT SELECTION

Due to the gaps of the NHSPMU identified in this study, most especially on limited resources, the study recommends that strategies on field monitoring visit selection and prioritization should be revisited. Specifically, such strategies may be improved by the aid of decision support systems such as the methodological framework outlined in this study. The study also emphasizes the importance of official performance criteria and accuracy of site selection of the health center facilities.

4 Determining the Implementation Status of Benefits Under Magna Carta of Public Health Workers (RA 6305) in the Philippines

Presenter: Louella Patricia D. Carpio, MD, Hanna Thea F. Cayabyab,
Danielle Marie Irish T. Te, MHSS

Healthcare workers play a vital role in the quality of service delivery in the health system. An attempt to address the health workforce problem in the Philippines gave rise to the enactment of Republic Act 7305 or Magna Carta of Public Health Workers of 1992. A few studies noted lapses in its implementation, which is generally attributed to the lack of funds in local government units (LGUs). There is a need, however, to thoroughly evaluate the status of implementation of this law on a national scale.

The purpose of this study is to determine the implementation status of the provisions under the Magna Carta of Public Health Workers and its Revised Implementing Rules and Regulations in public field health facilities in the Philippines. Specifically, it aims to determine and describe the level of implementation of Magna Carta of public health workers, perceived status of Magna Carta implementation for health workers in LGUs and the facilitating and hindering factors affecting the implementation of Magna Carta and explore alternative mechanisms to promote health worker well-being

This is a descriptive study with a mixed-methods design. A cross-sectional assessment of Magna Carta benefits using LGU score cards from 2017 will be carried out to assess the percentages of LGU with full or zero implementation of three Magna Carta benefits: hazard pay, subsistence allowance, and laundry allowance. The data will be the disaggregated according to municipality class. A focus group discussion (FGD) on 10 deployed Doctors to the Barrios will be conducted, while key informant interviews (KII) on three local chief executives (LCEs), three municipal health officers, and three budget officers from Region IV-A and Metro Manila will also be performed. Frequencies and proportions of quantitative data will be obtained through descriptive statistics, while disaggregated data for income class will be generated through STATA. Thematic analysis and frequencies will also be generated for the qualitative data.

OPEN FORUM

Enhancement of pregnancy tracking at the community level

WHO recognizes that there is a shortage of evidence to track adolescent mothers. The best approach, through the findings of this study, is to mobilize health workers. It is important to have a working relationship with teenagers through a case management approach with consistent follow-ups. Repeat pregnancies of teens is a problem that concerns everyone at the health, education, and social welfare perspective.

Health leadership and governance program to improve implementation of RA 6305

The study found that one mayor did not undergo training but still provided the benefits. The other mayors who attended the program acknowledge the importance of health to their municipality. However, the implementation is limited if these mayors are not reelected.

Definition of resiliency

The study used grounded theory to look at how communities defined resiliency, There was no single definition gathered from barangay respondents. For one, they defined it as having and using evidence. For others, it's having a database of the vulnerable population. For most, it's having an evacuation plan. At the municipal level, resiliency is having a plan but the content of the plan was emergency response in nature.

Staffing limitations and context for the monitoring unit

The model presented was based on a three-person unit's needs. The downside of the model is the lack of data to plot areas we need. There is an ongoing facility mapping based on the DOH Health Atlas. More specific routes can be generated using that data with coordinates.

HEALTH FINANCING

To achieve UHC, policies must be in place so that the population is able to access and utilize health services without suffering from the debilitating financial burden. Equal attention must be paid to address inequities in health financing. This recognizes that some groups may have higher health needs but lower financial capabilities. In crafting a sustainable health financing strategy for UHC, institutions must ensure that policy decisions 1) are evidence-based, 2) consider the local economic context, and 3) strengthen the public financial management system and aligns it with the health finance objectives.

1 Determinants of Malaria Program Expenditures during Elimination: Case Study Evidence from Select Provinces in the Philippines

Presenter: Christine Joy D. Candari

The Philippines, given its current sub-national elimination strategy for malaria, has provinces that are in different stages of elimination, possibly reflecting different levels of resource expenditure. The country's epidemiological and ecological diversity can shed light on how different environmental factors affect expenditure levels during control and elimination. The devolved health system allows greater flexibility for LGUs to direct activities, but also create challenges for coordination and resource mobilization and use – organizational factors possibly affecting levels of expenditure.

The study has the following objectives: (1) to estimate the financial resources used by sub-national malaria programs in different phases of elimination; and (2) to understand how different environmental and organizational factors in these provinces affect expenditure levels and spending proportions.

Data was collected using historical records review, key informant interviews, and extraction of expenditure data from program accounts. Four provinces in Luzon were selected purposively to represent a range of malaria eco-epidemiological environments and programs in different phases of elimination. Key informant interviews and expenditure data extraction were guided by semi-structured questionnaires. Interview transcripts were analysed using Atlas.ti 6.2. A coding scheme was developed to identify common themes (e.g. ecology and environment, program strategies, etc.). Expenditure data were organized and analysed across three dimensions: (1) funding source, (2) malaria activity and (3) expenditure type. The total yearly expenditures were adjusted by the Population-At-Risk (PAR) in each province and all expenditures were adjusted to 2010 prices and converted to US dollars.

Based on an analysis of the four provinces, the following factors determine expenditures in a province that transitions from malaria control to elimination:

- **Malaria burden, eco-epidemiology** – In places where burden is historically low like Benguet, less active intervention and expenditures are needed to achieve and sustain zero cases. Provinces with ecologies that are naturally less favourable to vector growth also need lower expenditures.

- **Progress towards elimination** – As programs progress from a state of controlled low endemic malaria to elimination and prevention of reintroduction, expenditures decrease. This is true regardless of whether elimination was actively pursued or was just a result of passive factors, for example, urbanization and industrialization.

- **Geography, economic development** – Provinces with groups especially vulnerable to malaria including indigenous people need higher expenditures. Provinces with a high level of malaria transmission and receptivity (e.g. those with high vector population density) have higher expenditures but these were moderated by the level of economic development, which is an indicator of a province's amount of available resources.

- **Sources of financing** – Provinces with external funding had higher expenditures, the majority of which were used for vector control commodities and monitoring and evaluation. Provinces without external funding and therefore with tighter budget constraints have more 'prudent' expenditures. However, the danger with this is that they have limited capacity to respond to emergencies, especially outbreaks.

- **Organizational structure and capacity** – The devolution of the program lowered expenditures, except in areas supported by external funding. Devolution resulted to removing experienced national staff from the program and leaving the program to local staff which has limited capacity to plan and implement the program in their respective localities.

While the sampled provinces and years may not be representative of other sub-national malaria programs, the findings suggest that the marginal yearly cost declines with each phase during elimination. However, across all provinces, strong local government buy-in and leadership, including funding commitment, appear to be necessary conditions if provinces want to maintain their progress, and are particularly vital in controlling outbreaks.

2 Out-of-Pocket-Expenditure of Patients Consulting at General Medicine Outpatient Clinics in Two Government Hospitals in Manila, Philippines

Presenter: Dr. Lia Aileen M. Palileo-Villanueva

One of the key components towards achieving universal health care is financial risk protection. This anchors on the belief that health financing schemes are important drivers to access to health. In the Philippines, 55.3% of total health expenditure is out-of-pocket (OOP) where costs are not reimbursed by any financing safety net but are shouldered by the patients and their families (Philippine National Health Authority, 2016). These costs can be catastrophic and push vulnerable families to poverty. Outpatient cost of care in the country remains to be explored in literature, as most of the studies that looked into out-of-pocket expenses focused on inpatient care or hospitalizations, while few studies have examined outpatient care costs and its potential impacts. Meanwhile, in other countries, literature has shown that high out-of-pocket cost of outpatient care can hinder engagement in the healthcare system. More so, not only direct medical costs, but also direct non-medical costs such as transportation and food can affect access and engagement.

This study aimed to identify what comprise the costs of outpatient care, and quantify the OOP expenditures related to an outpatient medical visit, from the patient's perspective.

This study used a sequential, mixed methods design. Phase 1 utilized qualitative methods (literature review, key informant interviews and, panel review) to develop the validated data collection tool. Phase 2 was a cross-sectional survey that estimated the out-of-pocket expenditures incurred for an outpatient medical consultation at the Philippine General Hospital (PGH) and the Tondo Medical Center (TMC).

For the first phase of the study, a validated data collection tool was developed that can either be self-administered or administered by a trained interviewer. It captures all the items paid for out-of-pocket by patients consulting for an outpatient visit. It can be used in any type of government health facility.

In Phase 2, it showed that 89-91% of patients on both facilities did not allocate any portion of their household budget for health. The remaining percentage of patients allocate a mean monthly budget for health of P140 for PGH and P440 for TMC. These amount of savings vis-à-vis the cost of each facility visit shows a clear disparity with a median out-of-pocket cost of P1,846.50 for PGH and P302 for TMC. For the total OOP cost per health visit, 80-90% is spent on diagnostics such as imaging and laboratory fees, while the remaining 10-20%

is on direct non-medical cost. This includes food, transportation, companion cost, cellphone load, and incidental expenses, with food and transportation comprising the bulk of the total direct non-medical cost. The reported mean monthly cost of medications which is not part of their per-facility visit was P2,403.83 (SD 4,755.98) for PGH and P860.30 (SD 1,504.96) for TMC. Furthermore, only 15% reported that they were able to get free medications from their local health center, while 3% sourced them from assistance from government and non-government organizations.

Out-of-pocket expenditures for outpatient care may lead to catastrophic health expenditure, especially among the poor and vulnerable populations. Cost centers identified in this study are consistent with literature. Medicines, laboratory, meals, and transportation costs still comprised the bulk of the patient's expenditures. The institutionalization of a comprehensive and expanded outpatient package that covers medications and diagnostics on a wide range of conditions focusing on non-communicable diseases (NCD) through the national social health insurance may help curb inequities in health financing and one of the possible solutions to address high OOP. It is also crucial to strengthen primary health care facilities and service delivery networks, specifically their role on preventive health services, and in decongesting tertiary facilities on conditions that can be managed at the primary care level. Lastly, there is a need to replicate costing studies on larger populations in different settings. The data collection tool can be utilized in other health facilities with a similar population to generate more data on outpatient costs.

3 Financing Universal Health Coverage in Ageing Philippines

Presenter: Michael R.M. Abrigo

Countries around the world have come together to ensure universal access to health care by 2030 as part of its commitments in the Sustainable Development Goals (SDGs). This is often taken operationally as greater involvement of governments in providing health care and health-related goods and services, including universal social health insurance (SHI) coverage. By and large, these government programs are funded through taxes on wages. However, in the near future, the share of workers all over the world is expected to decline as population age. In the Philippines, for instance, the elderly is projected to comprise more than 10% of the population by 2029, adding about 0.3-0.4 million elderly every year starting 2018. This raises an important concern on the ability of governments to finance its health programs, thereby endangering the achievement of universal health care under the 2030 SDGs.

This study aims to assess the fiscal costs and the related adjustments in contributions needed to be able to finance universal SHI coverage in the Philippines.

Age-specific SHI membership and utilization rates were combined with the age profile of SHI benefits from the most recent National Transfer Account for the Philippines in order to provide estimates of the annual average SHI cost by age under business-as-usual (BAU) and universal health care (UHC) scenarios. Annual aggregate SHI costs are calculated by applying population projections until 2050 while holding age-specific per capita costs constant in each scenario. Population projections based on two fertility scenarios are considered. The SHI costs were compared with projected labor income by type of worker based on NTA labor income, age profiles, and population projections to assess the potential fiscal burden from BAU and UHC under different wage-based financing schemes.

Results show that health expense estimates capture age-differences in disease burden and access. Examining the shares of expenses, the government's funding is not trivial but most health costs are largely borne as household OOP expense.

The cost of providing SHI coverage is projected to increase with the country's ageing population. Required contribution rates are increasing if based on the realistic age profile of health spending. If current SHI benefits are continued, under a medium-fertility scenario, total SHI costs in BAU are expected to reach P110 billion in 2020, P131 billion in 2030, and P172 billion in 2050 from a baseline of only P100 billion in 2015. On the other hand, SHI costs under UHC are projected to total P186 billion, P222 billion, and P293 billion over the same period. These costs only include membership benefits and not operating expenses. Depending on which sector financing the SHI, the contribution rates to fully cover SHI costs range between 1.1-2.0% of wages under BAU, and between 1.8-3.4% under UHC by 2020.

Projected SHI costs and contribution rates are markedly higher when using a low-fertility scenario, where population ageing is more rapid. The demographic transition is expected to contribute to greater productivity. Hence, introducing labor productivity growth in projection implies lower required contribution rates, enough to offset the impact of population ageing.

Based on the findings, contribution rates are expected to increase as the country transitions further into an aged society. The implied tax rates to finance UHC range between 0.7-3.9% of total wages, but can be higher under certain conditions. Low fertility or faster ageing does not necessarily imply higher tax rates on contributing members.

Increasingly decoupling the financing of SHI from wage-based contributions may mitigate the increasing fiscal burden related with population ageing. This may include taxation of consumption, specifically of known health risks, and the introduction of a parallel fully-funded health insurance scheme, both of which have been already applied in several countries. Cost-side measures, including strategic purchasing that leverages on scale and treatment cost-effectiveness, encouraging healthy behaviors and early detection of sickness, and promoting greater market contestability in the health sector, are important to ensure the affordability, reliability, and sustainability of health care.

4 Assessing the Impact of the Philippine Health Insurance Corporation's No Balance Billing Policy on Lengths of Stay among Beneficiaries

Presenter: Celina Ysabel H. Gacias

Background and Rationale

In 2011, PhilHealth implemented the All-Case Rates (ACR) Policy, a new case-based payment scheme that shifted provider-payment away from fee-for-service. With the introduction of the ACR as a bundled provider payment mechanism (PPM), PhilHealth was also able to introduce the No Balance Billing policy (NBB), which aimed to ensure "optimal financial risk protection (FRP) for all [PhilHealth] members, especially to the most vulnerable groups including the poorest of the poor." In the past years, it was expected that the NBB policy ought to have improved health insurance utilization for inpatient services among sponsored and indigent members, while at the same time ensuring financial risk protection. However, there has been no systematic evaluation of the actual impact of the policy since its implementation in 2011. This study aims to evaluate the impact of the implementation of the policy, particularly on select indicators namely the average lengths of stay of its intended beneficiaries. To provide a baseline for assessing the impact of NBB policy, the impact of PhilHealth's All-Case Rates provider-payment system on average lengths of stay of non-NBB-eligible beneficiaries will be studied as well. The results of the study can inform improvement of the NBB policy by PhilHealth, specifically in terms of monitoring and evaluation of the policy as well as the provision of quality services for NBB beneficiaries.

Objectives

To assess the impact of NBB policy on the average lengths of stay PhilHealth beneficiaries

Methodology

This study will use a sequential study design, where results of the quantitative component shall be subjected to a validation process using qualitative approaches. For the quantitative aspect, this study employed differences-in-differences (DID), a quasi-experimental impact evaluation method. In the context of this study, the time periods are 2010 and 2016 and the two populations are those who are sponsored and indigent members and those who are not, with the exposure being NBB eligibility. The main outcome variable in this study is length of stay (LOS), which is often considered to be reflective of admission efficiency and efficacy. With the two time points, 2010 and 2016, referred to as A and B, respectively, the differences-in-differences estimate is given by:

$$1=(yB,2-yB,1)-(yA,2-yA,1)$$

This can be interpreted as the effect of NBB on the outcome of interest as indicated by TB.

For the qualitative aspect, the results of the DID shall be subjected to a series of round table discussions (RTDs) with PhilHealth relevant offices and technical staff, and interviews with selected hospitals within Metro Manila to determine policy options.

5 Household Utilization of Health Care by PhilHealth Members (Indigent, Sponsored Members and from the self-earning informal sectors)

Presenter: Marilyn E. Crisostomo

PhilHealth established the Sponsored Indigent Program which aims to enable the access of basic healthcare services at an affordable cost to the poorest of the Philippine population. The 2008 National Demographic and Health Survey (NDHS) found that there is a very low utilization of PhilHealth benefits among indigent members. No Balance Billing (NBB) was implemented in 2011 to encourage utilization and ensure protection against financial risks. However, a 2014 study found that universal coverage is uneven and disparities were evident at the local level.

This study aims to differentiate patterns of health care services and PhilHealth benefits utilization among indigent members, sponsored members, members of the informal economy, and non-members at the two lowest income quintile. In order to achieve this, an analysis of secondary data from the PhilHealth database was conducted to assess changes over time. Afterwards, the proponents utilized an analytic cross-sectional survey in seven provinces in Luzon, Visayas, and Mindanao and two cities in NCR. This was followed by an evaluation of the impact of efforts to increase sponsorship on the utilization of benefits.

Results show that there seems to be an increasing trend in mean cost reimbursement of indigent and sponsored members in six out of nine study areas. An increasing trend is also observed in members 20-39 years old and dependents less than 20 years old, which could mean that the focus of the program is enrolling the young workforce who are starting to build a family. The proportion of female indigent and sponsored members also seemed to increase over time.

TABLE 5. DISTRIBUTION OF HEALTH CONSULT BY PHILHEALTH MEMBERSHIP

Membership	Consulted		Did not consult	
	No.	%	No.	%
Indigent	661	57.3	494	42.9
Sponsored	463	56.5	356	43.6
Informal sector	569	63.4	328	36.6
Non-members	665	50.8	644	48.9
Total	**2,358**	**56.4**	**1,822**	**43.6**

Of the identified members, 43.6% were found not to seek health consultations. The most commonly mentioned reason why the household members did not consult is the preference to self-medicate. These household members commonly choose not to seek consult with a health provider for toothache, cough and colds, fever, flu, and headache. Indigent and sponsored members mostly consulted and would be confined in a public health facility (p-value<0.0001). A lesser number of indigent and sponsored members rely on their salary or income as payment for confinement (p-value<0.0001), while non-members mostly borrow money (p-value<0.0001).

The analytic cross-sectional survey also revealed that the average percent of hospitalization cost reduced in the indigent (p-value<0.0001) and sponsored (p-value=0.008) is higher than the members in the informal sector.

TABLE 6. AVERAGE PERCENT OF COST REDUCED BY PHILHEALTH FOR CONFINEMENT

	Indigent	Sponsored	Informal Sector
n	116	80	134
Mean (±SD)	90.9 (±18.1)	89.4 (±18.9)	79.7 (±26.3)
Median	100	100	89.8
Min, Maz	27, 100	23, 100	5, 100

Out-of-pocket payments, which were mostly due to medicines, were also highest in the informal sector (p-value=0.004).

Looking at the trends in sponsorships and benefit payments, it was found that PhilHealth continues to increase the number of indigent and sponsored beneficiaries through infomercials, campaigns, and issuances of circulars and joint orders.

TABLE 7. NO BALANCE BILLING AND SUPPORT VALUE

	2015 Stats and Charts	Results in this Study
No balance billing compliance Support Value	51.0% 56.0%*	53.0% 90.3%

Moreover, the support value for PhilHealth's indigent and sponsored members is a high 90.3%.

With these in consideration, it is recommended that indirect costs in healthcare and out-of-pocket payments for medicine to be reduced in order to maximize the utilization of health care services by indigent and sponsored members. Furthermore, the installation of PhilHealth information hubs in rural areas can increase the number of indigent and sponsored beneficiaries. Rigorous monitoring of health facilities and utilizing PhilHealth's big data can further bolster PhilHealth utilization.

OPEN FORUM

Out-of-pocket expenditures

Further exploration is needed to determine the impact of the length of stay on OOP expenditures. Data on the hospital bill and patient co-payment were not readily available, hence, the current limitation of the investigation. The NBB policy is being closely monitored because of the high OOP expenditures, particularly for medicine.

External donor support

The efficiency of spending practices is a crucial aspect to review with respect to donor support. Among the considerations for expenditures are the procurement rules the external donors must adhere to. Furthermore, a review of the shifts in practices once development or external funding has been pulled out. The sustainability of a project becomes a challenge once donors leave. Particularly in a devolved setting, LGU ownership of the health program becomes critical in sustaining the program.

PhilHealth information and education

A good number of Filipinos are not aware of PhilHealth. It is unclear if Department of Social Welfare and Development (DSWD) or RHUs are not able to enroll more due to their quotas, but low enrollment and renewal trends have been seen. For many cases, individuals are not aware of PhilHealth or are unable to renew unless they get sick. Information dissemination needs to be strengthened on the ground level.

HEALTH TECHNOLOGY ASSESSMENT

Health technology assessment (HTA) has been widely recognized as a policy tool to build evidence for UHC policies in the areas of safety, effects, and implications of technology, medicines, vaccines, medical devices, procedures, and social interventions. As the country adopts UHC, the demand to produce HTA evidence increases. This involves multidisciplinary research to assess cost-effectiveness, impact, feasibility, and ethics. In developing an HTA system, policymakers should take into account its utilization in the decision-making process, scope, current institutional capacity, and governance.

1 An economic evaluation of policy options for renal replacement coverage in the Philippines: an analysis using secondary local data

Presenter: Diana Beatriz Bayani

Kidney diseases are among the top causes of mortality in the Philippines, with new patients increasing by 15% every year. In December 2015, there were over 32,000 patients on dialysis in the country. Chronic kidney disease acts as a risk multiplier for all four major non-communicable diseases: cardiovascular disease, respiratory disease, cancer, and diabetes. Moreover, this poses a growing economic burden; based on claims utilization data from PhilHealth, P8.8 billion was spent on kidney transplant (KT), peritoneal dialysis (PD), and hemodialysis (HD), with hemodialysis claims reached P8.3 billion. While studies on dialysis modalities and economic evaluations have been conducted, results and perspectives have varied. This study focuses on determining the cost-effectiveness of renal replacement coverage policies for end-stage renal disease patients from a government and societal perspective.

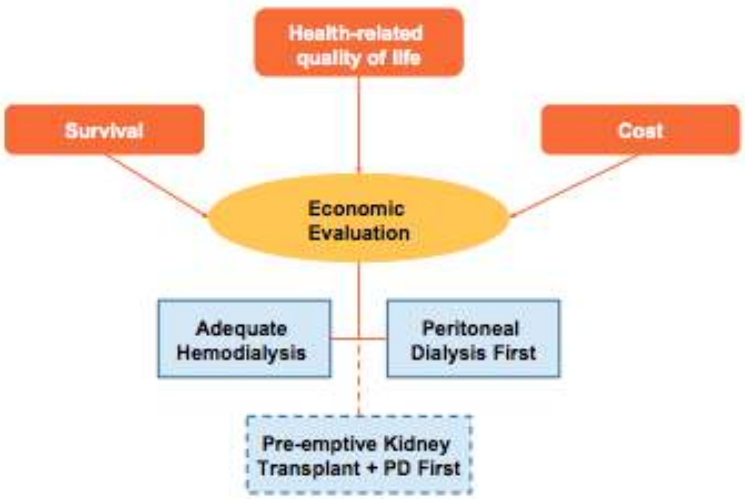


FIGURE 10. CONCEPTUAL FRAMEWORK

A panel consultation with representatives from PhilHealth, the Philippine Society of Nephrology, the industry players, and DOH Renal Disease Control Program was held. In order to determine the most suitable policy, a comparison of three policy options was used: (1) adequate HD where 156 sessions are covered, (2) PD-first policy where PD is given to those without contraindications to HD, and (3) preemptive KT policy combined with PD-first where surgery is offered to eligible patients. These options are compared to the current scenario that is HD-dominated, wherein only 90 sessions are paid for. A Markov model was developed to estimate the costs and benefits of each policy option for patients over 50 years. Input parameters were derived from registry data and existing local studies on cost and patient survival, while the quality of life estimates were taken from a survey on Thai population.

64

Initial results from the comparison of patient survival rates reveal that patients who receive KT have the best chances of survival, with the current twice-a-week HD treatment faring the lowest survival rates. Quality of Life (QoL) was also compared using Thai population surveys, with PD patients receiving better QoL than HD patients, but still less than KT patients.

From PhilHealth's perspective, PD-first is the most cost-effective as it has the lowest cost per quality-adjusted life-year (QALY) gained.

TABLE 8. INCREMENTAL COST-EFFECTIVENESS: PHILHEALTH PERSPECTIVE

RRT Policy	Adequate HD to STD	PD First to STD	Pre-emptiveKT to STD
Incremental Cost	4,363,930.71	1,478,485.97	1,597,972.85
Incremental LYs saved	8.28	2.70	2.79
Incremental QALY gained	4.34	1.78	1.91
Cost per LY gained	526,962.46	547,807.96	573,093.89
Cost per QALY gained	**1,005,822.30**	**832,569.70**	**838,793.83**

The average incremental cost-effectiveness ratio (ICER) of providing adequate HD, PD-first, and preemptive KT were P1,005,822 per QALY gained, P838,386 per QALY gained, and P838,793 per QALY gained respectively.

None of the coverage policies provide good value for money when compared against a threshold of P190,000. This was a similar result in Indonesia and Thailand– all strategies were above the threshold, however, they made an argument that end-stage renal disease (ESRD) is potentially catastrophic, hence the need to provide support even though it is not cost-effective. To this effect, sustainability becomes the primary question.

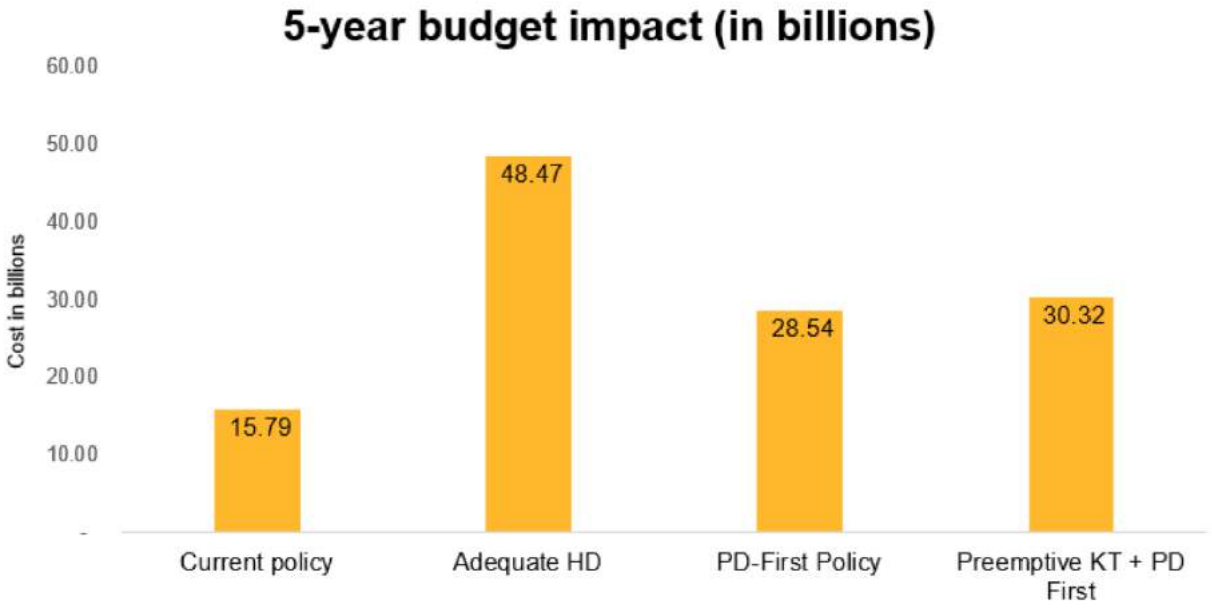


FIGURE 11. FIVE-YEAR COST OF POLICY OPTIONS

The figure above graphs the estimated costs of each policy option. On a five-year budget, the PD-first policy provides better value for money of PhilHealth than adequate HD coverage for adult ESRD patients. Preliminary results have already shown that patients on PD have better survival than those on HD. It must be noted, however, that these findings need further analysis using local quality of life data and cost to ensure validity and generalizability of results.

2 A Cost-Effectiveness Analysis of Sitagliptin for Type 2 Diabetes Mellitus (T2DM) Patients with Chronic Kidney Disease

Presenter: Janielle Kristine C. Go

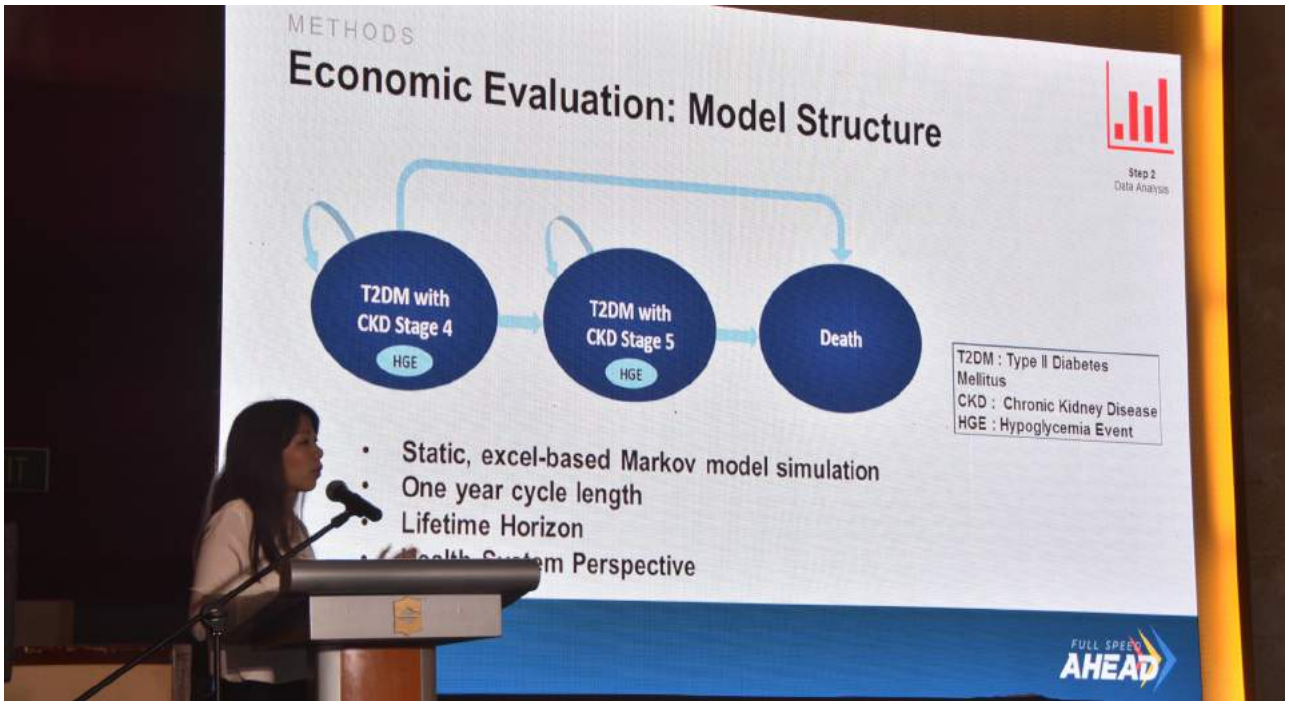
The Philippine government is institutionalizing health technology assessment (HTA) to inform policy decisions on service coverage of health interventions. Sitagliptin was under reconsideration for listing in the Philippine National Formulary (PNF). An investigation is needed to determine if sitagliptin is a cost-effective treatment for type 2 diabetes mellitus (T2DM) patients with chronic kidney disease (CKD) compared to sulfonylureas and insulin. To demonstrate the recently established framework on HTA, a pilot assessment was conducted on sitagliptin for T2DM patients with chronic kidney disease to the Formulary Executive Council.

Sitagliptin was included in the priority list for inclusion to the PNF as a health intervention for HTA based on an explicit set of criteria (i.e., burden of disease, effectiveness, unmet need and household financial impact). In this assessment, sitagliptin was compared to insulin and sulfonylureas as a treatment for T2DM patients with CKD. The efficacy and safety of the drugs were evaluated using a rapid review of randomized clinical trials. The first step of cost-effectiveness analysis is to establish clinical effectiveness. A literature search from four databases (Pubmed, Cochrane, EMBASE, and HERDIN) was conducted. Studies were excluded based on the selection criteria. After the conduct of a full text analysis, three studies were selected in the final review, two of which included National Kidney and Transplant Institute patients in the trial population. All of these trials were funded by the manufacturer. A health system perspective was used for the economic evaluation using a static Markov model simulation with a one-year cycle length and a lifetime horizon. Real-world evidence was used to model the progression of renal impairment. Results were presented as ICER in US dollars.

TABLE 9. BASE CASE ANALYSIS

Intervention (Sitagliptin)	incremental QALYs	Incremental Costs	Base-case ICER (PHP)
Vs. Sulfonylurea	5.39	1,210,926	9,960,107
Vs. Insulin	12.77	480,713.35	1,840,542

Sitagliptin is 12x more expensive than gliclazide and twice the cost of insulin. Based on the current threshold of one gross domestic product (GDP) per capita, Sitagliptin can potentially be cost-effective based on the current threshold if there is a significant reduction in the manufacturer's price offer.



A price reduction of 33% is needed to make sitagliptin cost-effective compared to insulin and 84% decrease in price compared to sulfonylureas.

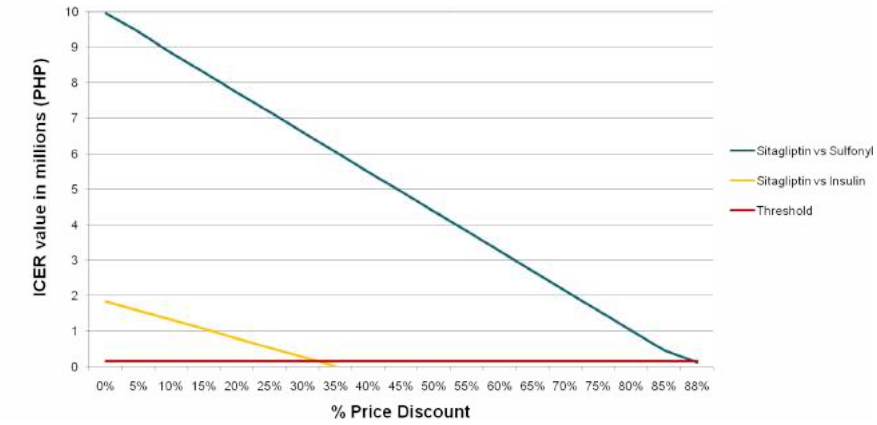


FIGURE 12. CHANGE IN ICER AT DIFFERENT PRICE DISCOUNTS

Cost-effectiveness was driven by treatment costs, the rate of severe hypoglycemia, and monitoring costs. More evidence is needed on the specific subgroup of patients in terms of efficacy and safety.

3 Economic evaluation of varenicline to reduce smoking and COPD burden in the Philippines

Presenter: Dr. Dante Salvador

WHO estimates around 6 million people die yearly due to direct or indirect smoking. Of the one billion smokers worldwide, 80% are in low- and middle-income countries, where the burden of smoking-related diseases are highest, health services are less accessible, and interventions to decrease smoking are more challenging to implement. On the other hand, chronic obstructive pulmonary disease (COPD), although preventable and treatable, is one of the leading causes of illness and death worldwide, resulting in around 3 million deaths annually. Moreover, smoking and COPD cost $500 billion annually in health care, productivity losses, and other tobacco smoking-related costs (Ekpu and Brown, 2015).

Varenicline treatment has been shown to be clinically effective and cost-effective in reducing smoking burden and associated diseases across studies done in many countries, and some are reimbursing its cost. In the Philippines, varenicline treatment is cost-prohibitive but not reimbursed by the government. While international studies on clinical- and cost-effectiveness of varenicline are abundant, local studies are wanting.

This research aims to determine if varenicline is more cost-effective and will yield more utility per unit cost versus current standards and practices in smoking cessation. The following objectives have been outlined for this study: (1) identify costs (current standard vs. proposed intervention), (2) identify outcomes (expected deaths and QALYs of either intervention), (3) calculate cost-effectiveness and cost-utility ratios (perform sensitivity analysis), and (4) make a conclusion based on the study results and existing literature.

A Markov model simulated future smoking and COPD prevalence, deaths, and associated healthcare costs for two alternative policy options: full reimbursement of varenicline therapy in addition to counselling versus counselling alone. The 2015 cohort of smokers willing to quit smoking was used as the model subjects eligible for the intervention. Clinical outcomes, direct medical costs, and transition probabilities were obtained from existing literature as model input; mortality and morbidity from COPD, and total medical costs due to COPD as output. The simulation was run until 50 years after the intervention. Cost-effectiveness and cost-utility ratios for the outcomes: deaths, number of cases, and quality-adjusted life years (QALYs) gained per unit cost were calculated. Costs were standardized at 2015 values. Cost and outcomes were discounted at 4%. Univariate sensitivity analysis was performed by changing four parameters: the cost of varenicline treatment, cost of COPD treatment, efficacy rate of varenicline, and discount rates.

A total of 10.8 million smokers (9.6M males/1.2M females) were subjected to the simulation. Cost-effectiveness, set at a threshold of three times GDP per capita, was achieved beginning 20 years after intervention at US$ 6,833 per QALY gained and further improving the cost-utility ratio every year thereafter.

TABLE 10. EXPECTED COSTS, QALYS, AND INCREMENTAL COST-UTILITY RATIO (ICURS) OF THE INTERVENTIONS

	EXPECTED COST (US$, 2015)			EXPECTED QALY			ICUR (QALY)
	Varenicline + Counselling	Counselling	Difference	Varenicline + Counselling	Counselling	Difference	
5-year	44,052,965,979	36,005,386,660	8,047,579,318	20,298,166	19,843,478	454,688	17,699
10-year	103,369,540,769	89,008,122,751	14,361,418,018	34,801,219	33,442,959	1,358,259	10,573
20-year	196,714,027,383	171,002,992,673	25,711,034,709	52,603,290	48,840,393	3,762,896	**6,833**
30-year	248,911,567,799	213,957,734,347	34,953,833,452	62,003,209	55,766,070	6,237,138	**5,604**
40- year	275,775,067,048	234,101,195,707	41,673,871,341	67,283,607	58,865,822	8,417,785	**4,951**
50-year	289,508,340,095	243,238,470,020	46,269,870,075	70,493,971	60,256,549	10,237,422	**4,520**

Cost-utility ratio was most sensitive to discounting, but not significantly affected by changes in varenicline treatment cost, the efficacy of treatment, and the cost of treating COPD. Demographic effects of smoking and cessation are typically seen after several years. Evidence of cost-effectiveness in this evaluation are seen after 20 years in the base case scenario.

A number of challenges arise when modelling the effects of smoking cessation. First, the number of diseases included relates to complexity or the number of disease states considered. Second, local data is needed to arrive at more relevant figures when modelling.

The outcome of the economic evaluation is likely affected by certain factors such as the addition of other major smoking-related diseases. The model in this study assumes that subjects do not develop other illnesses along with COPD. In reality, subjects who survive after a cycle may actually develop other diseases such as stroke, heart disease, or lung cancer, and entail a different set of costs, health effects, and utilities. Including only one disease may underestimate the real benefit of smoking cessation, as benefits from averting other illnesses and deaths are not counted. Aside from this, other interventions were not modelled in this study. Adding bupropion, nicotine replacement therapy, cognitive behavioral therapy, and any combination of these with varenicline and/or counselling in the analysis may result in significantly different ICERs and ICURs.

TABLE 11. SCENARIO ANALYSIS

	BASE CASE	BEST CASE	WORST CASE	DISCOUNT		VARENICLINE COST		COPD COST	
				0%	8%	high	low	lower	lowest
5-year	17,699	10,799	45,122	10,698	47,417	32,564	11,910	21,214	21,335
10-year	10,573	**6,837**	26,443	**6,073**	32,108	19,639	**7,042**	12,927	13,008
20-year	**6,833**	**4,256**	15,832	**3,613**	23,521	12,316	**4,697**	**7,840**	**7,875**
30-year	**5,604**	**3,308**	12,223	**2,751**	21,360	9,813	**3,965**	**6,036**	**6,051**
40- year	**4,951**	**2,816**	10,440	**2,291**	20,745	8,520	**3,560**	**5,129**	**5,135**
50-year	**4,520**	**2,510**	9,383	**2,004**	20,715	7,705	**3,279**	**4,582**	**4,585**

*Values in BOLD are within the cost-effectiveness threshold of three times GDP per capita (US$, 2015)

This study supports earlier studies regarding the cost-effectiveness of smoking cessation interventions, particularly of varenicline. Collecting and using local epidemiological as inputs to this model will provide more relevance to this economic evaluation. It must be noted, however, that in the administration of smoking cessation programs, drugs such as varenicline should not replace counselling. The reimbursement of the drugs used to help quit smoking using the revenues generated from tobacco taxation would help ease the financial burden on individuals to cease smoking. Certain criteria should be used to determine who should be covered, such as the ability to pay, the likelihood of quitting, the existence of other smoking cessation support, and preference of quit methods.

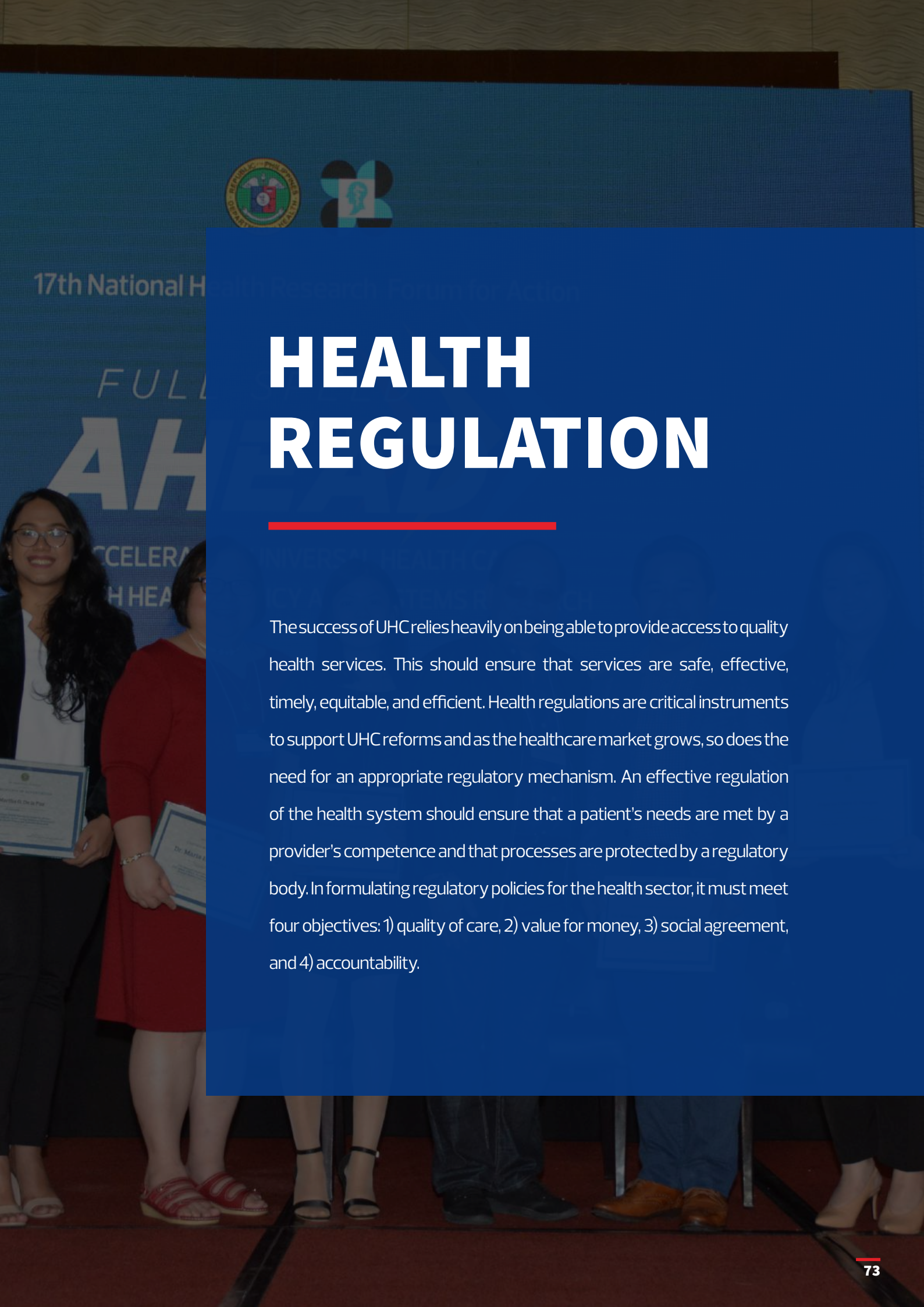
OPEN FORUM

HTA in private hospitals

For both public and private settings, limited resources is a key consideration. HTA in private hospitals is essential in ensuring that financial resources are allocated and used for interventions that provide the maximum benefit. HTA provides the necessary evidence on clinical effectiveness, cost-effectiveness, social and legal implications to determine if the intervention or proposition has value.

Challenges of HTA research in the Philippines

The availability of data is one of the foremost challenges of health technology assessments, particularly for economic evaluations. Political buy-in also needs to be kept in mind as information is generated and translated to increase political acceptability. The hope in the future is to have a National Institute for Health and Care Excellence.



HEALTH REGULATION

The success of UHC relies heavily on being able to provide access to quality health services. This should ensure that services are safe, effective, timely, equitable, and efficient. Health regulations are critical instruments to support UHC reforms and as the healthcare market grows, so does the need for an appropriate regulatory mechanism. An effective regulation of the health system should ensure that a patient's needs are met by a provider's competence and that processes are protected by a regulatory body. In formulating regulatory policies for the health sector, it must meet four objectives: 1) quality of care, 2) value for money, 3) social agreement, and 4) accountability.

1 Universal health care in 'One ASEAN': Are migrants included?

Presenter: Dr. Renzo Guinto

As ASEAN gears toward full regional integration by 2015, the cross-border mobility of workers and citizens at large is expected to further intensify in the coming years. Unfortunately, while much attention, including in academic literature, has been devoted to the economic benefits and risks of intra-regional labor migration as well as the social costs of irregular migration and human trafficking within ASEAN, the health and well-being of migrants themselves still remain to be examined. While ASEAN member countries have already signed the Declaration on the Protection and Promotion of the Rights of Migrant Workers, the health rights of migrants still need to be addressed, especially with ongoing UHC reforms in most ASEAN countries.

This study seeks to explore the nexus between migration and UHC in the ASEAN context, and in particular to examine the nature and level of inclusion of migrants in the UHC schemes of various ASEAN countries. A scoping review of current migration trends and policies, as well as ongoing UHC developments and migrant inclusion in UHC in Indonesia, Malaysia, Philippines, Singapore, and Thailand was conducted.

Thailand's National Health Act of 2002 mandated that all Thai citizens not covered by existing schemes for civil servants (Civil Servant Medical Benefit Scheme) and formal private sector employees (Social Security Scheme or SSS) are entitled to the Universal Coverage Scheme (UCS); today, UCS covers approximately 75% of the total population. Legal migrants in the formal sector are also covered under the SSS. In addition, since 2001, the Compulsory Migrant Health Insurance has been enrolling migrant workers upon the conduct of pre-employment health screening.

Since 2011, Malaysia has been implementing the Skim Perlindungan Insurans Kesihatan Pekerja Asing, the mandatory private medical coverage scheme for all foreign workers. Enforced by the Ministry of Health, all foreign workers are required to take up this compulsory scheme from one of 25 insurance providers.

Finally, Singapore's health system features highly individualized financing and more limited cost-sharing and resource redistribution than in Thailand or Malaysia. Migrants in Singapore, whether high- or low-skilled workers, are not included under the 3M scheme, hence the private coverage options made available for them.

When it comes to the sending countries, the Philippines reported the largest migrant stock overseas. As a social health insurance, PhilHealth is financed primarily through premiums (for both employed and self-employed) and government subsidies (for indigents, retirees, and pensioners). Part of the premium-based scheme is a separate program for overseas workers which is now called the Overseas Filipinos Program (OFP) in order to also cover non-working Filipinos abroad, including irregular migrants, immigrants, dual citizens, and international students. Land-based overseas Filipino workers (OFWs) are required to pay their premiums individually, while for sea-based OFWs (i.e. seafarers), shipping companies share the cost. A unique feature of the PhilHealth governing structure is the presence of an OFW representative in its board of directors.

Indonesia, on the other hand, seems to be following the Philippines' footsteps both in terms of UHC and migrant protection. The national health insurance program, called Jaminan Kesehatan Nasional (JKN), seeks to unify three main existing yet fragmented schemes: Jamkesmas, the government-financed health insurance program for the poor and near poor; Askes for civil servants and pensioners; and Jamsostek for formal sector workers. Since JKN is still evolving, it will take time before migrants are deliberately considered, like in PhilHealth's OFP. At present, health benefits are incorporated in the compulsory Migrant Worker Insurance Program, which includes illness, accident, and death coverage.

Among the receiving countries, Thailand has gone the furthest in terms of ensuring not just universal financial coverage, but also universal "actual" access to and utilization of essential health care services for migrants. Its parallel migrant scheme and the flexibility allowing undocumented migrants to opt into the system somehow indicate that Thailand's conceptualization of UHC goes beyond coverage on the basis of citizenship, a discussion that is still yet to be raised in the ongoing global discourse on UHC.

While challenges in covering the legal migrant workers by both source and destination countries remain, coverage among undocumented or irregular migrants is almost not discussed, and perhaps even avoided due to its sensitive political nature. Such stance from the health sector may strike some sensitive chords, as covering undocumented migrants may be misconstrued as condoning irregular migration. This is despite the existence of international human rights instruments that guarantee the right to health to all people regardless of migrant status. Given this situation, crucial policy decisions made by agencies from outside the health sector, such as those that work on overseas labor, immigration issues and diplomatic relations, are critical. On the other hand, a country's Ministry of Health must actively negotiate with other sectors on behalf of the health rights of irregular migrants.

Promoting migrant health has already been recently identified as a critical objective of the ASEAN Strategic Framework on Health Development. Three of the study countries – Indonesia, Philippines, and Thailand – serve as the lead countries in this area of cooperation. Outside of formal ASEAN platforms, member countries may also take the bilateral route and discuss with counterpart countries on how to improve financial coverage and access to health care among migrants. ASEAN can take leadership in the ongoing global conversation on the shape of the post-2015 development agenda, particularly the health goal which is most likely to incorporate UHC. Finally, the region can demonstrate to the rest of the world that UHC can and should go beyond insurance protection on the basis of citizenship, and therefore must ensure the inclusion of non-nationals. Doing so makes UHC truly 'universal.'

2 Patient Care Related Complaints Filed with the Professional Regulation Commission: Implications on Patient Safety in the Philippines

Presenter: Dr. Alvin Caballes

The importance of patient safety has gained increasing importance, with initiatives to promote this increasingly adopted even in the Philippines. Local studies on the topic are limited, and the incidence and impact of lapses in this regard, or patient safety events, remains to be determined. The Professional Regulations Commission (PRC) is effectively the national repository of relevant cases, by way of complaints filed against practitioners supposedly involved in patient safety events.

The general objectives of the study, with respect to health service-related complaints filed with the PRC, were to describe the pattern of patient safety incidents and to identify the critical areas in health care delivery associated with these.

The study involved a retrospective collection of data from administrative cases filed with the different Health Boards of the PRC. Only cases accepted as valid complaints by the PRC Legal Office from 1 January 2013 to 31 December 2016 were included. Case summaries, based on submitted complaint narratives and supporting documents, were anonymously recorded in registry forms. These, as well as the segregated entries for data fields corresponding to specific event circumstances, were later encoded electronically using a secure online spreadsheet. The fields corresponding to the attribution of causes for the patient safety events were accomplished only by the investigators. For selected cases, clinical specialists were consulted to provide a more nuanced assessment.

A total of 358 cases were retrieved, of which 185 were deemed to be concerned with patient safety events. These involved mostly adult patients, with a slight female predominance. While most cases entailed therapeutic interventions in hospitals, there was a wide array of other institutions where safety events occurred. Most admissions were on an emergency basis, and many required surgical procedures. Physicians, dentists, nurses, and midwives were the more frequently charged professionals. Among physicians, procedural specialists were predominantly involved in the events. Trainees were also alluded to in a few cases.

Several types of errors were tallied, with the distribution among practitioners being reflective of their clinical roles. A large proportion of events involved patients who sustained significant physical harm, including death. Nonetheless, even with charges of negligence, only a small minority of the implicated professionals get sanctioned by the Boards – and only received reprimands.

TABLE 12. ERRORS BY PROFESSIONALS

PHYSICIAN		DENTIST		NURSE		MIDWIFE	
Error Type	**%Freq**	**Error Type**	**%Freq**	**Error Type**	**%Freq**	**Error Type**	**%Freq**
Correct intervention with complication	**12%**	**Correct intervention, Incorrectly Performed**	15%	Inappropriate or Disrespectful Comments	15%	Questionable Advise or Interpretation	15%
Questionalble Advise or Interpretation	**9%**	**Questionable Advise or Interpretation**	10%	Questionable Advise or Interpretation	10%	Correct Intervention with Complication	12%
Questionable Tracking or Follow-Up; Omission of Essential Procedure	**6%***	**Questionable Disclosure; Correct Intervention**	10%*	Questionable Tracking or Follow up	10%	Inappropriate or Disrespectful Comments; Insufficient or Questionable Use of Resources; Inaccurate Diagnosis	95%

*percentage value applies equally to the error types listed for the third tier of the category

The events were ascribed as being caused by either systems or human factors, such as inadequate informed consent process, improper advice, inadequate follow-up, wrong intervention or decision, and malice. Procedural lapses were the leading systems-associated cause among health care institutions. The incidence of knowledge, rule, and skill-based human causes of safety events varied across health professions. Several contributory factors were noted for these cases: the use of disrespectful language/actions, chronic/complicated care, expensive care, inadequate facilities/equipment, the relatives' expectations, and an environment enabling malevolence.

Patient safety events result from the interplay of patient and provider factors, given certain health service circumstances. The PRC, aside from focusing on sanctioning errant practitioners, should adopt a wider regulatory scope. Systems will need to be developed that can address patient safety events in a more timely and effective manner. The DOH, professional organizations, individual practitioners, and the general public can adopt measures to better promote patient safety. Practitioners are recommended to embrace a culture of safety and quality care, observe an informed consent process, communicate well, and observe proper decorum. Institutions, on the other hand, are called upon to streamline the PRC process, regulate involved professions to be a part of a comprehensive feedback system (notably sentinel events), enforce facility standards, re-emphasize informed consent process, as well as adopt appropriate protocols, and improve their training processes.

3 Initiating Health Impact Assessment for Policy in the Philippines: Insights from a Demo Project

Presenter: Frances Claire C. Onagan

In the Philippines, Health Impact Assessment (HIA) is practiced through Environmental Health Impact Assessment (EHIA). EHIA serves as a component of the DENR's Environmental Impact Statement System (EIS) required for the approval of development projects. EHIA is within the people module of the EIS. This modality of HIA is the only one present in the country. When globally, Health Impact Assessment is conducted to assess health in development proposals of many different sectors, including only the environment. This current conduct of HIA has effectively limited its coverage and its application to other initiatives not necessarily environment-related. The current set-up has relegated HIA into a conditional requirement, and consequently the conditional participation of the DOH in the review process. This study describes how a participatory, policy-linked HIA pilot study by the DOH, which integrates both technical and lay knowledge, can trigger multi-sectoral support.

With insights from a demo project of policy-level HIA, this case study demonstrates how policy-level Health Impact Assessment can complement or provide useful response to the gaps in scope, practice, and status of implementation. Specifically, this case study hopes to provide insights on the implications of HIA in terms of: (1) scope of HIA assessment that transcends mere and traditional notion of just environmental factors, (2) triggering of multi-sectoral action for health, and (3) leveling up of analysis and action to reform relevant policies, and improve governance.

The design employed for this research is a case study of one development project- for a closer look at the national context in terms of policies in place, status of implementation, and the actors involved. The development in focus is a coal-fired power plant located in one of the coastal areas of Luzon.

Following the prescribed procedures for policy-level HIA, the case study conducted the standard phases of impact assessment studies including screening and scoping. The development of the study methodology and activity mechanics, and analysis of all data gathered, were guided by the framework on social determinants of health. All data from local residents were substantially included, incorporated, and compared with data from technical experts. An extensive review of related policies was also conducted. The activities and techniques employed in the gathering of data include key and in-depth interviews with different stakeholders, community, stakeholder, and policy landscape mapping, and analysis

workshops. The timeline technique and the *pakikipagkwentuhan* method were also employed to elicit more specific narratives from participants in the communities.[1] All materials and texts were processed and analyzed by the study group, and validated via workshops with study participants.

Following the collection of data and subsequent analysis, the DOH envisions a Health Impact Assessment that: (1) takes on the social determinants of health as a fundamental framework for implementation, (2) one that capacitates at the same time the communities impacted and marries technical information with local lay knowledge, and (3) one that elevates analysis to the creation of healthy built environments and shaping of healthy public policies across many sectors.

Conclusions of the original and approved EIS are inconsistent with, if not opposite of, the actual experiences on the ground. Houses were demolished when the EIS stated that community displacement would not happen and fish pens were destroyed when the EIS stated that lifestyle and livelihood would not be disrupted. Mitigation measures to address potential impact to the community were stated in the ESIA but were not implemented during operations. Collaborations between advocates, local officials, and agency representatives were minimal, if not unrecognized. Public hearings and other consultative activities were conducted not in the best information of local residents. No significant participation from the energy sectoral leaders was received relative to assessment of project impacts, and there was no evidence or research support extended from any state-funded academic institutions. There was also no significant information and education campaign rolled out relative to the project.

Findings show the need to elevate the evidence from HIA to influence policy and governance reforms. HIA can be embedded in the policy cycles of other sectors to ensure shared responsibility and accountability. Another mechanism of impact assessment besides the EIS can also be explored. A review of the current project approval process of the National Government is necessary, especially pertaining to multi-industries operating at the same time in a single area. Policies on disclosure of reports and conflicts of interest should also be in place to scale-up the mechanism for transparency.

An analysis of the pilot case reveal the following windows for oversight and policy improvement:

1. Advance the discourse on HIA outside the existing process of EIS, and the discussion on health impacts beyond being clinical outcomes

2. Other agencies relevant in the approval or implementation of the development are equally in power to put up safety nets for the people. A similar mandate needs to be expanded to them to ensure co-responsibility.

[1] Pe-Pua, R., Protacio-Marcelino, E. 2003. Sikolohiyang Pilipino: A legacy of Virgilio G. Enriquez. Asian Journal of Social Psychology; (3).

3. EIS is biased towards technical information. Local knowledge must be considered at par with technical expertise for inclusivity.

4. Disclosure of information is critical in the empowerment and participation for communities.

5. A multi-sectoral platform for policy-linked HIA can be useful in ensuring coherence across agencies before developments are approved for implementation

4 A Review of the Management Development Courses Provided For All Management Staff In the Primary Health Care System

Presenters: Dr. Maria Eufemia Yap, Aliyah Evangelista, Martha de la Paz

Delivery of primary care services require managerial competencies which are critical to quality of services and achievement of health outcomes. In the Philippines, the government has spearheaded a number of trainings to build management skills of primary care personnel at the central, regional, and local level. At the central office, vertical programs conduct trainings for central, regional and rural health unit (RHU) personnel. At the regional office, the human resource development unit (HRDU) conduct trainings for regional office and RHU staff. At the local level, various management capacity building activities have been organized by other stakeholders. A review of management roles in primary healthcare is essential to provide quality service, define roles at every level of care of the service delivery network, and standardize expectations of frontline health workers.

The study employed a mixed-method design with selective sampling. Management development (ManDev) trainings were reviewed in a 10-year timeline. Twenty-two key informant interviews and four focus group discussions were done with representatives from central and selected regional offices and local government units and other stakeholders who were part of the delivery of ManDev courses.

Based on the key informant interviews and focus group discussions, it was found that management roles are as necessary, if not more critical, as clinical competencies for the effective delivery of primary care services. It is not limited only to MHOs, but also to other RHU staff, particularly public health nurses, midwives, sanitary inspectors, as well as deployed personnel like physicians under the DTTB and nursers from the Nurse Deployment Project. Development management officers also play a key role in bridging regional and local health systems (provincial and municipal), harmonizing relationships of municipal governments and rural health units, identifying management competency gaps, and facilitating appropriate ManDev programs.

Based on the systematic search of provided trainings in the central office, there is limited number of management development trainings carried out. From 2013 to 2015, only 46 management development trainings were delivered; 16 in 2015, 9 in 2014, and 12 in 2013, with nine trainings without date indicated. Training averaged three days. There is also a huge range on the number of attendees, from as few as 4 participants to as high as 100, implying high variability in learning engagement and learning uptake.

Results showed that at the central level, a number of ManDev trainings were conducted by various vertical programs and bureaus, showing absence in coherence in the delivery of trainings. At the regional level, HRDU conducted trainings identified based on competency needs. At the local level, management and clinical competencies are equally necessary and management responsibilities are not limited to municipal health officers but is extended to other RHU personnel. Development management officers also play a vital role in bridging local health systems and harmonizing the relationship of local chief executives (LCE) and primary care providers.

The following programs are the available management development courses offered to frontline primary care workers:

TABLE 13. MANAGEMENT DEVELOPMENT COURSES OFFERED TO FRONTLINE PRIMARY CARE WORKERS.

LHP	MPM-HSD	HLGP
Learners: MHO, LCEs, and two community-based representatives from local People's Organizations (PO) of the identified municipality Framework: tri-leader approach Capstione Project: crafting of a Municipal Strategic Health Agenda, presentation to Donor's Forum	Master in Public Management Major in Health Systems & Development with Specialization in Hospital Administration Learners: Doctors to the Barrios (initially) Framework: 2-year ladderized post-graduate degree program divided into five (5) 2-week sessions Capstone Project: Action Plan & Project	Health Leadership and Governance Program (HGLP) Learners: LCEs and Health Human Resource in province (PLGP), municipality (MLGP), baranggay (BLGP) Framework: Adaptive leadership, Bridging leadership Capstone Project: 6-month action/ development plan focusing on strategic interventions addressing priority health challenges

Provision of ManDev courses is vital to the delivery of primary care services. They should be streamlined to create and implement a standard and comprehensive training program that suits the needs of different health workers at the central, regional and local level. Key features of a strong ManDev curriculum includes localized and practice-based adult learning that is both iterative and progressive. Adequate CPD units, good mentoring and coaching, and credits for further studies should be given in order to solidify this.

ManDev capacity building requires self awareness and synergy to the HRH Master Plan. Personal leadership disposition and skills is a crucial factor in developing and retaining a strategic, competent, dedicated and efficient HRH. Moreover, there is a great need for building management and organizational capacity.

OPEN FORUM

Sovereignty and Universal Health Care

In considering UHC beyond borders, recipient country laws conventionally trump laws of sending country. However, migrant health and welfare is a joint responsibility of sending and receiving countries, and this implies that funding contributions may have to come from both ends. The Sustainable Development Goals provide an opportunity to find innovative solutions for UHC. A civil society or private sector approach could mend the issues of sovereignty and UHC.

Capacity building for primary health care

Management development programs should encompass a wide set of learners to ensure the sustainability of programs. The academe plays a big role in shaping health care, and the blueprint of curriculum should reflect the value of the formation of future health care practitioners. A proposition for regional hubs was made to engage and align universities to this effort. Furthermore, the turnover of LGU management should also be considered in terms of sustainability. Key decision-makers and liaisons officers such as the development management officers, mayors, governors, and other non-health workers must also be involved to create long-term impact.

Enforcement of a patient safety database

Liability to patient complaints stands as a great barrier to hospital compliance to submitting reports to the DOH. In order to mitigate this, it is possible to consider the hospital's non submission of reports as grounds for sanctions. PRC and PhilHealth can also be involved in the communications and monitoring of the patient safety database. The DOH may not necessarily chase down individual cases, but instead look at the reports from a systemic point of view to prevent future cases from occurring.

Engaging communities

The community's involvement in providing feedback is vital to the process of health regulation. The community's desire to be involved has been seen in these researches. A platform wherein the community can legitimately participate enables them to communicate their needs and concerns.

ACCESS TO MEDICINES

Essential medicines are an indispensable element of service delivery. In creating a benefit package for UHC, it is important to give consideration to ensuring reliable access to quality-assured medicines. Five areas should be considered when formulating essential medicines policies: 1) financing of benefit package, 2) affordability and accessibility, 3) quality and safety, 4) promoting quality use of medicines, and 5) developing missing essential medicines.

1 A Study on Factors Influencing Drug Prices Among National Public Hospitals

Presenter: Cheyenne Ariana Erika M. Modina

The Philippine National Drug Policy (PNDP) is a response to ensure the provision of good quality essential medicines to the people. However, issues remain. Medicine purchase accounts for a significant portion of out-of-pocket expenditures for people, especially those from the lower-income sector that the PNDP intended to serve. Although the Philippine Health Insurance Corporation (PhilHealth) reimburses inpatient medicines listed in the Philippine National Drug Formulary up to a ceiling, PhilHealth does not reimburse medicines for outpatient treatments. This study aimed to determine the factors associated with the variation in drug pricing among national public hospitals.

The study employed a case-control study design, with a study population of 57 national public hospitals (Figure x). It used a mixed-method approach across levels. The sample is representative of all levels, regions, and specialty; it also included nine hospitals under geographically isolated and disadvantaged area (GIDA). Six specialized hospitals (10.5%) were also included, the rest being general hospitals. With regard to the distribution of samples in regions, NCR contains the highest percentage of hospitals (22.8%), followed by Region VII with 6 hospitals (10.5%) and Region III with 5 hospitals (8.8%). Univariate, bivariate, and multivariate tests were done to analyze the data. The study was also able to describe the process of drug management in national public hospitals and how they fare with the WHO Good Procurement Practice (GPP) Principles through the conducted key informant interviews and administered GPP Checklist. Key stakeholders involved in deciding drug prices in hospitals were also identified.

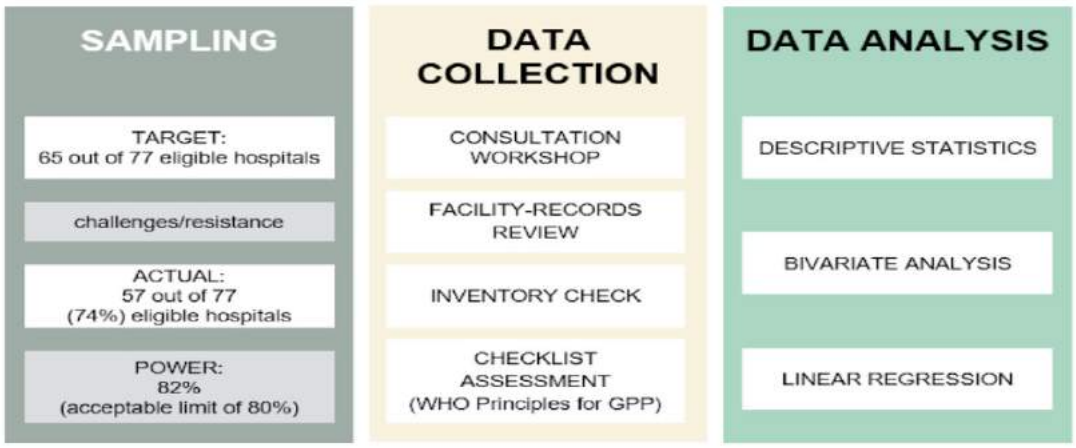


FIGURE 13. STUDY DESIGN

It was found that 60% of hospitals have a Price Ratio (PR) >1 and were procuring 6.44 times higher than the Drug Price Reference Index (DPRI). Factors that were significantly associated with PR>1 include: lack of proper procurement planning, propensity towards alternative modes of procurement (over competitive tender), and location in a GIDA. Hospitals were found to impose a 40.2% median retail price markup. Higher retail price markups of drugs were associated with a lower level of hospital operations, preference for branded over generic drugs, limitations in storage and uncoordinated distribution of drugs.

Factors with significant relationship to the price ratio are:

- Being a GIDA hospital,
- Properly planning procurement, and
- Availability of indicator drugs.

On the other hand, factors relating to the hospital's mark-up are:

- The hospital's classification level,
- Distance from the centroid,
- Their compliance to the WHO's GPP principle on Quality Assurance,
- The relevance and expertise of their procurement staff on procurement functions,
- The percentage of generic drugs procured, and
- Time out of stock of the indicator drugs.

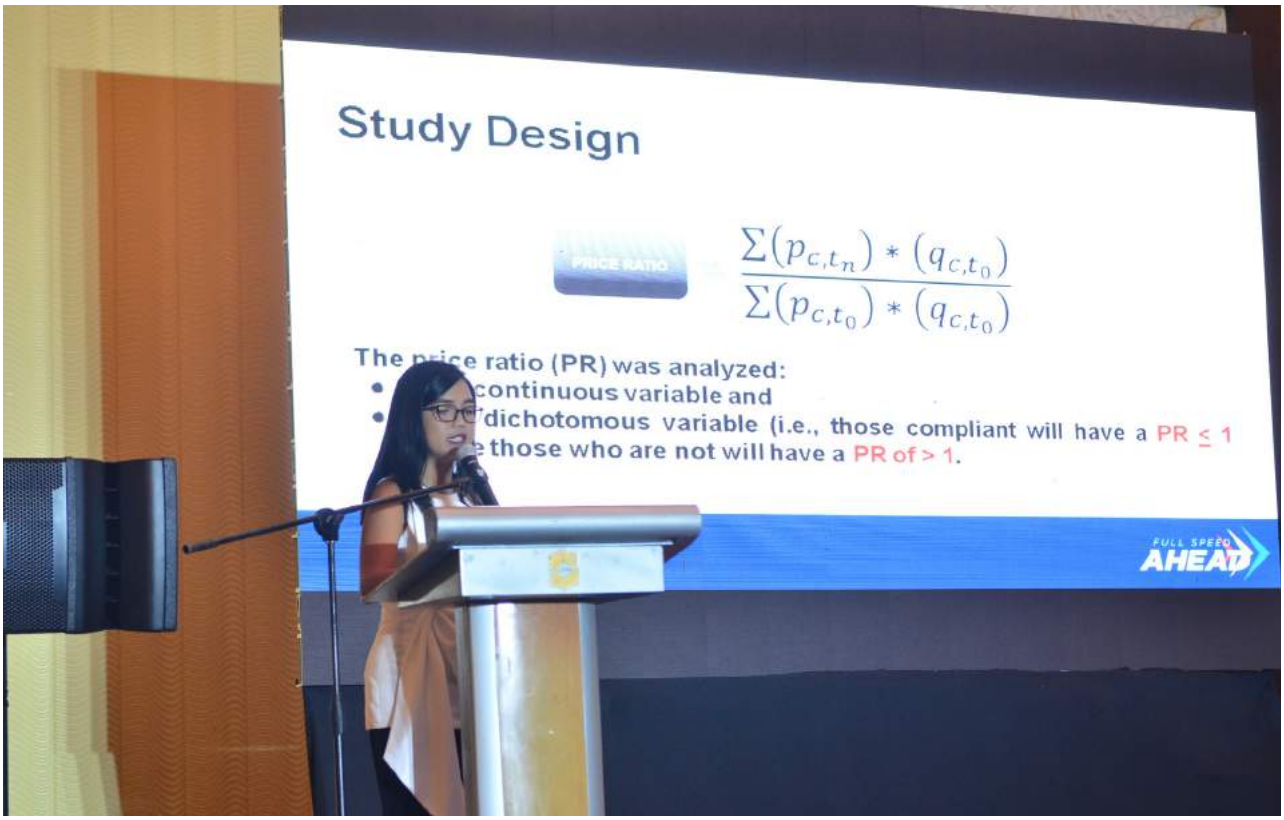
Results also revealed that certain parts of the drug management cycle such as distribution both from warehouse and pharmacy were related to the mark-up.

The policy recommendations are directed to the three main policies that affect the Drug Management Cycle namely: the DPRI, the Government Procurement Reform Act (GPRA), and the Generics Law. Future research should be done to include the "use" stage of the Drug Management Cycle and factors that influence drug prices in the supplier side.

- The DPRI should be volume-weighted and should be categorized per region. Moreover, hospitals within a GIDA region should have its own DPRI to contextualize procurement in hospitals, to allow flexibility, and to decrease failed biddings.

- The GPRA should develop specific policies for hospitals to actively seek the involvement of end-user unit in procurement, create guidelines and protocols for hospitals to prevent and protect them from unlawful acts, explore alternative modes of procurement other than public bidding, and allow hospitals procuring in bulk to schedule deliveries.

- The Generics Law should be strengthened and advocated in all hospitals, crafting stricter policies on its implementation. The DOH should also create more incentives for hospitals that do not procure any branded drugs. Other policies by regulatory agencies should also be improved to allow more suppliers for generic drugs to enter the local market; introducing more competition will also lower the prices of drugs.



2 A Situational Analysis on Access to Medicines of Persons with Disabilities

Presenter: Marilyn E. Crisostomo, MPH, MSPH

A critical factor in ensuring a person with disability's (PWD) access to healthcare services is to understand the current situation and environment, including their access to medicines. PWDs have greater unmet needs and experience poorer levels of health. RA 9442, also known as the Magna Carta for Disabled Persons, addresses the health inequities experienced by PWDs by granting rights and privileges for rehabilitation, self-development, and self-reliance, including access to medicines. In spite of this, hindrances still exist in the PWD's access to medicines, with some drug stores refusing to follow the law.

The study aimed to determine the magnitude of PWD access to medicines through the five A's of Access as determined by Penchansky and Thomas: affordability, availability, accessibility, extent of accommodation, and acceptability.[2] The study employed a descriptive cross-sectional study design divided into three steps: 1) desk review, 2) cross-sectional survey of 1,200 PWDs in Luzon, Visayas, and Mindanao and 69 public and private pharmacies, and 3) identification of health policies.

FIGURE 14. FIVE A'S OF ACCESS BY PENCHANSKY AND THOMAS

The study found that 78.1% of PWDs who consulted with a health care provider in the past 12 months were prescribed with medicine. However, only 30.6% of PWDs were employed, with 83.6% of those earning below the daily minimum wage. Lack of money was the main reason for PWDs being unable to take all prescribed medicines.

[2] Penchansky, R., Thoms, JW. 1981. The concept of access: definition and relationship to consumer satisfaction. Med Care; 19 (2).

Availability of medicines was rated poorer in the public sector compared to the private sector. However, 6.8% of PWDs were not able to obtain a medicine due to its unavailability in pharmacies, which are mostly private. Moreover, half of the medicines for a person's disability were available in only 25% of private pharmacies observed.

Only 57.9% of medicines were purchased in a pharmacy closest to the PWD's home. Botika ng Barangay or Botika ng Bayan was a good strategy by the Department of Health. However, it had problems with financing and restocking of medicines.

The study found that 24.1% of PWDS were not satisfied with the Magna Carta for Disabled Persons. Only 23.9% of PWDs always avail of their 20% discount while only 11.9% always avail the 12% VAT exemption.

More than half of the PWDs interviewed were satisfied or very satisfied with the level of helpfulness of a pharmacist. Most of the pharmacies included in the study mentioned that PWDs that are able to purchase medicines have increased because of RA 9442. Smaller pharmacies in rural areas have a harder time implementing the law because the discounts for PWDs are larger than the mark-up price of drugs.

There is a need to improve the implementation of the Magna Carta for Disabled Persons in terms of medicine access. The following recommendations are made:

1. Customize and expand the benefits according to the needs of the PWD, possibly through PhilHealth's TSekAP.
2. Disseminate information on the benefits of PWDs under RA 9442.
3. Make telemedicine and home delivery available for PWDs.
4. Enact Communication Access Laws for PWDs and conduct related research.
5. Develop a central registry for medicine purchases of PWDs.

OPEN FORUM

Operational issues in access to medicines

The study on drug prices was not able to delve into the "use" portion of the drug management cycle. However, the KII results showed that there are operational issues to accessing medicines. This includes stock outs, doctors insisting on prescribing branded medicines, the provision of vouchers or samples by the pharmaceutical sector to doctors, and insufficient PhilHealth coverage.

Accessibility of medicines depends on disability

The study encountered a problem with the definition of disability. Some PWDs did not receive proper identification. In order to receive a PWD card, a patient only needs a physician's certificate. Mental health patients would like a 20% discount as a PWD due to the costs of medicines. However, not all mental health patients are granted a PWD card. The KII results of this study revealed that there is a perception that as long as mental health patients take medicine, they can continue to function daily without any disability.

NATIONAL HEALTH EXPENDITURE SURVEY

Currently, data on health utilization and expenditure are collected across several Philippine Statistical Authority surveys. This includes the National Demographic and Health Survey, Family Income and Expenditure Survey, and the Annual Poverty Indicators Survey. These surveys may have different respondents that make their collective analysis unfeasible.

The National Health Expenditure Survey, or NHES, will provide health care utilization and financing data that are either not regularly collected or available at a desired frequency. Specifically, NHES will:

- provide disaggregated health care expenditures by component – professional fees, room and board charges, laboratory and diagnostic fees, and drugs and medical supplies charges;
- identify the full range of the source of financing for health care expenditures – out-of-pocket, third-party financing such as PhilHealth and HMOs
- provide health use and financing information on select more common health conditions including possibly NCDs and maternal delivery, and;
- have a more frequent collection interval compared to other surveys.

The NHES will be a nationwide survey, the design of which will be composed of a household and medical provider component. It will employ verification by cross-referencing reported health care utilization and expenditure with health facility records.

Information generated from the NHES can address policy questions on the use of public funding and social health insurance mechanisms to support the utilization of health care services. It can provide insights on factors that drive health seeking behavior, such as patient satisfaction and quality of care relative to clinical standards.

TABLE 14. WHAT SPECIFIC DATA CAN NHES PROVIDE?

HOUSEHOLD COMPONENT	MEDICAL PROVIDER COMPONENT
· Information on visits to medical providers and medical places · Event types (hospital stay, emergency room visit, outpatient visit) · Prescribed medicines · Name and type of medical providers · Specific health conditions that led to use of health care · Details of charges and payments · Use of health insurance · Amount of premiums and copayments · Out of pocket expenses · Reimbursements · Patient satisfaction · Patient responsiveness to healthcare services provided	· Specific details on medical care received by household · Date of service · Services provided · Diagnoses/conditions · Charges for each service · Payments, including source and modes of payment *Telephone interviews will be conducted for non-hospital and clinic facilities such as eye centers/optical shops, acupuncture, and pharmacy.

ASIA PACIFIC OBSERVATORY HEALTH SYSTEMS IN TRANSITION

The Asia Pacific Observatory on Health Systems and Policies (APO), in partnership with various governments in the Southeast Asian and Western Pacific Region, academic institutes, development banks, and WHO, was established to generate evidence in the health system and strengthen health research in the participating countries.

This year, APO launched its second edition of the Philippines' Health Systems in Transition, the Philippines Health System Review. The publication provides the socio-demographic profile, a health system overview, challenges and policy options for policymakers to understand health system challenges and make informed decisions towards solutions.

In viewing the current health system of the Philippines, several salient features have come to light. As a mixed health system, both the public and private sector are key players. The public sector is currently driven by a tax-based financing system, with national and local governments providing health services to the mass. Furthermore, the health system is decentralized; the Department of Health provides national policy direction and strategic plans, regulatory services, standards and guidelines for health, and highly specialized and specific tertiary-level hospital services. It provides leadership, technical assistance, capacity-building, linkages and coordination with other National Government agencies, LGUs, and private entities in the implementation of the national legislation on health. PhilHealth implements the compulsory social health insurance and assesses the services and costs for members. On the other hand, the private sector, which includes for-profit and nonprofit healthcare providers, is highly fragmented and collect user fees at the points of service.

Governance reforms compelled by key legislations have brought out visible improvements in specific facilities and programs. Among the key legislations are the National Health Insurance Act of 2013, the Reproductive Health Law of 2012, the Philippines Disaster Risk Reduction and Management Act of 2012, the Sin Tax Law of 2012, and the pending Universal Health Care Bill. Consequently, government investment in health increased and the budget utilization rate improved, linking also to improvements in immunization coverage, infant mortality, and life expectancy.

Even with these gains, the increasing burden of non-communicable diseases, continued prevalence of communicable diseases, and health concerns linked to globalization, industrialization, and urbanization remain large concerns for the Philippine health system.

The Philippines aspires for an efficient, effective, and responsive health system that delivers affordable and quality care. It envisages interventions to reduce triple burden of diseases (communicable diseases, NCDs and malnutrition, diseases of rapid urbanization and industrialization), ensuring continuity of care (from pregnancy to newborn, infancy, childhood, adolescence, adult, and old age care for both the well and the sick), and improved financial risk protection. This can be realized through:

1. expanding financial risk protection, offered predominantly through PhilHealth; the package includes achieving universal coverage, simplifying rules (i.e., zero copayment for poor and basic accommodation, and fixed copayment for non-basic accommodation), expansion of benefits to cover a wide range of services, and improve contracting policies to enhance strategic purchasing.

2. engaging private sector, through functional service delivery networks (SDNs); SDNs aim to address fragmentation issues by:

    - streamlining management of health facilities;
    - rationalizing multiple payers of care;
    - linking public and private providers;
    - rationalizing vertical public health programs; and
    - establishing continuity of care.

3. involving other sectors to manage health concerns of globalization, urbanization and industrialization; malnutrition, and health issues related to climate change; and

4. engaging stakeholders such as NGOs and professional organizations to reach out to the wider audience, and ensuring people's awareness of health entitlements. Also includes mechanisms to promote participation in planning and implementation at different levels of operation.

OPEN FORUM

Expanding PhilHealth services for accreditation

Extensive surveys for public health services pave the way towards proper regulation to ensure quality health care systems. There is a need to review the current regulatory tools and shift the focus from input to output and outcome. Moreover, it has been noted that several services are licensed by DOH but are not accredited by PhilHealth. With this, there is a serious attempt to share responsibilities by allowing DOH to license the facilities so they meet the basic safety requirement and subsequently granting these facilities PhilHealth accreditation. This makes room for more support for the training of PhilHealth accreditation officers using standards of quality care.

PLENARY SESSION
Building Internal Policy Capacity

MODERATOR: MARIA EUFEMIA C. YAP, MD, MSC

Policy analysis involves the provision of information or advice to policymakers concerning the relative advantages and disadvantages of alternative policy choices (Howlett, Ramesh, & Perl, 2009). Undertaking such activity requires 'policy capacity' and relates to the competencies of policymakers and the resources they require to exercise them (Peters, 1996).

Policy capacity can be thought of as extending beyond analysis to include the administrative capacity of government to undertake the day-to-day activities involved in policy implementation, effective institution, and legitimacy (Painter & Pierre, 2005). However, an important subset of this is 'policy analytical capacity', or the currency of the organization to to produce sound analysis to inform their policymaking activities (Parrado, 2014).

All other things being equal, organizations with more individuals that have stronger policy analytical capacities are more likely to have a greater impact on outcomes than those lacking the principle components of such a capacity (Aucoin & Bakvis, 2005; Riddell, 1998; State Services Commission, 1999).

TABLE 15. COMPONENTS OF POLICY ANALYTICAL CAPACITY (RIDDELL, 1998)

Components of Policy Analytical Capacity (Riddell, 1998)

- Ability to utilize environmental scanning, trends analysis, and forecasting methods
- Ability to undertake theoretical research
- Ability to utilize statistics, applied research, and modelling
- Ability to undertake evaluation of the means of meeting targets/goals
- Ability to undertake consultation and managing relations
- Ability to undertake Program design, implementation and monitoring and evaluation
- Department's capacity to articulate its medium and long term priorities
- Policy analytical resources – quantity and quality of employees; budgets; access to external sources of expertise

The data available to date shows that some government departments and agencies — such as finance — enjoy favourable circumstances which allow them to practice sophisticated analytical techniques that others may only seldom undertake due to factors such as their task environments and the skills and training levels among their individual analysts and analytical communities (Howlett & Joshi-Koop, 2011; Howlett et al., 2014). Studies have also revealed a pattern of increasing sophistication in analysis and policy work as one moves from the non-governmental sector to the governmental one and within government from more socially involved agencies to more economically-oriented ones (Howlett et al., 2014).

This session sought to demonstrate mechanisms that various agencies and organizations have undertaken to build and sustain internal policy analytic capacity and generate consensus on key steps forward.

1 HPSR Capacity Development: Two Decades of International Health Policy Program Experience (1988-2018)

Viroj Tangcharoensathien, MD, PhD
Senior Expert in Health Economics, Ministry of Public Health, Thailand

The capacity development for the International Health Policy Program (IHPP), which started in 1988, is classified into three phases: 1) research apprenticeship, 2) Master/PhD training abroad, and 3) re-entry mechanisms.

Between 1988 and 2008, 36 WHO long-term fellowship grants were approved. This included 17 masters degrees, 14 doctoral degrees, and five certificate courses. This year, more than 60 fellows from multiple agencies are groomed through this three-phase process. Through government-bonding mechanisms, the program suffered from zero international brain drain, with all fellows returning upon graduation to serve mostly in the Ministry of Public Health or universities. This resulted in a critical mass of researchers that continue to contribute to evidence-informed policy formulation.

TABLE 16. IHPP CAPACITY DEVELOPMENT PLAN

	Phase 1: research apprenticeship	**Phase 2: Master/PhD training abroad**	**Phase 3: Re-entry mechanisms**
Goals	Select and invest on the best seeds through competitive selection (3H1L)	Placement in the best training institure and mentor, thesis relevant to national priority	Advancing expertise, leading national priority research programs
Processes	Close mentoring, exposure to policy and political processes	Rigorous assessment of phase 1	
Assessments	Peer reviewed publications Exposure to policy and political processes	Publication from Master or PhD thesis	Publications, Engage in policy processes, policy uptakes, mentoring of researchers in the program
Duration	1-3 years	1 year master 3.5 years PhD	Long term commitment for HITAP and IHPP staffas
Funding	Multiple sources, research program grants	Full funding for tuition and accommodations, Full salary for government officials and IHPP staffs on study leave	Research program grants

There were four factors that enabled the IHPP to build and sustain HPSR capacity. First is continuity. In anticipation of complex health system challenges, a two-decade capacity plan was developed. This was coupled with the second factor – the concept of 3F1L: full time, full commitment, and full funding support for a long term mission of building and sustaining HPSR capacity. Third, the funding environment for the capacity development plan consisted of a diversified fund mix that developed from small short term research to larger long term research, program grants, and financial and programmatic accountability. Social capital was also an important factor, with the IHPP keeping a good track record on relevant policy research, publication, and building international network.

Moving forward, it is important for a capacity development plan to be locally initiated with country ownership. Thailand was able to maintain a critical mass of researchers through a three-phase pathway of mentoring that provided an intellectually stimulating environment balanced with equitable benefit sharing and social recognition. The resulting critical mass of researchers were able to influence policy through the conduct of research relevant to national priorities, maintenance of political impartiality and accountability, and building strong interactions with policy actors. Finally, institutionalization of the plan is important. Continuity of wisdom can be stimulated by ensuring a good staffing mix that consists of early career, mid career, and fully-established credible staff.

2 Policy Capacity in the National Social Work Agency

Angelita Gregorio-Medel, MSc, PhD
Academic Program Adviser, Ateneo School of Government

One way to distinguish the difference between analysis and analytics is to think in terms of the past and future. Analysis looks backwards over time, providing marketers with a historical view of what has happened. Typically, analytics look forward to model the future or predict a result. The DSWD has done analysis through the conditional cash transfer of the country, also known as the Pantawid Pamilyang Pilipino Program or the 4Ps. The agency had to put up a data warehouse and was forced to go into policy analysis.

Social policymaking is driven by the core mandate of service. DSWD is a frontline organization for social issues like disaster and any crime or crisis. They are now tasked with taking care of the children, elderly, and PWDs.

FIGURE 15. SOCIAL POLICY-MAKING MODEL

Most of the time, policymaking is attached to planning and the main driver is the need for immediate, quality, effective delivery of service to respond to a life or death situation. The DSWD conducts regulation of social welfare facilities such as retirement homes or early childhood education facilities.

The DSWD had to do a lot of coordination when 4.4 million families, or almost 25 million individuals, were enrolled in the 4Ps. Coordination was required with the Human Development and Poverty Reduction Cluster of the Cabinet, the Department of Health, and the Department of Education.

However, analysis should be highlighted because it enables effective service delivery. Reform is not simply improving what is there but improving for the sake of change. Policy-making exists in a fluid environment. Often policy-making is faced with the challenges of 1) changing heads of agencies, 2) hardly any time to do research and analysis due to the demand for immediate response, and 3) information rapidly shifting and evolving into a different context as analysis is done.

When adequate evidence is available to make a decision, policymakers are pressed for time. Time is constrained by administrative processes such as procurement and standards. If the bureau is program-driven, the most important for it is its ability to go into action research so its responses are able to generate data that informs the next decision or program.

3 The K to 12 Curriculum Framework

Elvin Ivan Uy, MsC
Director for Operations, Philippine Business for Social Progress

The government embarked on an ambitious shift to a K to 12 program in 2010, when the Aquino administration came in July 2010. The Philippines, at that time, was one of the few countries in the world with less than 12 years of publicly funded education. From 2011 to 2016, the marching order was to implement a policy proposal that has not changed in 87 years since it has been bequeathed to the country through the Tydings-McDuffie Act. How can the country shift to something that fits the requirements, contexts, and challenges for 21st century learners in the country?

The K to 12 Curriculum Framework aspires that every Filipino student is equipped with 21st century skills. It consists of one year of kindergarten, six years of elementary school, and six years of high school. DepEd had three years from the time the law was passed in 2013 to ensure that they had enough schools, teachers, learning materials, and physical resources to accommodate up to 1.5 million Grade 11 students in 2016. There were about 1.5 million fourth year high school graduates each year but only about 700,000 of those go to first year college immediately post-high school. Hence, as a system, DepEd had to double its capacity.

DepEd, unlike the public health system, is centralized. It had the challenge of bringing down the policy to every community, municipality, and city. It recommended to each of the 222 school division offices that the plans had to emanate from them to account for 1.2 million students across 12,000 public and private high schools.

The planning process of the division offices involved internal and external assessments. Internal assessments considered the preferences of clientele (parents and students) and the resources available to the school (physical, financial, human, and systems). External assessment accounted for the local and regional development agenda, the needs and demands of industries and the community (including the LGUs), and the resources and plans of other public and private educational institutions.

Combining insights from the internal and external assessments, the division offices determined 1) the number of students they must be able to accommodate for Grades 11 to 12, 2) the DepEd schools that must offer senior high school to ensure access, and 3) the senior high school tracks and specializations per school to address the interests and needs of the learners.

These assessments were done at the division level, aided by the central and regional level, through a simple Excel tool. The tool was important, but data and utilizing the data were more important. It is even more important to be able to adapt to changes based on the information the department has. To equip staff, DepEd invested in various capacity building initiatives.

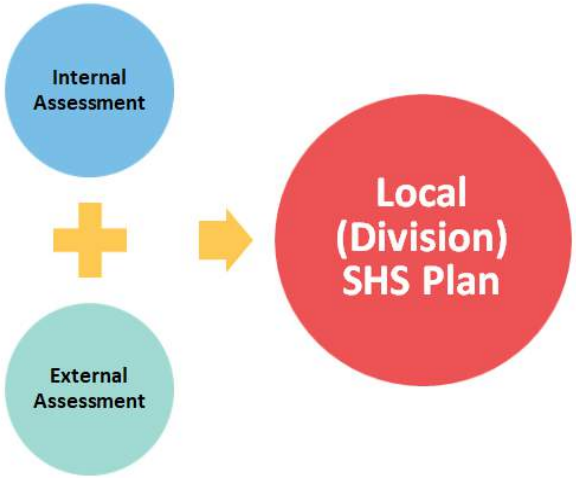


FIGURE 16. SCHOOL DIVISION PLANNING FRAMEWORK

For the first batch of students, the Philippines saw 1.2 million Grade 12 graduates in 2018 from 1.5 million Grade 10 completers two years ago. At least, for the first batch of K to 12 graduates, the baseline increased from 700,000 to 1.2 million students. Of course, it is more important to measure if they are more capable and productive, which remains to be seen. The real test for K to 12 will come out ten years down the line.

4 Developing Capacity to Implement Reforms: The Health Policy Development Program Experience

Carlo Irwin Panelo, MD, MA
Associate Professor, University of the Philippines-College of Medicine

The Health Policy Development Program (HPDP) was a United States Agency for International Development (USAID)-funded project concluded in March 2018 which supported the DOH in implementing UHC. The project was able to do a 25-year review of the Philippine's health sector performance. It concluded that one of the main challenges that confronts the Philippine health sector is its lack of capacity to manage complex health reforms.

The HPDP implemented largely short-term solutions to cope with the day-to-day tactical issues that the DOH had to deal with to manage complex health reforms. The Health Policy Fellowship Program is now being implemented by the DOH. More direct capacity building investment was conducted like training a cohort of regional staff in contracts management. The project also trained 100 students nationwide in a policy analysis course. The largest contribution of the HPDP was being able to introduce junior professionals to a network of policy practitioners in the country. Part of the project was a grant to the UP School of Economics and the UP College of Medicine for graduate training. The benefits of graduate training, however, is not yet apparent in the immediate term. It is also worth mentioning that in the Philippine context, the value of thesis papers is not given that much importance in policy development and formulation.

The policy fellowship program should be strengthened to attract professionals to a career in the health bureaucracy. Experts should be engaged both locally and internationally to fill in the skill gaps as the DOH develops systems to cope with complex reforms. A more immediate solution to the capacity gap is to send junior professionals to training and mid-career staff to executive courses to narrow the skill gap in the medium term. An example of this is the Department of Budget and Management's (DBM) succession plan. The DBM entered into a partnership with the UP School of Economics, where they hired fresh graduates from different disciplines. However, their first day of work is to study at the Master's program at the School of Economics and they are expected to go back to the bureaucracy as newly graduated Masters holders. If the UHC Bill can allocate funding to train the next healthcare managers, similar to what Thailand did for 20 years, then we are assured that the health system will be able to deal with the more complex health problems it will create as it advances into more complex reforms. While the problems are unknown, if there are capable people manning the bureaucracy, then it can adapt and overcome those challenges.

OPEN FORUM

Importance of building policy analytic capacity in the DOH

Analytic capacity building is absolutely necessary but the concern should be the mechanisms to bring it beyond the level of the central office. Experts are at the national level, who have studied here and elsewhere, but the real debate happens at the municipal and GIDA level. The basic challenge is, especially in GIDAs, that it's not a fertile ground for policy analysis or analytic capacity. The conversation for the public health sector is bringing it down to the areas where public health should be strongest.

Analytical capacity must be enhanced in the DOH in terms of evidence generation and utilization because it understands policy discourse and the limitation of policy decisions. They understand the difficulty of making decisions in light of many pushes and pulls that happen outside the DOH. There is a need for high-quality training, which can later be diversified to a more difficult challenge. A PhD is able to address emerging dynamic challenges, therefore training based on problems is very critical rather than training based on discipline.

There may be different analytical skills needed at different levels of the bureaucracy. Analytic capacity is probably the most useful at the level of programs. Not all of policy analysis and research can and should be done at the DOH. The DOH should maintain a base capacity so it can write the scope of work, design contracts, and review outputs.

Beyond policy analysis

Analytic capacity beyond policy analysis is the ability to solve problems. Problem solving is needed in all sectors of society. Resources will never be enough, the political environment cannot always be favourable, but the ability to find a solution will always be critical.

FORUM SYNTHESIS

MARIA EUFEMIA C. YAP, MD, MSC

Visiting Lecturer, International Health of the Charité Universitätsmedizin Berlin

We opened this forum with very clear orders from the Secretary of Health: using FOURmula One Plus for Health to get to our goal of being one of the healthiest people in Southeast Asia by 2022. The 17th National Health Research Forum for Action should not be viewed in isolation. All of the previous NHRFAs have brought about harvests. For certain, many of the harvests of the previous forum have been utilized.

In a span of the fourteen hours that we have been together, we viewed and listened to the work of over 50 researchers. And therefore, in the biblical sense, the harvests are rich, but the laborers are few. All the NHRFAs have been single-minded in the purpose to create and build a research culture as a manner of proceeding not just in health but in all we do.

We had six parallel sessions over the past two days:

Health governance – studies presented were in accordance to the five broad actions suggested by the WHO: formulating policy and strategic plans, generating intelligence, putting levers or tools in place for implementing policy, collaboration across sectors, and ensuring accountability

Health financing – explored the context of malaria and aging with respect to determinants of the financial burden and prospective designs to pool financial risks.

Health service delivery – emphasized that improved access to service must be accompanied by efforts to improve quality and implementation
Access to Medicines – discussed the interventions to reduce drug prices and improve access of PWDs to medicines

Health technology assessment – decision-makers should take into account cost-effectiveness and social and legal implications of a technology or innovation. The methods may be tailored to aid government or private decision-makers.

Health regulation – emphasized the need for regulation to ensure the quality of care, value for money, social agreement, and accountability

Our parallel sessions have emphasized the need to embed research as part of the health ecosystem. Embedding research as part of system results in better quality research that is adaptable, interdisciplinary, and locally-driven.

In over 20 years of conducting this forum, the question for all of us now is: are these harvests additional boulders we are bringing up? Is the end goal the triumph of Sisyphus or a broader end? We should focus on bringing harvests to fruition in the vehicle of UHC inspired by a generation of young and upcoming researchers. This is not an impossible challenge. You have met, seen, and interacted with 40 young professionals who are gifted, talented, and desirous to make a dent. Use them, help them, and mentor them. Spread the word because this work must spread throughout the country.

CLOSING REMARKS

DIRECTOR KENNETH G. RONQUILLO

Department of Health
Health Policy Development and Planning Bureau

As with all such events, this forum has been an outstanding example of our minds having been assailed by a multitude of ideas, information, and statistics. It will probably be a day or two before we can sift through them all and consolidate our own personal interpretations. But it is our hope that beyond today, we continue to reflect upon how we can contribute, as individuals and collectively as a team, to progressively realize universal health care for the country. From the DOH side, we are committed to developing mechanisms to better bridge the research to policy gap, building on what we have started through the AHEAD program.

Finally, the Health Policy Development and Planning Bureau under the Health Policy and Systems Development Team led by Usec. Mario Villaverde would like to express our sincerest gratitude to all of you for your thoughtful and active participation; our partner the Philippine Council for Health Research and Development for facilitating the organization of this conference, and to the forum organizers led by Dr. JR Ong, Dr. Winlove Mojica, and their team at the Alliance for Improving Health Outcomes, Inc. and all our suppliers for making this event a reality.

We look forward to seeing you all again in a year – but for now, I wish all of you a safe trip home!

POSTER PRESENTATION

Formulating the Local Disaster Risk Reduction and Management Plan for Health (DRRMH): Lessons learned from local experiences

NC Cedicol, MD, MPM
Municipal Government Of Calauan, Laguna

Local Disaster Risk Reduction and Management Plan for Health (DRRMH) has been a mandatory output for Municipal Health Offices under the local government units, as part of disaster preparedness, response and rehabilitation measures. It is also evaluated annually in LGU Scorecard. Although almost all localities already had its Disaster Plans (under the Municipal Risk Reduction and Management Office), the DRRMH focuses on the health aspects/public health impacts of programs projects and activities stipulated in the plan. The process of developing the plan ideally entails extensive data gathering and community consultation/participation and engagement of local leaders; however, common health systems gaps on planning stage may ensue which may result to delay in formulating the plan or possible ineffective and unsustainable activities depending on the political, social and economic context of the locality. The need for proper delineation between a municipal disaster plan and DRRMH plan to avoid overlapping of activities, as well as coordination and engagement with stakeholders, may prevent the taxing process and instead streamline the plan to achieve its ideal goal of improving health outcomes during times of calamities, emergencies and disasters.

MAIN THESIS QUESTION

The technical and procedural difficulties encountered in writing the DRRMH prompted the author to ask a basic question: How can municipalities create an efficient, accurate and effective DRRMH Plan given the limited time and the unique local political, social and economic climate of every municipality?

This narrative aimed to document the processes employed and determine gaps that local health officers may encounter in formulating the DRRMH; and lay down suggested strategies to formulate the plan given the proper municipal context.

METHODS

This study pertains to the encounters of the author in the formulation of DRRMH plans for two municipalities (Municipality A and B) from two different provinces. Processes in formulating the DRRMH plan were documented. Data gathering included triangulation via document analysis (manual of operations, local directives and administrative orders and other legislations), focused group discussion among barangay councilors for health, and key informant interviews (Past Municipal Health Officers, MDRRM Officers, and DOH Representative). In addition, a survey questionnaire to obtain crucial information from the barangay level was done. Also documented were proceedings, discussions, and minutes of the different provincial-wide meetings and writeshops which provided an avenue for exchange of ideas and gap identification among different local health officers and stakeholders. The draft outputs for Municipality A presented by the author for critiquing and evaluation on February 28-March 1, 2017 and Municipality B on March 1-2, 2018 were documented. Conclusions were drawn from these local experiences to develop strategies that are anchored on the general purpose of developing the plan.

RESULTS

Issues/gaps encountered in formulating the plan. Health systems gaps encountered in formulating the plan are presented in **Table 1**. These problems are often encountered and should be clearly addressed during the planning stage.

Integrating DRRMH with Municipal Disaster Plan. Contextualizing the DRRMH Plan with the existing overall disaster plans of the municipality must be ensured. **Figure 1** presents how the author incorporated the DRRMH Plan with the overall disaster plan to easily delineate the roles and functions and avoid overlapping of such.

Data gathering prior to developing the plan. Community participation, active field work and direct consultation to key stakeholders coupled with document analysis for triangulation of data were more appropriate in extracting and validating data as well as formulating strategies that work (conducted in Municipality A).

TABLE 1. COMMON ISSUES ENCOUNTERED IN FORMULATING THE DRRMH PLAN.

Health Systems	Gaps Identified/ Issues encountered
Leadership and Governance	1. Need to come up with local policies or legislations related to health and disasters. Most municipalities only adopt RA 10121 but other relevant local policies are lacking. 2. Need for clear chain of command and management structure since confusion may arise with regards to possible overlapping of roles and functions between MDRRM Office and Health Office. 3. Need to strengthen coordination with MDRRMO and other LGU agencies. Local health officers may encounter resistant and non proactive LGU officers or MDRRM Officers. 4. Need to exercise strong political will and effective governance.
Human Resources for Health	5. Very limited human resources and staff complement. 6. Lack of community participation or initiatives from barangay level.
Health Service Delivery	7. Difficulty in data gathering. Availability of an evidence-based, accurate statistical data must be ensured. 8. Need to test the plan. It may be difficult to test the plan if it is not approved by the LCE and is not funded. 9. Sustainable livelihood and post disaster support
Health Financing	10. Unclear source of budget for DRRMH. The question of where do we obtain budget for DRRMH plan execution usually arises.
Access to Medicines/ Technology	11. Lack of logistical support, emergency medicines, supplies for response

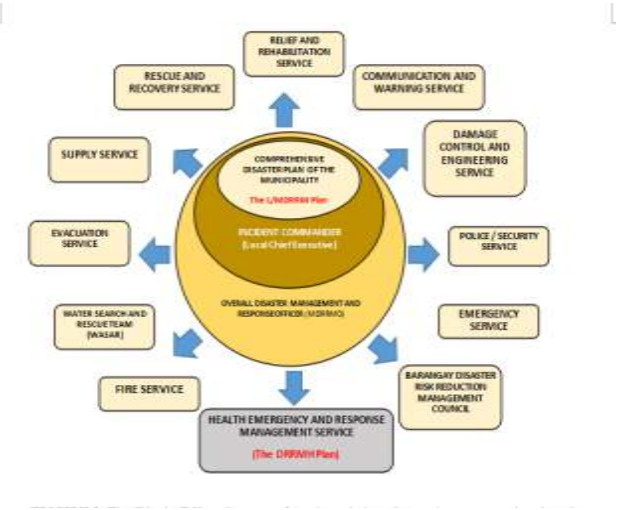


FIGURE 1. THE RIPPLE EFFECT DIAGRAM OF SERVICES DURING DISASTER/EMERGENCY SHOWING THE RELATIONSHIP AMONG SECTORS AND INTEGRATION OF THE DRRMH IN THE MUNICIPAL DISASTER RISK AND REDUCTION AND MANAGEMENT PLAN (NOTE: SERVICES MAY VARY FROM ONE MUNICIPALITY TO ANOTHER) (CEDICOL, 2018).

CONCLUSION AND RECOMMENDATION

Lessons learned from local experiences. The following phrases summarize the lessons that a DRRMH Plan must imbibe:

1) Inclusive sustainable development-the concept of "walang maiiwan sa laylayan" (inclusivity) and empowering the barangays to align their focus on proactive measures on disasters.
2) Realistic, systematic and evidence-based-hence the need for thorough data gathering strategies,
3) Integrated within the municipal disaster plan,
4) Resilient and adaptive to changes-especially that disasters impact health in varying degrees,
5) Effective collaboration and synergy-to avoid inefficiencies and overlapping of programs, projects and activities in relation to other local sectors,
6) Both proactive and reactive-hence the need for regular revisiting and reviewing of the plan,
7) Legitimacy and support-hence the need for local leaders particularly the Local Chief Executive to be involved in all aspects of developing the plan.
The narratives and processes presented in this study may help guide local health officers in formulating their own DRRMH.

Factors Influencing Use of Telemedicine by Primary Care Physicians: A Preliminary Study

TJL Gervacio, RN
Medical Informatics Unit – University of the Philippines (UP), College of Medicine (MIU-UPCM)

BACKGROUND

Telemedicine by providing care at a distance, can revolutionize access to health care. In the Philippines, persons living in geographically isolated and disadvantaged areas (GIDA) may lack access to a healthcare facility or a healthcare practitioner. These persons in remote underserved areas may benefit from telemedicine as they often have to travel far distances to seek or receive healthcare. In some unfortunate circumstances, six of ten die without even seeing a doctor (Geronimo, 2014). While the National Telehealth Center has used CHITS and RxBox for telemedicine, their 2012 data show that its use is limited: 357 trained for telemedicine and 276 enrolled referring physicians (144 Doctors-to-the-Barrios and 132 Municipal Health Officers) (Marcelo, 2012).

MAIN THESIS QUESTION

What are the barriers and factors influencing acceptance and use of telemedicine by Filipino general practitioners (GPs) in primary care?
Specific research objectives:
1. Identify the attitudes of GPs towards using and incorporating technology in healthcare
2. Identify technologies most used and/or preferred by GPs in providing care.
3. Identify the barriers that influence them the most to practice such telemedicine modalities

METHODS

This is a cross–sectional study. A self-administered questionnaire was made available online in a survey website for Filipino GPs. The survey included an informed consent for the collection of respondents' demographic data such as the name, gender, date of birth, and license number, which was used to validate their status as duly licensed and practicing physicians with the Professional Regulation Commission.

The main questions are derived from **P.A.T.C.H** or the **Pre-test for Attitudes toward Computer in Health Care** by Kaminski, J. (2016) and **Benefits of Telemedicine and Barriers to its Effective Implementation in Rural India: A Multicentric E- Survey** by Ghia, C et all (2013). The responses collected were analyzed using Microsoft Excel according to the interpretation tool (PATCH) and by percentage to see the differences among the categorical variables.

RESULTS

Demographic Data

Twenty eight Filipino GPs participated in the study.
The age range of the participants is 22-54 years of age, with mean age of 32. Respondents' ages showed no correlation with their PATCH Assessment results

Attitudes of the PCPs towards using and incorporating technology in healthcare.

The respondents are comfortable and confident in the use of computer or technology in healthcare. Of the 28 respondents, 11 (39%) feel comfortable towards using user-friendly computer applications. They are aware of the computer's usefulness and capabilities in different settings, particularly in healthcare. 14 (50%) of the respondents are confident in their ability to use the computer, and see the use of computers as an opportunity to do research, keep up to date with health issues, collaborate with others for innovative ideas that can address healthcare challenges. Three (11%) of the respondents have a high level of confidence in using computers. They feel that learning to use it in workplace will boost creativity and aid to perform routine tasks. They also recognize the value of the use of information technology in healthcare and society.

Technologies most used and/or preferred by the Primary Care Physicians

The use of technology in healthcare such as telemedicine in different countries has proven useful. Among the many benefits of telemedicine, results shows in Figure 1 that obtaining laboratory results via Internet and transmission of Electrocardiograms, X-Rays, Still Images, and making Outpatient appointments using Internet are the topmost perceived benefit among the respondents. These services fall under **Asynchronous Telemedicine.**

While teleconferencing via telephone, obtaining second opinion and preoperative services have lowest number of responses as benefits of telemedicine.

Despite the great potential and promising use that telemedicine brings to health care delivery, the adoption worldwide is still slow and fragmented. **There are barriers in the adaptation ranging from technical and infrastructures to social behavior of the users.** Most common barriers are acknowledged by the respondents in this study and three were ranked as the topmost barriers by obtaining getting the average.

Identify the barriers that influence them the most to practice such telemedicine modalities.
Most common barriers are acknowledged by the respondents in this study and were ranked in table 1. The top three barriers are concerns about patient privacy and confidentiality, high cost of equipment, concerns regarding loss of effective communication between doctors and patients due to the distance between the two.

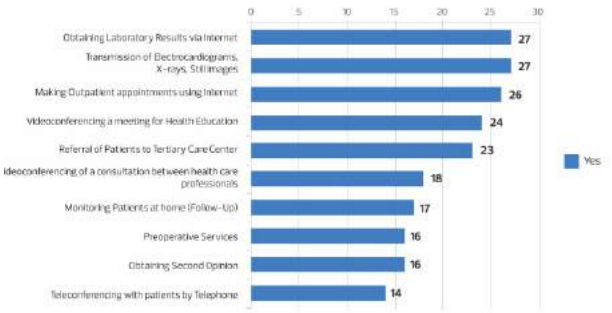


FIGURE 1. PREFERRED TELEMEDICINE MODALITIES

TABLE 1. RANKED BARRIERS THAT INFLUENCE THE PCPS THE MOST TO PRACTICE TELEMEDICINE

Average Rank	Barriers
4.46	Concerns about Patient Privacy/Confidentiality
4.64	High cost of Equipment
5.07	Concerns regarding loss of effective communication between doctors and patients due to the distance between the two
5.18	Concerns regarding Legal Responsibility
5.57	Lack of suitable training in the use of equipment
5.57	Lack of consultation between Information Technology Experts and Clinicians
5.93	Lack of user-friendly Software
5.96	Lack of perceived clinical usefulness
6.11	Perceived increase in Workload
6.46	Negative Attitude of Staff involved

CONCLUSIONS

The results have shown the positive attitude of these doctors towards the use of technology in the workplace. Telemedicine is being used by the PCPs as part of their routine practice although as an asynchronous modality at most. Further, presence of barriers in the implementation of telemedicine may make them apprehensive to incorporate synchronous telemedicine.

RECOMMENDATIONS

The study was limited to the perspective of the PCPs. The responses from the close-ended questions do not allow the opportunity to explain further and clarify their responses. However, further studies should be considered through in-depth collection of relevant data or use of semi-structured interviews to better understand the perspective of the healthcare professionals. In addition to that, the views of the patients who will use and benefit from telemedicine the most should also be considered. The data will be then useful to formulate solutions to current challenges in implementations and develop policies, especially in support to push the existing Telehealth Act.

Predictors of Clinical Performance in a Tertiary Hospital from 2008 to 2012

PSI Veloso
Medical Informatics Unit – University Of The Philippines, College Of Medicine (MIU-UPCM)

BACKGROUND

Each institution has their own particular means of screening potential employees. As previous studies have established that a well-designed nursing curriculum adopted by a learning institution are good predictors when it comes to a nurse graduate's chance of passing the Nursing Licensure Examination (NLE) and National Council Licensure Examination (NCLEX). For a staff nurses' competency, some studies have also lend credence to years of clinical area exposure as directly related to their "clinical wisdom" and expertise. Using a quantitative retrospective study, focusing on staff nurse records from 2008 to 2012 will be the focus, this paper dispels the use of the Nurse Licensure Examination Score as a one size fits all benchmark in measuring a potential nursing applicant's as a clinically proficient/efficient staff.

MAIN THESIS QUESTION

1. What is the demographic profile of nursing applicants (2008 – 2012) during employment?
   In terms of:
   a. University
   b. General Weighted Average (GWA)
   c. Hospital Experience
   d. Nurse Licensure Exam
   e. MPQ

2. Is there a significant difference between applicant's board rating rates in terms of clinical evaluation performance?

3. What is the predictor for clinical performance?

METHODS

TABLE 1. SUBMITTED ACADEMIC REQUIREMENTS

Submitted academic requirements	Year
General weighted Average, Nurse Licensure exam score, Nurse proficiency Exam, Manchester score, Work experience, Trainings and seminars	2008
	2009
	2010
	2011
	2012
Performance Evaluation score	2016
150 Nurse applicants hired from 2008 to 2012	

FIGURE 1. METHODOLOGY

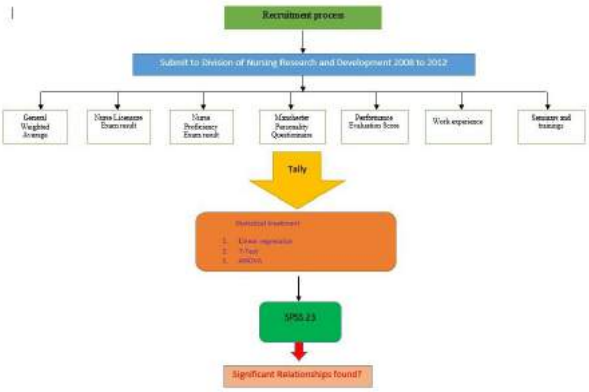


TABLE 2. UP SPMS RATING GUIDE

Adjectival Rating	Percent Range	Numerical Point Range	Numerical Rating
Outstanding	130% and above	4.51–5.00	5
Very Satisfactory	115%–129%	3.51–4.50	4
Satisfactory	90%–114%	2.51–3.50	3
Unsatisfactory	51%–89%	1.51–2.50	2
Poor	50% and below	1.50 & below	1

SOURCE
University of the Philippines
Office of the Vice President of Administration
Memorandum no. MSVA15–83 issued july 10, 2015
Administrative order# PAEP 14–54 issued on October 10, 2014

TABLE 3. PES/IPCR SCORE OF NURSING STAFF HIRED WITHOUT PREVIOUS WORK EXPERIENCE ARE SIGNIFICANTLY HIGHER THAN THOSE WITH PREVIOUS WORK EXPERIENCE

COEFFICIENTS					
Model	**Unstandardized Coefficients`**		**Standardized Coefficients**	**t**	**Sig**
	B	**Std. Error**	**Beta**		
1 (Constant)	5.800	1.051		5.517	.000
Grade Weighted Average	–.071	.117	–.055	–.605	.546
NLE Average	–.009	.011	–.076	–.842	.401
NPE	.005	.011	.042	.481	.631
MPQ	–.003	.032	–.009	–.103	.918
Yrs_exp	–.207	.078	–.226	–2.649	.009
University (Recoded)	.058	.102	.048	.566	.572

TABLE 4. NURSE LICENSURE EXAM, GENERAL WEIGHTED AVERAGE, NURSE PROFICIENCY EXAM SCORES, MANCHESTER QUESTIONNAIRE SCORE AND UNIVERSITY ALMA MATER ORIGINS RESULTS HAVE NO SIGNIFICANT RELATIONSHIP WITH A STAFF NURSE PERFORMANCE EVALUATION SCORE IN THEIR RESPECTIVE CLINICAL AREAS **(GROUP STATISTICS)**

GROUP STATISTICS					
	University (Recoded)	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**
Grade Weighted Average	NCR Outside NCR	132 18	2.0282 1.9439	.28693 .41460	.02497 .09772
NLE Average	NCR Outside NCR	132 18	79.5983 77.6444	3.36112 2.2813	.29255 .53932
NPE	NCR Outside NCR	132 18	33.4848 34.0833	3.18509 3.38791	.27723 .79854
MPQ	NCR Outside NCR	132 18	10.16 10.06	1.033 1.110	.090 .262
Yrs_exp	NCR Outside NCR	132 18	1.24 1.28	.430 .461	.037 .109
PES	NCR Outside NCR	132 18	4.87 4.83	.399 .383	.035 .090

TABLE 5. GRADUATES FROM WITHIN THE NATIONAL CAPITAL REGION COMPARED TO THOSE OUTSIDE NATIONAL CAPITAL REGION HAVE A HIGHER NURSE LICENSURE EXAM RESULTS

INDEPENDENT SAMPLES TEST				
		t-test for Equality of Means		
		df	Sig. (2-tailed)	Mean Difference
Graded Weighted Average	Equal variances assumed	148	.272	.08429
	Equal variances not assumed	19.282	.414	.08429
NLE Average	Equal variances assumed	148	.018	1.95389
	Equal variances not assumed	28.160	.004	1.95389
NPE	Equal variances assumed	148	.459	-.59848
	Equal variances not assumed	21.305	.487	-.59848
MPQ	Equal variances assumed	148	.693	.104
	Equal variances not assumed	21.210	.712	.104
Yrs_exp	Equal variances assumed	148	.746	-.035
	Equal variances not assumed	21.240	.761	-.035
PES	Equal variances assumed	148	.705	.038
	Equal variances not assumed	22.314	.699	.038

CONCLUSION

Using a potential nursing applicant's Nurse Licensure Examination Score as a benchmark needs to be reconsidered as policy in selecting staff as there are other variables that tend to skew it. Numerous retakes, attending a high end review session provider does not automatically translate to hiring a staff who is clinically proficient/efficient.

Choosing an applicant based on where they had acquired their nursing degree needs to be reconsidered as the data shows that those who originated within the National Capital Region had significantly higher Nursing Licensure Exam Scores compared to those from outside. As indicated in the first recommendation, the alma mater origin of an applicant no significant bearing to a staff's potential clinical proficiency.

One significant development showed that applicants who did not have previous work experience had much higher performance evaluation scores as compared to those with previous work experience. We tend to expect those who had already acquired nursing clinical skills to have an edge but the finding belies otherwise. Thus, as supervisors/management, we must cultivate the untapped potentials of these recruits so as the best serve the patients of this institution.

Blockchain Technology for Healthcare in the Philippines

JA Alana, R.N.
Medical Informatics Unit (MIU) University of the Philippines, College of Medicine (UPCM)

BACKGROUND

Blockchain is a disruptive technology with potential health applications. At its most distilled level, blockchain technology is "a distributed database secured by cryptography."[1] It is a peer-to-peer distributed ledger technology for a new generation of transactional applications that establishes transparency and trust. Blockchain consists of three main components: a distributed network, a shared ledger and digital transactions.[2] Data is secured primarily by encryption. All transactions are encrypted into blocks by the relevant encryption and added to the front of the chain of blocks (hence the term "blockchain"). In a distributed network, each member of the network stores an identical copy of the data in the blockchain and contributes to the collective process of validating and certifying the digital transactions for the network.[3] The information is encrypted and digitally signed to guarantee authenticity and accuracy.[4]

MAIN THESIS QUESTION

Beyond Bitcoin, in what other scenarios has blockchain been used?

What are the potential applications of blockchain in the Philippine healthcare system?

METHODS

This study is a desk review of academic sources, books and journals, obtained through Google search. The search terms used were: blockchain, blockchain technology, health, healthcare, Philippines. The search was limited to relevant sources from 2008-2016.

RESULTS

Several articles on the potential applications of blockchain to healthcare and actual use of blockchain in Estonia and Dubai are included in this review. Given these articles, I then identified potential applications of blockchain technology in the Philippine healthcare system.

DISCUSSION

Applications of Blockchain Beyond Bitcoin

Estonia – Use of blockchain in the facilitation of driving license renewals through medical certificates. In 2015, over 80,000 medical certificates were forwarded electronically to Estonia's Road Administration Agency to facilitate driving licence renewals, and in 2016, the country signed a joint declaration with Finland looking at automatic cross-border data exchange for social insurance benefits and digital prescriptions.[5]

Dubai – "DubaiPay" is a citywide blockchain based payments platform. The Smart Dubai Office signed a Memorandum of Understanding with Avanza Solutions to implement a citywide blockchain based payments platform. Avanza successfully delivered a reconciliation and settlement platform to the Smart Dubai Office called the DubaiPay payment platform, with the blockchain characteristics of immutability and agility.[6]

Potential Applications of Blockchain to Healthcare

In healthcare systems, data integrity is paramount, there being multitudes of medical records necessary to be kept secure. This is where blockchain technology would have a significant impact. Storing data in a single server threatens the integrity of data as it may be susceptible to tampering or hacking. In a blockchain system, medical records shall be cryptographically secure, with no possibility of bad sectors threatening data integrity.[8]

Blockchain technology introduces efficiency and transparency to a siloed healthcare industry by enabling involved parties to use a common blockchain to access data.[9] It allows health providers to share networks without compromising data privacy, security or integrity.[10] This is increasingly important as patient mobility escalates.

Blockchain technology helps in reducing fraud with the use of time stamped protocols, making outside auditing easier.[11] The storage of data in different locations in the network and the collective process of validating and certifying the digital transactions for

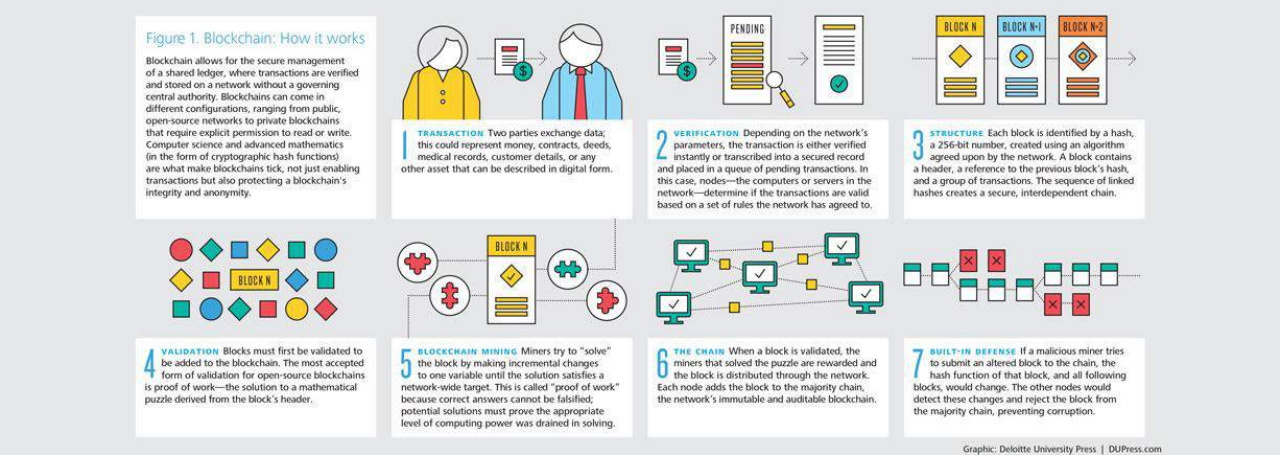


FIGURE 1. PROCESS OF HOW TRANSACTIONS ARE PROCESSED USING BLOCKCHAIN TECHNOLOGY.[7]

the network lessen the possibility of fraud as data can be checked against stored data in another location.

Blockchain technology may improve health insurance pre-authorization systems. Checking the validity of a member's insurance policy or health care is usually a long process. Blockchain can speed up the pre-authorization process, ensuring the timely treatment of patients and accurate payments to the providers.

CONCLUSION

In the Philippine healthcare industry, blockchain technology has the potential to improve collection and dissemination of medical data between government agencies, facilitate faster access to medical data, and improve the social health insurance system by allowing pre-authorization of payments, prevention of fraud and reduction of costs. Lastly, blockchain technology has the potential to greatly improve the security and privacy of data as mandated by law, the "Data Privacy Act of 2012," through the use cryptography, a major feature of blockchain.

[1] "Blockchain & Alternate Payment Models," by King Yip, an unaffiliated author, https://www.healthit.gov/sites/default/files/15-54-kyip_blockchainapms_080816.pdf

[2] Blockchain For Health Data and Its Potential Use in. Health IT and Health Care Related Research. Laure A. Linn. Martha B. Koo, M.D., https://www.healthit.gov/sites/default/files/11-74-ablockchainforhealthcare.pdf

[3] The Truth about blockchain, https://hbr.org/2017/01/the-truth-about-blockchain

[4] Fielder, S., & Light, J. (2015). Distributed consensus ledgers. Accenture, Accenture Payment Services. Accenture

[5] http://pwc.blogs.com/health_matters/2017/03/estonia-prescribes-blockchain-for-healthcare-data-security.html

[6] http://www.opengovasia.com/articles/7527-dubai-government-to-implement-citywide-blockchain-based-payments-platform

[7] http://dupress.deloitte.com/content/dam/dup-us-en/articles/blockchain-applications-and-trust-in-a-global-economy/DUP3039_TT16Blockchain_Figure1.jpg

[8] The 5 Pillars and 3 Layers to Enterprise Blockchain Solution Design, http://www.tradeweb.com/blog/nregalert/The-5-Pillars-and-3-Layers-to-Enterprise-Blockchain-Solution-Design

[9] Blockchain and big data privacy in healthcare, https://iapp.org/news/a/blockchain-and-big-data-privacy-in-healthcare/

[10] Blockchain and big data privacy in healthcare, https://iapp.org/news/a/blockchain-and-big-data-privacy-in-healthcare/

[11] How blockchain-timestamped protocols could improve the trustworthiness of medical science, http://f1000research.com/articles/5-222/v2

Knowledge, Attitudes, and Practices of Selected Regions in the Philippines on Electronic Medical Record System

RQ Cordova Jr., EY Gloria, JS Ygaña
Department Of Health – Health Policy Development And Planning Bureau

BACKGROUND

Electronic Medical Records (EMRs) are digital versions of the traditional paper-based health records systems with the added benefit of improved data security, interoperability, and faster data transmissions within one organization.[12] The Department of Health (DOH) has adopted an eHealth Framework aimed at improving healthcare delivery through the use of EMRs and Health Information Systems. To accomplish this, the DOH has been accrediting EMR systems developers and providers to engage Local Governments and implement the systems in Rural Health Units. Despite these efforts, EMR implementation is still at 72.27% (1,871 of 2,589).[13] Moreover, reasons for the low implementation is not well established in literature. Related studies associated with EMR in the Philippines is primarily citations of systems[14 15 16 17] service qualitymeasurement[18], and perceived benefits[19]. Furthermore, only a few studies tackle EMR implementation[20 21].

MAIN THESIS QUESTION

Given this background, the research question of this study inquiries on what is the current scenario of the EMR system implementation in primary care facilities? Thus, the main objective of this study is to capture and describe current EMR implementation of primary healthcare facilities and its latent factors in the context of Knowledge, Attitude, and Practice (KAP).

METHODOLOGY

The study utilized a qualitative research design. The population in this study considered all government primary healthcare facilities (Rural Health Units (RHUs)) engaged in EMR, specifically the head of the EMR team or in-charge. The locations visited and participants were based on convenience and availability during the field monitoring visit of the Health Sector Performance Monitoring Unit from April – June 2018. Data collection was done through Key Informant Interviews using a semi-structured questionnaire. The interviews were conducted in the participants' respective RHUs and each interview lasted from 30-50 minutes. Data from the interview was transcribed and encoded in Microsoft Excel. After which, a Thematic Analysis was performed, and thematic maps were produced using Freemind software.

RESULTS

A total of 28 participants were interviewed coming from Region VI, IX, XII and XIII. Majority of these participants and their health facilities are utilizing iClinicsys. The demographics of these participants is shown in Table 1.

The current scenario of the EMR implementation is captured into three categories: Knowledge, Attitude, and Practice. For each theme, results are shown in an overall thematic map.

Knowledge. The theme similar across most regions (at least 3 of 4) for "Knowledge" shows the following: What is an EMRS?, source of information, and EMRS Variants. The thematic map for this category is shown in Figure 1. The aforementioned themes describes what is an EMRS, where the respondents got most of their information on EMRS, and types of EMRS they know.

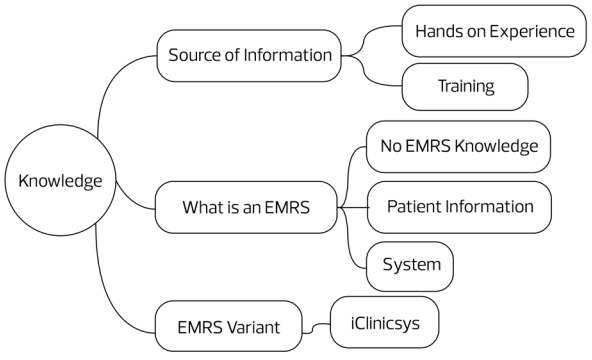


FIGURE 1. THEMATIC MAP ON KNOWLEDGE

Attitude. Similar themes across most regions (at least 3 of 4) for "Attitude" shows the following: EMRS Preference, Positive Feedback of EMRS Transition Plan, Positive and Negative Effects of EMRS at Work, and Issues of EMRS Use. These themes are defined as to the respondents' preference on EMR; positive feedbacks towards the EMR transition plan; the effects of EMRS at work both positive and negative; and their issues on EMRS use, respectively. These themes are illustrated in Figure 2. Note that three themes shows no general codes due to the variation of responses within regions.

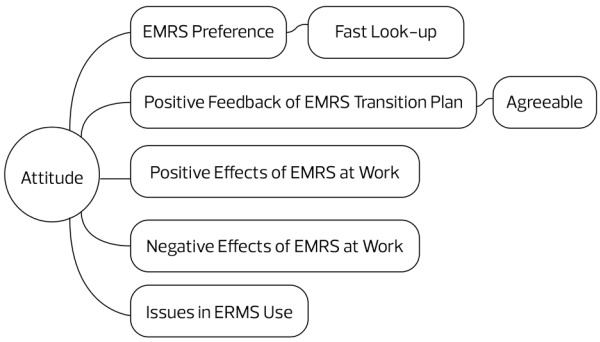


FIGURE 2. THEMATIC MAP ON ATTITUDE

Practice. Similar Practices across most regions (at least 3 of 4) is shown in the following themes: Challenges, Operations, Primary Work, Utilization. These themes are illustrated in a thematic map shown in Figure 3. These themes are defined to as the issues experienced by the regions; how operations are currently on-going; what is the primary task of the encoders; and how is EMRS being utilized, respectively.

TABLE 1. DEMOGRAPHICS

Sex		**Age**			**Highest Educational Attainment**			**Job Status**		
Male	Female	Between 20–34 years old	Between 35–49 years old	Between 50–64 years old	Master's Degree	College Graduate	Vocational/ Technical	Plantilla	Job Order	Casual
25.0%	75.0%	67.86%	28.57%	3.57%	7.14%	64.29%	28.57%	28.57%	35.71%	35.71%

EMR Trained		**Participant Recorded Interviews**		**Pubiic Health Experience**			**Computer Experience**		
Yes	No	Yes	No	≤5 Years	6–10 Years	≥ 11 Years	Minimal	Moderate	Advanced
92.86%	7.14%	89.29%	10.71%	60.71%	32.14%	7.14%	7.14%	75.00%	17.86%

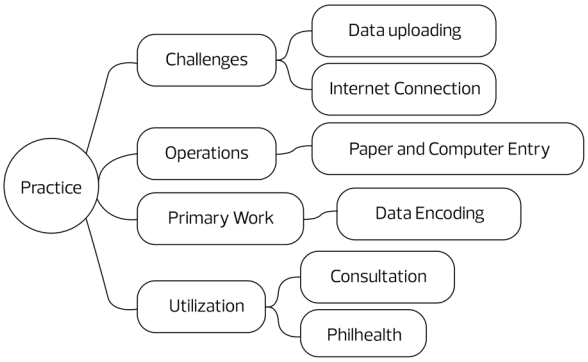


FIGURE 3. THEMATIC MAP ON PRACTICE

CONCLUSION

Each region has a unique KAP pattern, and even across health facilities. In general, the latent factors in the implementation of EMRS of primary care facilities in terms of KAP show that knowledge is mostly focused on a type/s of EMRS and is obtained through both informal and formal sources. Attitudes towards EMR highlights respondent preference to fast look-up and agreeable attitude towards the EMRS transition plan. Current practices in the use of EMR show that traditional paper-based encoding is still present resulting in redundant data encoding.

RECOMMENDATIONS

Thus, the study recommends the following:

- EMR design and implementation plans should be revisited to account for gaps in knowledge, negative effects of EMR at work, redundant encoding practices, and various issues on EMR System and experience; and
- Conduct further studies that can capture EMR implementation and adoption.

[12] National Alliance for Health Information Technology. (2008, April 28). Report to the office of the National Coordinator for Health Information Technology on defining key health information technology terms [Electronic Version]. Washington (DC): National Coordinator for Health Information Technology. Pp. 1-40. Retrieved August 23, 2018 from http://www.hitechanswers.net/wp-content/uploads/2013/05/NAHIT-Definitions2008.pdf

[13] Department of Health. List of EMR Implementing Sites as of May 31, 2018.

[14] Ridad, G., Esporsado, G.J., Garangan, A., et al. (2017). Acceptability Testing of a Mobile Application to Improve Immunization Status Monitoring and Compliance in Selected Barangay Health Centers in Iligan City. International Journal of Trend in Research and Development (IJTRD), 4 (5). pp. 16-19. ISSN 2394-9333

[15] Pulmano, C.& Estuar, M.E . (2016). Towards Developing an Intelligent Agent to Assist in Patient Diagnosis Using Neural Networks on Unstructured Patient Clinical Notes: Initial Analysis and Models. Procedia Computer Science. (100).pp 263-270.

[16] Batangan, D. (2016). Assessment of the COMPACK Program. Philippine Institute for Development Studies Policy Notes 2016-04.

[17] Batangan, D. (2014). Formative Evaluation of the DOH's Complete Treatment Pack (Compack) Program. Philippine Institute for Development Studies Discussion Paper Series 2014-47.

[18] Jiang,J., Klein, G., Parolia, N. & Li, Y.(2012). An analysis of three SERVQUAL variations in measuring Information System Service quality. Electronic Journal of Information Systems Evaluation. 15(2). pp. 149-162.

[19] Canlas, F., Perez, A. et al. (n.d.) The Perceived Benefits on the Use of an Open-Source e-Health Platform in Tarlac Province, Philippines. Wireless Access for Health, RTI International.

[20] Ongkeko, Jr. M., Fernandez, R., et al. (2016)Community Health Information and Tracking System (CHITS): Lessons from Eight Years Implementation of a Pioneer Electronic Medical Record System in the Philippines . National Telehealth Center National Institutes of Health University of the Philippines Manila. Acta Medica Philippina. 50(4). pp. 264-279.

[21] Premji, S., Casebeer, A. & Scott, R. (2012). Implementing Electronic Health Information Systems in Local Community Settings: examining Individual and Organisational change experiences in the Philippines. University of Calgary, AB, Canada. The Electronic Journal Information Systems Evaluation. 15(2). pp. 186-197 .

Biopsychosociocultural Impact of Open Defecation among Coastline Residents of Brgy. Banago, Bacolod City

AA Figueroa, JM Moreno, R Oliverio, JA Quebrado, T Tabuga, S Torres, M Sumatra
University of St. La Salle – College of Medicine

BACKGROUND

Despite the colorful façade and festive spirit of the City of Smiles, just northwest from the heart of Bacolod City lies the contrasting image of Brgy. Banago. It is densely populated with 29,760 residents where a majority of which live within very tight incomes that could barely provide for primary and essential needs. Of the 5125 total households, 27% still throw their waste everywhere.[1] During low tides, the shoreline is swarmed with garbage including human fecal wastes. Open Defecation, as defined by the WHO, is the practice by which people excrete feces in open or temporary areas.[2] The practice is widespread in the Philippines and, as of 2010, 60% of the total open defecators in Western Visayas belonged to Negros Occidental making it the province with the most serious open defecation problem in the region.[3]

MAIN THESIS QUESTION

What is the biopsychosociocultural impact of open defecation among coastline residents of Brgy. Banago, Bacolod City?

In this study, impact is observable change caused by open defecation which positively or negatively create lifestyle modification among the participants. This is delineated by knowing the following:

- The personal demographic profile and open defecation profile of the participants.
- The significant difference on the biological, psychological, social and cultural aspect of open defecation among the participants when group according to their personal demographic profile and open defecation profile.

METHODS

Descriptive research design was utilized to collect data on the 132 chosen participants. The researcher-made instrument was validated utilizing four jurors for face validation and Cronbach Alpha for internal reliability set at 0.845. Scores were processed using Statistical Package for Social Science. Statistical tools for the descriptive analysis of data included frequency distribution and median score, while for inferential analysis of data, Mann-Whitney U test and Kruskal-Wallis test were used. Frequency distribution shows the distribution of frequencies over values.[4] It was used to show the personal demographic profile and open defecation profile. Median was used to determine the impact of open defecation. Median is employed over mean since non-parametric statistics was observed in this study. Mann-Whitney U test is a non-parametric test used to determine significant differences of independent variables with two groups.[5] Kruskal-Wallis Test is a rank-based nonparametric test that is used to determine if there are statistically significant differences between two or more groups of an independent variable on a continuous or ordinal dependent variable.[6]

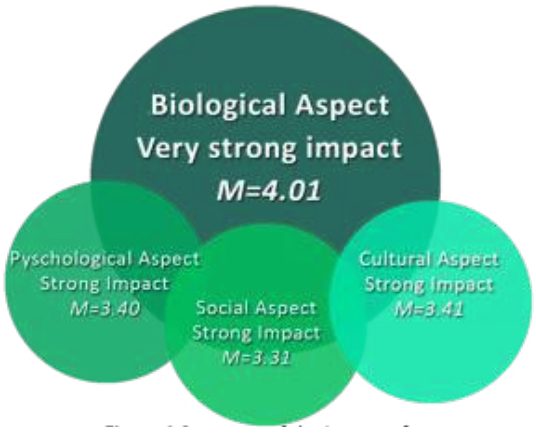


FIGURE 1. SUMMARY OF THE IMPACT OF OPEN DEFACATION TO THE PARTICIPANTS

[1] Barangay Banago (2015). Retrieved from http://www.bacolodcity.gov.ph/3BANAGO.pdf
[2] Eliminate Open Defecation (2017). Retrieved from http://unicef.in/Whatwedo/11/Eliminate-Open-Defecation
[3] Nicavera, E.P. (2016). No toilets for 150,000 households in Negros Occidental. Retrieved from https://www.sunstar.com.ph/article/65665
[4] What is a Frequency Distribution? (2018). Retrieved from https://www.spss-tutorials.com/frequency-distribution-what-is-it/
[5] Mann-Whitney U Test. (2018). Retrieved from http://www.statisticssolutions.com/mann-whitney-u-test/
[6] Kruskal-Wallis H Test using SPSS Statistics. (2018). Retrieved from https://statistics.laerd.com/spss-tutorials/kruskal-wallis-h-test-using-spss-statistics.php

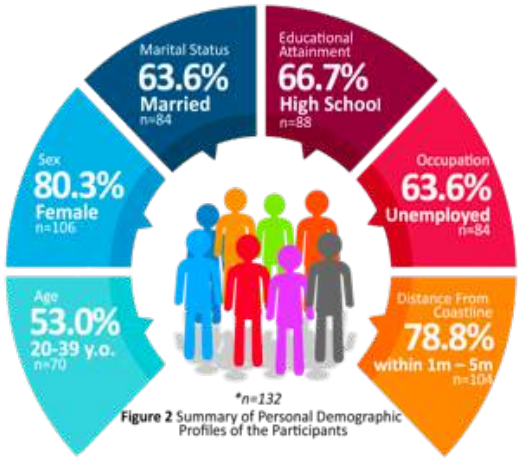


FIGURE 2. SUMMARY OF THE PERSONAL DEMOGRAPHIC PROFILES OF THE PARTICIPANTS

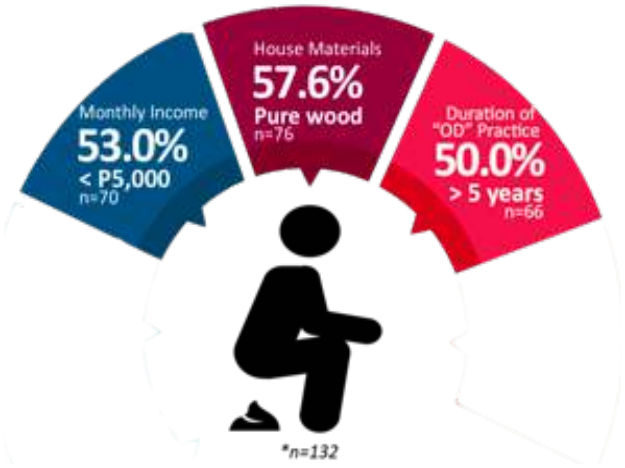


FIGURE 3. SUMMARY OF OPEN DEFECATION PROFILES OF THE PARTICIPANTS

TABLE 1. MANN-WHITNEY U TEST AND KRUSKAL-WALLIS TEST FOR THE BIOPSYCHOSOCIOCULTURAL IMPACT OF OPEN DEFECATION TO THE PARTICIPANTS

	Biological		Psychological		Social		Cultural	
Variables	**Sig.**	**Remarks**	**Sig.**	**Remarks**	**Sig.**	**Remarks**	**Sig.**	**Remarks**
Age	.483	Accept	.810	Accept	.404	Accept	.445	Accept
Sex	.463	Accept	.748	Accept	.801	Accept	.801	Accept
Marital Status	.326	Accept	.492	Accept	.970	Accept	.857	Accept
Educational Attainment	.115	Accept	.230	Accept	.447	Accept	.316	Accept
Occupation	.310	Accept	.691	Accept	.596	Accept	.596	Accept
Proximity from Coastline	.321	Accept	.350	Accept	.021*	Reject	.382	Accept
House Materials	.438	Accept	.399	Accept	.486	Accept	.001*	Reject
Monthly Income	.334	Accept	.238	Accept	.018*	Reject	.003*	Reject
Duration of OD Practice	.046*	Reject	.022*	Reject	.327	Accept	.001*	Reject

*Significant
Asymptomatic significances are displayed. Level of significance = 0.05

RESULTS
CONCLUSION

In general, Open Defecation had a "Strong" biopsychosociocultural impact among coastline residents of Brgy. Banago, Bacolod City. Results implicated that economic status, distance from the shoreline, and length of practice, are the significant factors that contributed to the impact of open defecation among the participants.

RECOMMENDATIONS

The researchers recommend that the national government work with the local government units, in collaboration with local health units, to formulate health programs that will improve the situation of those who practice open defecation, particularly those coastline residents of Brgy. Banago, Bacolod City. Furthermore, the Department of Health should strictly implement the existing Zero Open Defecation program; teach the risks of open defecation to the residents' health through experiential learning about water pollution and diseases from drinking contaminated water; awareness about other contaminants such as E. Coli in bathing and washing water; and prevent the practice of open defecation from becoming a culture of environmental pollution. Future researchers who wished to duplicate the study are encouraged to improve the current methodology and focus on the significant findings of the study.

Experiences of Health-seeking Individuals Acquiring Folk Medicine Services from Quiapo

TJJ Abion, NLB Apolinar, MJT Atutubo, PBP Banatin, CVM Javier, RMS Lu, ICN Rocha, NAO Rondilla, SJR Roque, AA Solaiman-Balt
Centro Escolar University – School Of Medicine

BACKGROUND

Medical Anthropology studies human health and disease, healthcare systems, and biocultural adaptation. One field that falls under medical anthropology is **folk medicine**. In the Philippines, folk medicine is an organized body of beliefs and practices anchored on a defined system that is reflective of indigenous heritage and nature. Quiapo, situated in the City of Manila, is well known for religious and economic activities, as well as a heritage site for cultural diversity and folk medicine. It has been observed that people from different walks of life avail of the vendors' services and products, which range from herbs to black magic. This qualitative phenomenological study was conducted to **gain a better understanding of the lived experiences of health-seeking individuals who acquire health services from Quiapo**.

MAIN THESIS QUESTION

The research explored the **experience**s of health-seeking individuals who acquire health services from Quiapo in order to provide a **better understanding of the folk medicine culture in Quiapo.** Specifically, the research aimed to describe the **meanings behind the acquisition** of folk medicine services from Quiapo.

METHODS

The study utilized a **phenomenological research design** to describe the lived experiences of the participants and the meaning behind their acquisition of these services, which led to the description of such meaning. This qualitative phenomenological study was conducted by interviewing **seven health-seeking key informants.** The key informants, approached on separate instances, were acquiring folk medicine products in Quiapo on the day of the data gathering. The data collected were categorized and interpreted accordingly into themes.

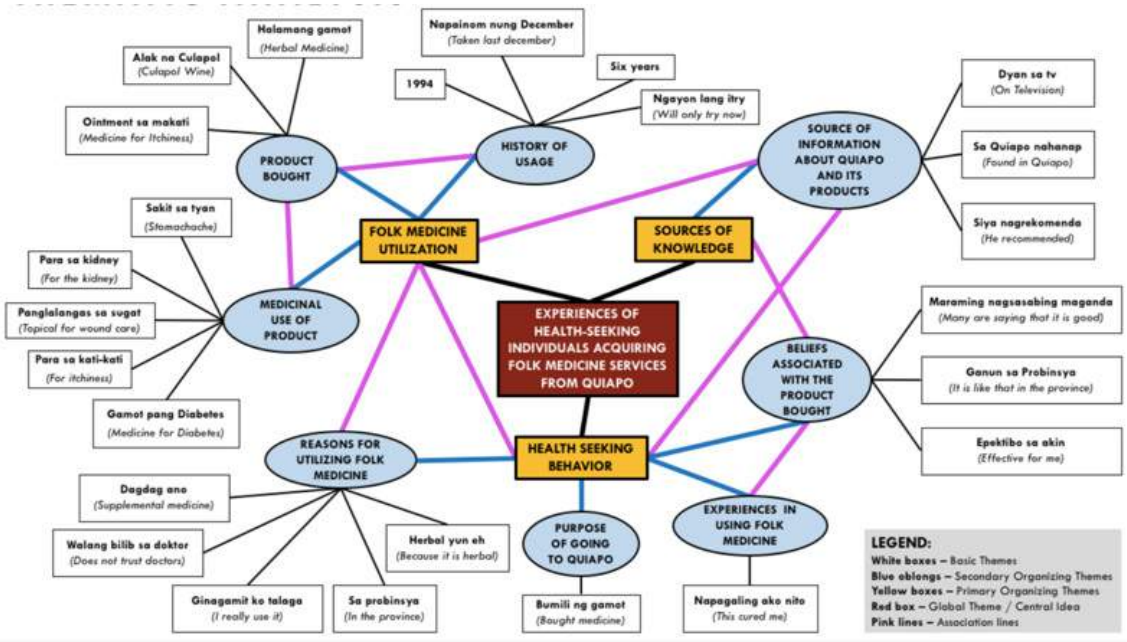


FIGURE 1. CONCEPTUAL FRAMEWORK OF THE EXPERIENCES OF HEALTH-SEEKING INDIVIDUALS ACQUIRING FOLK MEDICINE SERVICES FROM QUIAPO

The thematic analysis revealed three emergent themes.

- The first theme, health-seeking behavior, emerged from the key informants' reasons behind their visits to Quiapo. These beliefs were linked with the products bought, experiences in using folk medicine, and reasons for utilizing folk medicine.
  - The key informants' common purpose in going to Quiapo was to buy folk medicine products.
  - Their beliefs stemmed from provincial practice, feedback from positive experiences of others, and satisfaction from prior experience.
  - The common experience in folk medicine was related to apparent cure gained.
  - The reasons for utilizing folk medicine were related to their trust in herbal products, distrust of doctors, usage as supplemental medicine, provincial practice, and personal customary practice.

- The second theme, sources of knowledge, tackled the key informants' sources of information about Quiapo and its products.
  - It was known that such was due to common knowledge, recommendations, and the influence of television.

- The third theme, folk medicine utilization, relates to the type of product obtained, the perceived medicinal use, and history of usage.
  - The products acquired ranged from herbal plants, ointments, even Culapol wine.
  - The perceived medicinal application of the products varied from treatment for itchiness, wounds, stomach ache, kidney problems, and diabetes.
  - A variety of experiences in terms of usage were articulated both by first time users and long-term ones.

CONCLUSION

The study established the participants' perceptions that **folk medicine treatment contributes in alleviating their health concerns.** Furthermore, the meanings behind the participants' acquisition of folk medicine are diverse, which is attributed to **satisfaction from a prior experience, distrust in the current healthcare system, belief in family tradition**, and s**upplementation of existing medical treatment**.

RECOMMENDATIONS

The study findings provided a lens to better understand the experiences of people who patronize the products in Quiapo for health care. As such, it is recommended that health practitioners deliver health care with **open-mind** and **in consideration of the belief of patients**. Secondly, a study can be conducted to obtain a **wider scope of responses and demographical data**.

Global Kidney Exchange:
A Case Study

SR Paloyo [1,2], TB Dunn [3], CS Kuhr [4], CL Marsh [5], J Rogers [6], SE Rees [11,12], A Cicero [7], LJ Reece 1[2], AE Roth [8], O Ekwenna [11,12], DE Fumo [11,12], KD Krawiec [9], JE Kopke [12], S Jain [11], M Tan [10], MA Rees [11,12]

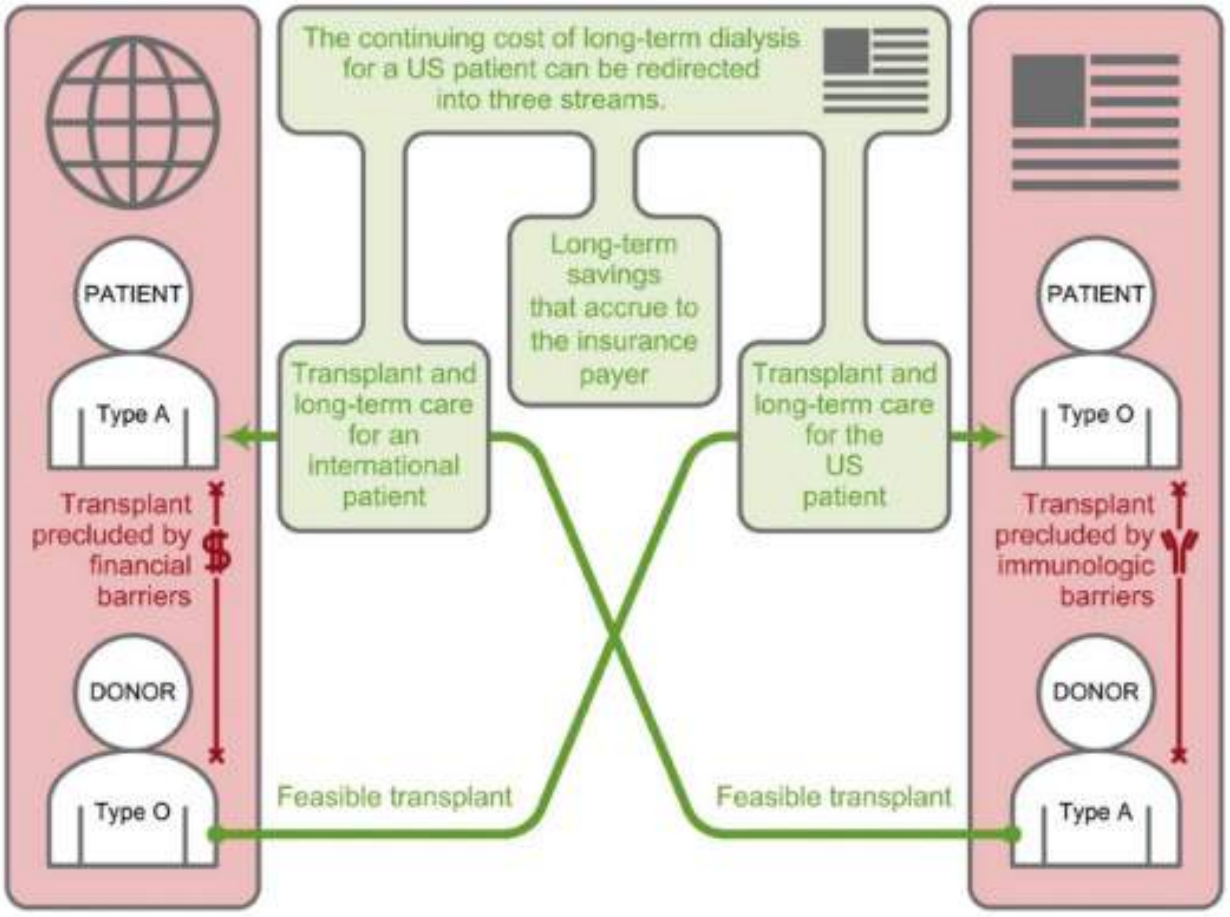
[1] University of the Philippines–Philippine General Hospital; [2] St. Luke's Medical Center–Global City, Manila, Philippines [3] University of Minnesota; [4] Virginia Mason Medical Center; [5] Scripps Green Hospital; [6] Wake Forest Baptist Medical Center; [7] ABC Medical Center; [8] Stanford University; [9] Duke University; [10] Piedmont Hospital; and [11] University of Toledo Medical Center; [12] Alliance for Paired Donation

INTRODUCTION

Innovative solutions are required to overcome the organ shortage.

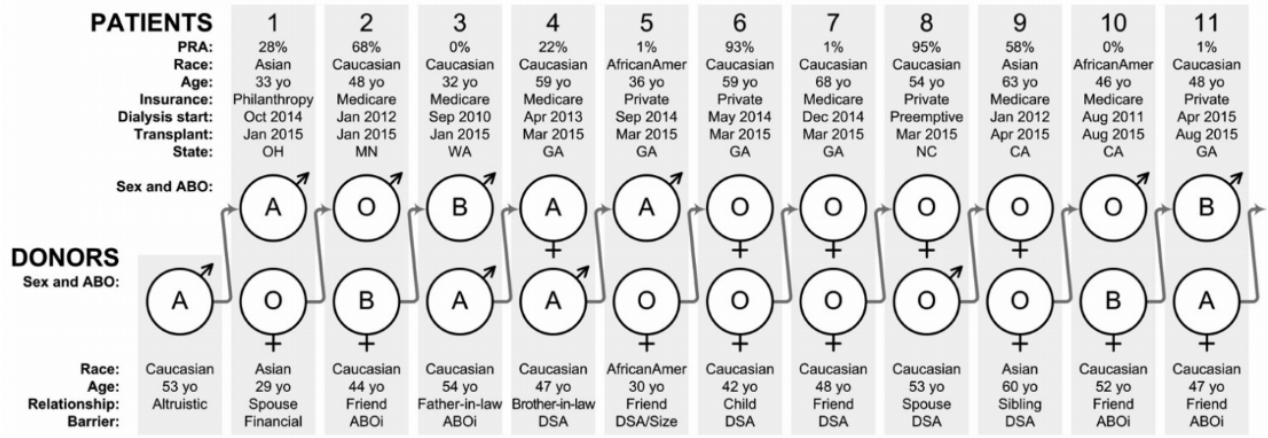
METHODS

The cost differential between dialysis and transplantation in some countries allows the exchange of kidneys between patient/donor pairs with immunological barriers to transplantation in a developed-world country with patient/donor pairs with financial barriers to transplantation in a developing-world country.



RESULTS

Three international pairs with blood type O donors and BT A ESRD patients (two pairs from the Philippines and one from Mexico) were unable to pay for dialysis or transplantation in their countries of origin. A US non-profit paid for their evaluation and, if required, paid for dialysis locally prior to travel to the US. Two BT A bridge donors and one BT A non-directed donor (NDD) with no match in a US KPD pool donated their kidneys to the recipient of these international pairs producing a BT O international donor to continue the Global Kidney Exchange (GKE) chain. The first GKE chain ended with a donation to a US waitlist candidate and twelve kidney transplants were produced. Six US recipients had Medicare and five US recipients had commercial insurance. The transplant cost (including NDD nephrectomy and donor complication insurance) for the Filipino recipient was paid for by a non-profit organization. An additional $50,000 was reserved for subsequent immunosuppression and donor/recipient follow-up in the Philippines. After two years the Filipino donor and recipient have excellent renal function. The savings from transplanting 11 U.S. patients compared with the cost of dialysis will exceed $3M over the next 5 years. The two additional GKE chains have thus far produced a total of 11 transplants and both have bridge donors scheduled to continue each chain.



CONCLUSION

Global kidney exchange provides a unique solution to the lack of available donor kidney

Department of Health Supply Chain Logistics Management: An Assessment

TMF Gagalac, MJC Padilla, MGA Pelayo, KE Wangiwang
Department of Science and Technology & Department of Health

BACKGROUND

Philippine health outcomes show slight improvement in maternal and child health indicators as well as infectious diseases indicators. Challenges also persist in commodity-related indicators such as fully immunized children which decreased from 74.5% to 69% from 2013 to 2016 (DOH Annual Report). Further, National Demographic Health Survey (NDHS) 2017 data shows that not all children diagnosed with diarrhea have been given supply of Oral Rehydration Solution or Zinc. One of the crucial factors for these low accomplishments is the presence of inefficiencies in the health supply chain processes of the Department of Health (DOH).

MAIN THESIS QUESTIONS

This study aims to answer the following thesis questions:

1. What are the gaps in the current DOH Supply Chain Logistics Management (SCLM)?
2. What recommendations can be provided to DOH in order to address these challenges?

These research questions seek to identify existing bottlenecks and provide recommendations to improve the DOH SCLM in order to increase efficiency in health service delivery and improve access to medicines.

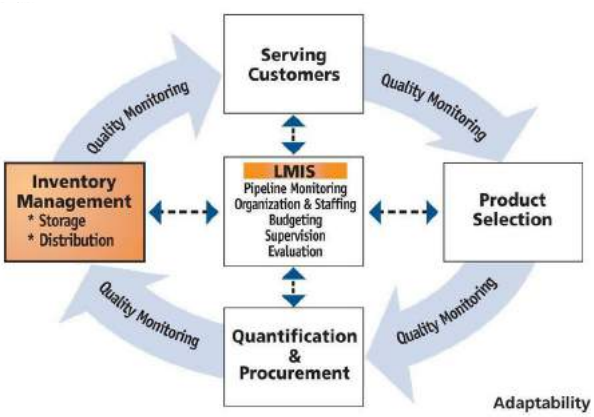
METHODS

Desk review, literature review, and key informant interviews were utilized to identify the gaps in the DOH SCLM process based on the logistics cycle developed by the United States Agency for International Development (USAID). Secondary data were lifted from previous studies conducted on DOH SCLM by USAID and European Union (EU), as well as from the Logistics Handbook of USAID.

RESULTS

- Minimal authority was given to DOH-Logistics Management Division (LMD) in terms of serving the customers, product selection, quantification and procurement stages as they relied mostly on the decisions of the program managers.
- The absence of a absence of a fully functional logistics management information system (LMIS) affects the whole SCLM system in the following:
  - No consumption data is being captured which causes the Department to rely on historical data for planning and forecasting.
  - Logistics reports were done on a manual basis which further delays delivery of commodities and hampers efficient supply chain operations.
- Challenges in inventory management shows inadequate warehouse capacity both at the central office and the service delivery points which resulted to congestion, overstocking, rejections and even delayed payments.
- Cross-cutting issues include poor communication between stakeholders of the SCLM and lack of capacity building activities for the SCLM frontliners handling the actual logistics operations of the Department.

These gaps were identified based on the logistics cycle developed by USAID (see figure below).



SOURCE. USAID The Logistics Handbook

CONCLUSION

Gaps were found in all stages of the SCLM; however, majority of the bottlenecks identified involved weak leadership and governance in the logistics system. This included the poor coordination and communication among Bureaus involved in SCLM and the absence of appropriate high level management authority to harmonize and govern the whole process. Related to this was the inadequate competency of supply chain health workforce. Operational gaps also existed in major logistics management components such as on inventory management and LMIS. A large part of the operational gap lay on inadequate storage spaces and the functionality of the existing LMIS which led to the absence of consumption data and poor acceptability of LMIS by end users. Overall, these identified bottlenecks contributed to inefficient planning, distribution, and utilization of health related resources.

RECOMMENDATIONS

- A Supply Chain Management Unit (SCMU) can be established to guide and harmonize the SCLM process in DOH and address governance concerns. This unit shall develop national guidelines on health supply chain management, detailing the procurement and distribution arrangements appropriate to the country.
- Adequate and competent logistics staff shall be ensured and shall be provided with appropriate SCM trainings and other capacity building activities.
- A strong supply chain management information system (SCMIS) shall support SCMU decisions. This SCMIS shall generate real-time consumption data and provide accurate reports as basis for procurement planning and forecasting. It shall also harmonize Local Government Units (LGU) and DOH data to provide information on stock levels across the supply chain nationwide.
- Private sectors can also be engaged to empower the supply chain system and its functions, such as warehousing that can also be outsourced in order to reduce the burden and operational costs on the side of DOH.

REFERENCES

Anane, S., Annan, J., Manso, J.F. (2013). Assessment of Logistics Management in Ghana Health Service. Retrieved from: file:///C:/Users/Administrator/Downloads/Assessment%20of%20Logistics%20Management%20in%20Ghana.pdf

Bem, Julia, Ariella Bock, Thomas Char, and Abdourahmane Diallo. (2014). Philippines Department of Health Distribution Assessment and Management Information and MIS Review: Exploratory Visits for Determination of Next Steps. Arlington, Va.: USAID | DELIVER PROJECT, Task Order 4.

Department of Health. (2018). Consultative Meeting with Regional Directors, Program Manager, and Supply Officers on Warehousing and Logistics Management. [Minutes of the Meeting]

Donato et al. (2016, November). Strong Supply Chains Transform Public Health. ADB Briefs. Issue No. 72.

Esteban, C. (2018, March 19). [Personal interview].

Jimenez, R. (2018).Basic Logistics Concepts, Warehousing Practices. [Powerpoint Presentation].

JSI. (2016, July). Getting Products to People: How Private Sector Solutions Can Strengthen Supply Chains for Public Health. John Snow, Inc & JSI Research & Training Institute, Inc. Retrieved from: http://www.jsi.com/JSIInternet/Inc/Common/_download_pub.cfm?id=17169&lid=3

(n.a.). (1999). Executive Order No. 102: Redirection the Functions and Operations of the Department of Health: Monograph. Philippines.

(n.a.). (2004). Executive Order No. 366: Directing a Strategic Review of the Operations and Organizations of the Executive Branch and Providing Options and Incentives for Government Employees: Who may be Affected by the Rationalization of the Functions and Agencies of the Executive Branch: Highlights. Philippines.

Onyancha, D.O. (2015). Effects of Devolution on Kenya Medical Supplies Authority's Supply Chain Management. Retrieved from: http://usiuservicedesk.usiu.ac.ke/bitstream/handle/11732/652/DOUGLAS%20ONYANCHA%20MBA%202015.pdf?sequence=4&isAllowed=y

United States Agency for International Development [USAID]. (2010). Logistics Management Units: What, Why, and How of the Central Coordination of Supply Chain Management. USAID | Deliver Project. Retrieved from: http://apps.who.int/medicinedocs/en/d/Js21870en/

United States Agency for International Development [USAID] | DELIVER PROJECT, Task Order 1. (2011). The Logistics Handbook: A Practical Guide for the Supply Chain Management of Health Commodities. Arlington, Va.: USAID | DELIVER PROJECT, Task Order 1.

United States Agency for International Development [USAID]. (2015). Philippines Department of Health Distribution Assessment and Management Information System Review: Exploratory Visits for Determination of Next Steps. Retrieved https://www.jsi.com/JSIInternet/Inc/Common/_download_pub.cfm?id=16844&lid=3

United States Agency for International Development [USAID]. (2016). Deliver Project: Final Country Report: Rwanda. Retrieved from: http://deliver.jsi.com/wp-content/uploads/2016/12/FinaCounRepo_RW.pdf

World Food Programme. (2018). Logistics Cluster. Retrieved from: http://www1.wfp.org/logistics-cluster

Patient cost analysis of tuberculosis patients in Cavite province in the Philippines, including an assessment of the proportion of households experiencing catastrophic costs

E Tomeny[1], VL Mendoza[2], DB Marcelo[2], AJD Barrameda[2], I Langley[1], JM Abong[2], VB Dalay[2], CY Yu[2], B Squire[1]
[1]Collaboration for Applied Health Research & Delivery, Liverpool School of Tropical Medicine, [2]De La Salle Health Sciences Institute

BACKGROUND

Patients with tuberculosis (TB) often incur significant costs related to their diagnosis and treatment; costs relating to transport, food, diagnostic tests and consultation fees, and also loss of earnings. Worldwide, the greatest burden of TB is suffered by the poor and high treatment costs are known to greatly affect drop-out rate. The World Health Organization's (WHO) Global End TB Strategy has a 2020 target of reducing to zero the number of TB-affected families facing catastrophic costs due to TB. Only by fully understanding the origin, drivers, trends and extent of these patient costs can steps be made to effectively curtail them.

MAIN THESIS QUESTIONS

The study aimed to: firstly, evaluate the costs incurred by TB patients in Cavite; secondly, determine how many TB-affected households face Catastrophic Costs; and finally to understand the mechanisms that patients use to cope with the financial burden.

METHODS

RESULTS

The estimated mean cost incurred by DS patients was 16,814 ($316 USD) and for MDR-TB 123,319 ($2318 USD)

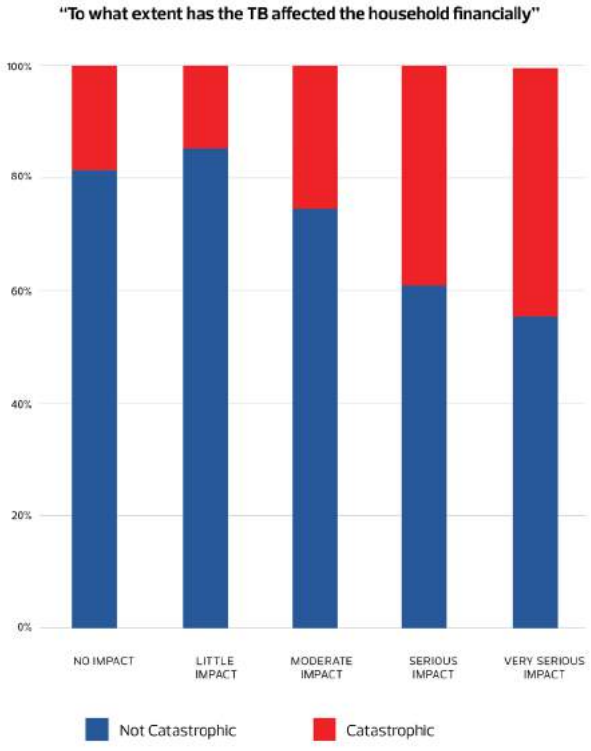


FIGURE 1. PATIENT PERCEIVED FINANCIAL IMPACT OF TB SPLIT OUT BY WHETHER THEY SUFFERED CATASTROPHIC COST

TABLE 1. MEAN BREAKDOWN OF COSTS INCURRED BY TB PATIENTS IN CAVITE, N=194, 2016.

Source of Costs1 (in P)		**All Patients**		**With Catastrophic Costs**		**Without Catastrophic Costs**	
		DS patients n=169	**DR patients n=25**	**DS patients n=77 (46%)**	**DR patients n=22 (80%)**	**DS patients n=92 (94%)**	**DR patients n=3 (12%)**
Direct non-medical	Travel	1090 6%	24257 20%	1411 5%	27978 19%	967 7%	9370 25%
	Food while traveling	127 1%	3652 3%	90 0.4%	4053 3%	141 1.1%	2051 6%
	Accommodation	41 0.2%	1814 1%	149 0.6%	2268 2%	0 0.0%	0 0%
	Nutritional Supplements	5135 31%	18008 15%	6668 26%	20669 14%	4544 34%	7361 20%
Direct medical	All out-of-pocket medical costs	3471 21%	3081 2%	7450 29%	2573 2%	1938 14%	5117 14%
Indirect	Hourly lost x hourly wage	6949 21%	72605 59%	9914 39%	67410 60%	9914 39%	87410 60%
All Costs		36814 100%	123319 100%	25682 100%	144951 100%	13398 100%	36792 100%

7% of patients sold assets due to illness, and half of these had been providing income, at times more in one month than the asset was sold for

37% of patients had used savings to cover costs, with the mean spend in $133

36% of patients borrowed money (mean $103), with 70% expected to pay it back.

40% of patients stated that they were accompanied, however only 12% of these 'accompaniers' lost income.

45% of people reported losing work from their illness, however 60% of these were working in informal sector.

5% had been hospitalised, incurring large OOP costs.

Only 10% of patients received money through any type of insurance, with the mean amount being $18.

CONCLUSION

- Indirect costs make-up at least a third of the total costs for both DS and MDR-TB patients
- Nutritional supplements (in addition to usual meals) make up approximately 1/4 of out-of-pocket (OOP) expenses.
- 58% used 'coping mechanisms' to deal with financial challenges of TB.
- Catastrophic costs were suffered by 80% of DR and 46% of DS patients
- Catastrophic Cost likelihood increases in line with patients' perceived economic impact of disease.

RECOMMENDATIONS

This study demonstrates the significant economic burden of TB to patients in Cavite. This burden is likely to present a barrier in terms of both access and adherence, which may significantly affect health outcomes and increase risk of transmission of disease. With 80% of MDR-TB patients experiencing catastrophic costs, swift rollout of the shorter 9-month regimen for MDR-TB treatment would be highly financially beneficial for patients. Furthermore, there remain large medical costs for patients diagnosed with TB, making up one third of all money spent by DS patients considered catastrophic. The Department of Health - National Tuberculosis Program (DOH-NTP) or other local government units could consider enhancing support to hospitalised DS patients since currently only MDR-TB related hospitalisations are fully covered by the programme.

An Evaluation of a Coordinated Referral System to Improve Maternal Outcomes in Legazpi City, Albay

MSFS Cagayan, MD[1], RM Ang-Bon, MD[2], E Llamas-Clark, MD[1]
[1] Department of Obstetrics and Gynecology, UP-PGH Medical Center, [2] Department of Health Region V Philippines

INTRODUCTION

The three delays that contribute to poor maternal outcomes are attributed to the following: 1) delay in decision to seek care 2) delay in reaching care and 3) delay in receiving adequate care (Maine, 1997). Substantial reductions in maternal mortality and severe morbidity are impossible to achieve without an effective referral system for complicated cases (Murray 2006).

To respond to the need of reducing maternal deaths, each province has recognized the benefits to set up a coordinated referral system as an intervention. In Region V (Bicol region), for example, Albay has an established Interlocal Health Zone (ILHZ) Service Delivery Network guideline which took effect in 2014. Despite this move and the presence of national guidelines and policies, the Bicol provinces remain to have a high MMR. The region registered 141 maternal deaths in 2015 with a maternal mortality rate of 123 per 100,000 livebirths. Masbate (27.15) reported the highest MMR followed by Albay (24.52) and then Camarines Sur (21.89). Overall, Albay reported 28 maternal deaths in 2015 and 26 in 2016. Legazpi, a class 1 municipality and the capital of Albay reported 1 death in 2016 (DOH Region V Reports 2015 and 2016). Since the establishment of these SDN guidelines and policies in Albay in 2014, no actual monitoring and assessment of compliance and effectiveness has ever been done in the province of Albay and in Legazpi City in particular. This research aims to evaluate if the maternal referral system in Legazpi, Albay is effective in improving maternal outcomes.

This study intends to provide answers to the following questions: Is there a coordinated referral system in place? Do health workers comply with the referral policies and guidelines? And, what are the different types of pregnancy-related complications and outcomes referred from the community level to the provincial/regional hospital?

METHODS

After approval from the UPM Research Ethics Board, a mixed method approach using descriptive cross-sectional survey and qualitative interviews in 8 (4 public and 4 private) health facilities involved in maternal health in Legazpi city was utilized. Number of deliveries, referrals and mortality rate, as well as causes and outcomes of referrals from January 2016 to June 2018 were determined for each facility. Qualitative interviews with key informants were conducted to capture provider and patient practices, attitudes, and perceived barriers and facilitators.

RESULTS

Legazpi belongs to the second of 3 interlocal health districts of Albay. It has 13 community health level facilities, 4 public (3 BEmONC) and 11 (1 BEmONC) private lying in centers, 3 CEmONC private tertiary hospitals and 1 CEmONC government hospital which is the Bicol Regional Teaching and Training Hospital (BRTTH) (Figure 1). All 4 public lying in centers were included in the study. Four private lying in centers which provided consent were chosen via simple random selection and were included in the study.

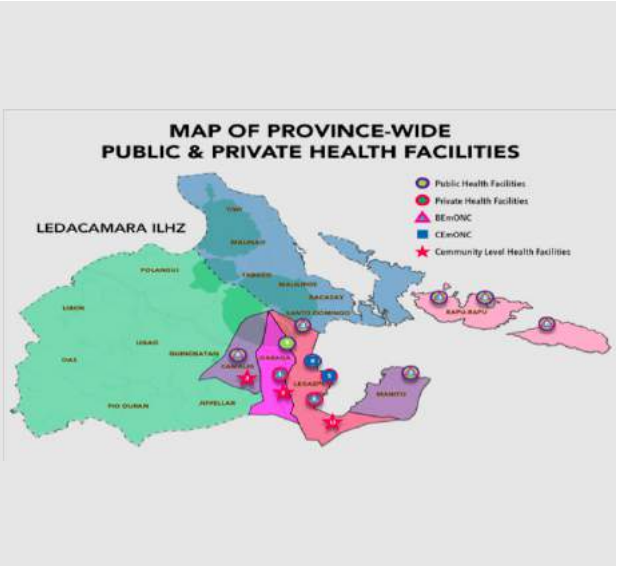


FIGURE 1. MAP OF PUBLIC AND PRIVATE HEALTH FACILITIES IN ALBAY

A signed Service Delivery Network guideline has been in place in the province of Albay since 2014 with an updated version in January 2017. Seventeen health workers (2 DOH officers, 1 NGO, 2 Provincial Health Officers and 12 City health workers) were interviewed. All interviewees were aware that there is a referral guideline and said guideline is available in all centers evaluated.

Figure 2 shows the process of referral from the community level to the tertiary hospital in Legazpi.

Table 1 shows the number of deliveries, referrals and percent acceptance of referrals in the 8 lying in centers from Jan 2016–June 2018. Seventy percent of deliveries (2323/3317 deliveries) were in the private facilities. Out of the 429 referrals, 56% (242/429) came from the public facilities. All referrals were accepted by the tertiary hospitals which were either BRTTH or Ago Hospital.

FIGURE 2. SDN REFERRAL FLOW

TABLE 1. NUMBER OF DELIVERIES, REFERRALS AND PERCENT ACCEPTANCE OF REFERRALS FROM JAN 2016–JUNE 2018

Facility	Jan–Dec 2016			Jan–Dec 2017			Jan–June 2018		
	No. of Deliveries	No. of Referrals	Percent Acceptance	No. of Deliveries	No. of Referrals	Percent Acceptance	No. of Deliveries	No. of Referrals	Percent Acceptance
A pvt	168	19	100	172	22	100	116	10	100
B pub	36	10	100	89	52	100	45	18	100
C pvt	337	56	100	295	45	100	138	17	100
D pub	129	9	100	130	29	100	53	7	100
E pub	95	19	100	62	13	100	16	1	100
F pvt	304	4	100	315	2	100	151	4	100
G pvt	ND	ND	100	190	0	100	140	3	100
H pub	175	33	100	115	40	100	46	10	100
Total	1244	156		1368	203		705	70	

The top 3 indications for referrals are elevated BP, primigravida, prolonged labor (Figure 3). There was note of 1 mortality during the study period (April 2018) however case has not yet been audited. This was a case of a 35 yo G3P2 (2002) term patient who was transferred from a private lying in facility after several hours of labor watch to a private hospital per patient's request and died in the hospital after 2 weeks due to respiratory and cardiac complications.

Problems in the referral system as identified by interviewees include understaffing and absence of regular skills training of health personnel (17/17), presence of only 1 functional ambulance servicing the area (9/17), lack of proper communication between facilities (12/17), incomplete entries on referral and feedback forms (10/17) and factions between public and private midwives (14/17).

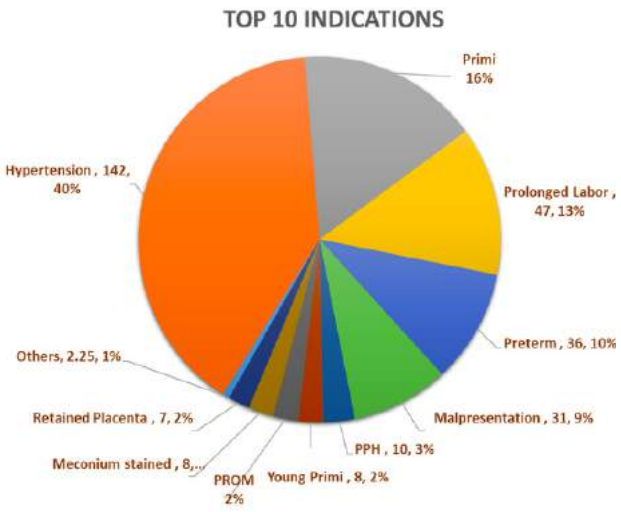


FIGURE 3. INDICATIONS FOR REFERRALS

CONCLUSION AND RECOMMENDATION

The referral system for pregnancy-related complications in Legazpi City was found to be generally effective but can still be improved. Areas for improvement include transportation, communication and documentation. Regular supervised monitoring, audits and continuing training and reminders to health personnel of referral policies should be done.

REFERENCES

DOH Region V Reports 2015 and 2016

Health systems. (n.d.). Retrieved September 04, 2017, from http://www.who.int/healthsystems/en/

Hussein, J., Kanguru, L., Astin, M., & Munjanja, S. (2012). The Effectiveness of Emergency Obstetric Referral Interventions in Developing Country Settings: A Systematic Review. PLoS Medicine,9(7). doi:10.1371/journal.pmed.1001264

Maine D., et al. (1997). Guidelines for monitoring the availability and use of obstetric services. New York: UNICEF.

Mafuta, E. M., Dieleman, M. A., Hogema, L. M., Khomba, P. N., Zioko, F. M., Kayembe, P. K., . . . Mambu, T. N. (2015). Social accountability for maternal health services in Muanda and Bolenge Health Zones, Democratic Republic of Congo: a situation analysis. BMC Health Services Research,15(1). doi:10.1186/s12913-015-1176-6

Murray, S. F., & Pearson, S. C. (2006). Maternity referral systems in developing countries: Current knowledge and future research needs. Social Science & Medicine,62(9), 2205-2215. doi:10.1016/j.socscimed.2005.10.025

The WHO Health Systems Framework. (n.d.). Retrieved September 04, 2017, from http://www.wpro.who.int/health_services/health_systems_framework/en/

Establishing a Regional Interoperability Lab as a Tool for Better Digital Health Implementations

PC Zuniga, RA Zuniga, AA Cariaga, MJ Mendoza, R Dang-awan, P Gasmen, RJ Fernandez, A Marcelo, RF Sarmiento, KC Pascual, C Orjalo
Standards and Interoperability Lab - Asia (SIL-Asia)

BACKGROUND

The Asia eHealth Information Network (AeHIN) promotes better use of information communication technology (ICT) to achieve better health through peer-to-peer assistance and knowledge sharing and learning through a regional approach for greater country-level impacts across South and Southeast Asia.

AeHIN maintains that better health can be achieved by strengthening evidence-based policies and health systems through better quality and timely health information systems (HIS) and civil registration and vital statistics (CRVS). AeHIN further asserts the role of ICT for health (eHealth) as an enabler to improve the flow of information, through electronic means, to support the delivery of quality and equitable health care services and management of health systems.

To achieve its goals, one of the strategic areas of AeHIN is the promotion of standards and interoperability within and across countries. In 2016, AeHIN, with funding support from the Asian Development Bank (ADB), established the Standards and Interoperability Lab - Asia (SIL-Asia) to support digital health implementations in the region.

MAIN THESIS QUESTION

SIL-Asia, a regional interoperability lab, focuses on promoting standards and interoperability to support better digital health implementations.

The detailed objectives of SIL-Asia are as follows:

1. Set up a virtual in-country eHealth infrastructure that illustrates how standards and interoperability can be obtained;
2. Provide training to countries and organizations on technologies related to digital health; and
3. Conduct interoperability, conformance, and compliance tests to various software (and provide certification if authorized).

SIL-Asia provides technical and capacity-building support to countries in making their healthcare systems and applications interoperable through international standards and emerging technologies.

METHODS

To promote standards and interoperability in the region, SIL-Asia offers four core services to countries:

1. Training: Countries can go to SIL-Asia for training and workshops on standards and interoperability. The lab is actively engaging with the IHE, FHIR, and Blockchain experts to become a center of excellence in various health standards and technologies.
2. Teaming: Countries can start building their in-country interoperability lab by partnering with SIL-Asia. With a regional perspective, the lab provides technical and capacity-building support in setting-up a country's interoperability lab.
3. Tooling: Countries can use the tools developed by SIL-Asia for their digital health implementations. The lab is in the works of developing artifacts, such as technology benchmarking frameworks, interoperability toolkit, implementation guide, etc to help countries in their digital health implementations.
4. Testing: Countries can also go to SIL-Asia to test and certify their healthcare systems for interoperability purposes. The lab can assist in conducting interoperability tests and providing certifications.

RESULTS

Currently, SIL-Asia works on several activities with the goal of promoting the importance of interoperability to different digital health stakeholders. The major activities of SIL-Asia in 2018 are as follows:

1. Support to Viet Nam in their Digital Health Implementations: This includes providing expert advice in their EHR structure using the FHIR standards. SIL-Asia is also helping Viet Nam set-up an in-country interoperability lab;

2. Support to the Philippine Primary Care Studies (PPCS): SIL-Asia is providing support to the PPCS by assisting in the development of the EMR and integrating the EMR with the various software in the locality; and

3. Development of an Immunization Demo: This makes use of IHE - XDS architecture, FHIR standard, and Blockchain.

CONCLUSION

SIL-Asia supports the achievement and measurement of universal health coverage (UHC) through the use of information and communications technology (ICT).

Making healthcare systems standards-based and interoperable is critical in integrating data and information at the level of the patient, the health facility, and the whole health sector.

SIL-Asia believes that this will pave way for evidence-based decision making and thus, grounded health interventions that will contribute to good health and well-being of the patients.

With a dedicated team of interoperability experts and an advanced pool of technologies, SIL-Asia provides a collaborative environment for countries to design, develop, and test interoperable systems and applications in the healthcare sector to promote continuity of care.

SIL-Asia enables a space for both the public and private sectors to reproduce healthcare systems and applications. This serves as the groundwork for countries to evaluate the quality of data exchange and interaction among systems and applications before placing them in real-life settings.

RECOMMENDATIONS

Based on several expert meetings with IHE and FHIR partners, it is recommended that the SIL-Asia undergo the following:

1. Collaborate with worldwide digital health experts to be capacitated as the regional interoperability lab in Asia; and
2. Co-create solutions with countries on how to address their healthcare interoperability problems

Assessment of the integration of nutrition and nutrition-related interventions to the MNCHN Program:
a case study of two 4th class municipalities in the Philippines

ME Silva[1], C Canila[1], M Balisi[2], A Alterado[2]
[1]Department of Health Policy and Administration, University of the Philippines Manila, Philippines
[2]Zuellig Family Foundation, Paranaque, Philippines

BACKGROUND

In 2016, the Philippines adopted the 1st 1000 Days Framework. Further, the Sustainable Development Goals included nutrition indicators for children. These global and national policy developments complemented the Philippines' current Maternal, Newborn, and Child Health and Nutrition (MNCHN) policy. Introduced in 2008, the DOH's Family Health Office oversees policy development of Maternal and Child Health (MCH) programs, while the National Nutrition Council (NNC) provides oversight on the implementation of nutrition programs for children under five years old. Ideally, nutrition and nutrition-sensitive interventions are integrated into the MNCHN program being implemented at the local level.

MAIN THESIS QUESTION

There was insufficient evidence on the immediate effects and impact of the implementation of the integration of nutrition and nutrition-sensitive interventions into the MNCHN program. This study sought to assess the design and implementation of the integrated MNCHN programs at the municipality-level, particularly its nutrition and nutrition-sensitive components.

METHODS

A case study approach employing a cross-sectional design was implemented in 4th class municipalities who previously participated in a local health leadership program. A series of Key informant interviews (KIIs) among various municipal and barangay leaders, officers and service providers was conducted. A series of Focus Group Discussions (FGD) among Barangay Health Workers (BHWs) and Barangay Nutrition Scholars (BNSs) was conducted as well. The cross-cutting themes of their responses were analyzed and triangulated.

RESULTS

- Results of the study indicate that both municipalities were focused on ensuring healthy outcomes for both pregnant mothers and their newborn. This was evident in the level of implementation of most MNCHN interventions, including nutrition and nutrition-sensitive interventions, in both LGUs. (Figure 1)

The nutrition-specific and nutrition-sensitive

MNCHN interventions with high participation rates among BHWs and BNSs

1. Health spot mapping
2. Weight and BP monitoring of pregnant women
3. Promotion of EBF, newborn screening, BCG and Hepa B birth dose immunization among pregnant women
4. One-on-one nutrition counselling for pregnant women
5. Newborn care, specifically promotion of EBF
6. Growth monitoring (1 month to 2 years)
7. Complimentary feeding (1 to 6 months)

FIGURE 1. MNCHN INTERVENTIONS WITH HIGH PARTICIPATION RATES AMONG BHWS AND BNSS.

- interventions within the MNCHN program have been waylaid to the sidelines
  - Most respondents had trouble recalling policies
  - that were specifically directed at improving the nutritional status of mothers, children, and the entire population.
  - An integrated municipal plan for nutrition and
  - the resources needed for its implementation was notably absent.
  - Mechanisms that integrate the nutrition and
  - nutrition-sensitive efforts into the MNCHN program were non-functional.
  - Efforts to dynamically tie the desired over-all
  - outcomes with the implementation of these programs were disconnected. (Figure 2)

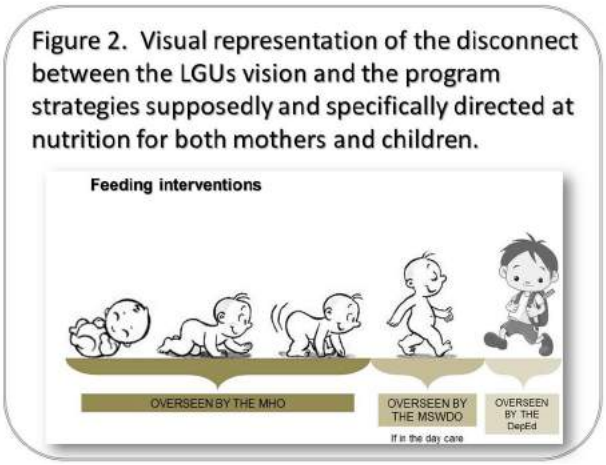


FIGURE 2. VISUAL REPRESENTATION OF THE DISCONNECT BETWEEN THE LGUS VISION AND THE PROGRAM STRATEGIES SUPPOSEDLY AND SPECIFICALLY DIRECTED AT NUTRITION FOR BOTH MOTHERS AND CHILDREN

CONCLUSION

Despite strong implementation of MNCHN program in the two municipalities, gaps in the integration of nutrition and nutrition-sensitive interventions in MNCHN efforts were observed. These gaps resulted in the inability of the local nutrition systems to address malnutrition in an integrated manner, including the strengthening and expanding local nutrition governance bodies, crafting of a local integrated, evidence-informed plan in nutrition and supporting an inter-sectoral service delivery and referral system.

RECOMMENDATIONS

Stakeholder	Recommendations
Local Chief Executive	1. Build, guide, and strengthen the Municipal Nutrition Council and Local Health Board 2. Organize a Municipal Nutrition Action Coordinating Office headed by the Municipal Nutrition Action Officer that will synchronize, coordinate the interventions and resources for nutrition by different offices (both private and public) 3. Review and adopt a sustainable funding mechanism, accompanied by the multi-sector, multi-year Municipal Nutrition Action Plan 4. Draft a human resource capacity development plan that will address their gaps on service and information provision on nutrition.
Municipal Nutrition Action Officer	1. Organize an evidence-based, participatory planning processes that create an implementable, multi-sector, multi-year Municipal Nutrition Action Plan with sustainable funding mechanism 2. Implement the social marketing strategies that will address behavioral changes among policy-makers, community leaders, service providers and families on nutrition. 3. Enhance the service provision on nutrition and implement it across life course
Barangay captain and barangay officials	1. Build, guide and strengthen Barangay Nutrition Councils and Barangay Health Board

The Provision of Adolescent Sexuality and Reproductive Health Services: Challenges to more Inclusive and Equitable Urban Health Governance

E Laguna, Dr.rer.pol, JN David, M Balisi
Demographic Research and Development Foundation, Inc. (DRDF) Zuellig Family Foundation (ZFF)

BACKGROUND

The prevalence of teenage pregnancy in the country, coupled with increasing level of sexual risk behaviors among adolescents found in recent national youth survey (i.e., 2013 YAFSS) had raised concerns among government officials, parents, educators, scholars, program managers and implementers regarding the welfare and wellbeing of contemporary Filipino adolescents and youth.

Results of studies on teenage pregnancy across different societies and settings show that:

- Several factors affect the pattern and trend in early childbearing
- Levels, patterns, and maybe even determinants of early pregnancy vary within and across regions and geographical units
- While a national policy on teenage pregnancy (and other public health concerns) may provide direction, it is on how local government units translate such national policies into programs and actions that could make a difference in ensuring that young people's reproductive and sexual health needs are addressed

RESEARCH QUESTION

- What accounts for the higher number of teenage births and sexually transmitted infections among young people in CLGP partner cities?
- What can be done to address the problem?

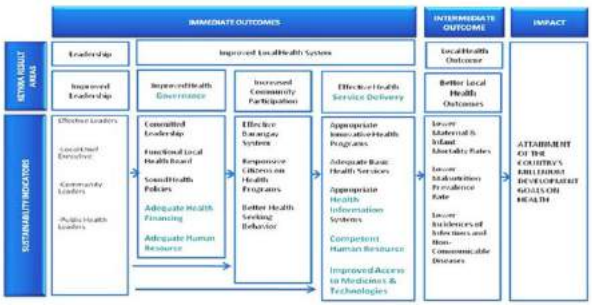
METHODOLOGY

Rapid assessment of two partner CLGP cities, Puerto Princesa and Cagayan de Oro.

- Desk review
- Key informant interviews
- Focus group discussions

THE HEALTH LEADERSHIP AND GOVERNANCE PROJECT

The Zuellig Family Foundation (ZFF) believes that a leadership and governance program could help local leaders address health concerns and allow them to innovate programs and policies that cater to the needs of their constituents. Using the Health Change Model as the key development strategy, local government executives are exposed to the idea of "Bridging Leadership" where they undergo transformative processes of self-realization, owning and embracing issues, engaging other stakeholders and directing them towards collective response.



RESULTS

Lessons and challenges from health governance initiatives on the provision of ASRH services

The experience of Puerto Princesa and Cagayan de Oro in health governance highlight interesting insights on scaling up provision of ASRH services to adolescents.

1. Political leadership is a major factor. The terms of office of both local chief executives were hampered with accusations of graft and corruption and dismissal from office. However, by having a strong health team, these crises did not affect implementation of programs. Both also benefit from reelection, thus, ensuring continuity of programs. A single term of office (3 years) may not be enough to measure the effect of health programs.

2. Strengthening health system particularly addressing human resource gaps is a good start for health governance.

3. Coordination with different agencies within the city government could lead to better results. In both cities, different agencies were clear about their roles and responsibilities. Between the two cities, however, CDO seems to have a better set up, especially with the special unit under the Office of the Mayor, the Community Improvement Division. This unit handles most of the special projects related to ASRH.

4. In the case of CDO, the integration of health concerns to other aspects of development, such as education provides a more holistic approach to the achievement of development goals. The city also has a clear vision of trickle-down health governance with the strengthening of barangay health teams and the Information Service Delivery Network.

5. Access to adolescent sexual and reproductive health services is limited to maternal health care. Both cities admit however that this is beyond their control as the law prohibits opening up ASRH services to adolescents. This limits programs to advocacy and information campaigns, which should be conducted in coordination with the Department of Education. In addition, there is still a big chunk of adolescent population that are not reach by the program, such as those in private schools and out-of-school youth. In Puerto Princesa, NGO partners have taken on the task of reaching out to other schools as well as communities that cannot be reached by the city government.

6. In both cities, there is limited effort to reach the male population, i.e., teenage fathers, or young males who are at risk of engaging in MsM. This is an area that the health governance program can focus on in the coming years.

Review of Legislation Impacting eHealth Practice in the Philippines

ERG Katalbas, MD
Medical Informatics Unit – UP College of Medicine

BACKGROUND

The 2005 World Health Assembly defined eHealth as "the cost-effective and secure use of information communication technologies (ICT) in support of health and health-related fields, including health-care services, health surveillance, health literature, and health education, knowledge, and research." This is similar to the proposed definition in the Philippine eHealth Services and Systems Act or the eHealth Act, which defines electronic health or eHealth as the "use of cost-effective and secure information communication technology for health."

In 2013, the Philippine eHealth Strategic Framework and Plan (PeHSFP) 2014-2017 was launched. Its main purpose was to describe how the national eHealth vision will be achieved to guide national coordination and collaboration, and to set clear direction and guidance to the ongoing and future eHealth activities in the country. The vision is that "by 2020, eHealth will enable widespread access to health care services, health information, and securely share and exchange patients' information in support [of] a safer, quality health care, more equitable and responsive health system for all Filipino people by transforming the way information is used to plan, manage, deliver, and monitor health services." Legislation, policy and compliance is one of the seven components of the PeHSFP. Legislation and policy is needed to address the following: (1) privacy and confidentiality with the transfer of information between healthcare workers and patients; (2) data quality and integrity as a basis for clinical and patient decision-making; (3) professional liability rules to accommodate care provided remotely or virtually; (4). procurement of eHealth tools; and (5) provisions on ensuring system interoperability.

MAIN THESIS QUESTION

What is the legal framework for the practice of eHealth in the Philippines?

Specific Objectives:

1. Review the current status of legislation on ehealth in the Philippines
2. List proposed ehealth legislation and assess if they address the gaps in the existing legal framework

METHODS

To identify relevant ehealth legislation, the following websites were reviewed in March 2018: (1) Official Gazette, the official journal of the Republic of the Philippines, where all important legislative acts and resolutions of public nature of the Congress of the Philippines are published; (2) Senate of the Philippines; and (3) House of Representatives. Additional website reviewed include The LawPhil Project, an Arellano Law Foundation initiative which serves as a databank of Philippines laws and jurisprudence. The following search terms were used on these websites: ehealth (also e-health, electronic health), telehealth, and telemedicine. Pertinent laws were reviewed individually to determine inclusion in this review. Several legal experts were consulted for applicable but not ehealth-specific legislation. Issuances and decisions made by the Executive and Judiciary branches of the government (ex. implementing rules and regulations, presidential decrees, executive/administrative orders etc) were excluded. Legislation included in the review were then classified into enacted and proposed. Clauses of the laws that were applicable to eHealth were analyzed as to how it affects the practice of eHealth in the Philippine setting.

RESULTS

Current status of legislation on ehealth in the Philippines

1. National Health Insurance Act of 1995 (Republic Act No. 9241) – This mandates the National Health Insurance Program to adapt to changes in medical technology.

2. Health Research and Development Act of 1998 (Republic Act No. 8503) – It mandated the establishment of the National Institutes of Health (NIH), one function of which is to organize teams and establish programs that will provide research and development innovations for the improvement of existing technologies, medicines, vaccines and other health products and instruments.

3. Electronic Commerce Act of 2000 or e-Commerce Act (Republic Act No. 8792) – This considers electronic data and/or documents as computer data. It recognizes the legality of electronic data messages, documents, and signatures, and considers digital records as valid as their paper counterparts.

4. Cybercrime Prevention Act of 2012 – The data used in health information systems such as PHRs, EMRs, EHRs, etc. are subject to this law.

5. Data Privacy Act of 2012 – This recognizes that any information on an individual's health is classified as Sensitive Personal Information (SPI). Therefore, all clauses on SPI are applicable to health data.

Proposed ehealth legislation

1. Electronic Medical Record Act of 2010 (Senate Bill No. 2516) – This proposes to require all medical service providers to create an EMR. However, its definition of EMR is not congruent with international definitions and it also limits medical service providers to physicians only.

2. Telehealth Act of 2012 (House Bill No. 6336) – This aims to establish a National Telehealth System that will govern the practice and development of telehealth in the country and encourages all healthcare providers to engage in telehealth.

3. Telehealth Act of 2014 (House Bill No. 4199) – This aims to recognize telehealth as a legitimate means by which an individual may receive health care services.

4. Telehealth Act (House Bill No. 5810) – This proposes that there should be a telehealth center in each and every hospital in the country. It limits the scope to hospitals even when telehealth is already being practiced in rural health units (e.g. use of RxBox in GIDAs).

5. Universal Health Coverage Act of 2018 (Senate Bill No. 1673) – It recognizes that health interventions may be delivered remotely through telecommunications and information technology. If passed alongside the eHealth Act, it will promote and encourage and utilization of telehealth and telemedicine services. This may especially benefit Filipinos who are living in the GIDAs who do not have ready access to face-to-face healthcare.

6. Philippine eHealth Systems and Services Act or eHealth Act (House Bill No. 7153) – The main purpose of this Act is to institutionalize eHealth to improve health outcomes for every Filipino. It aims to provide a policy framework and establish a National eHealth System that will direct and regulate the practice of eHealth in the Philippines. It is comprehensive and covers the different aspects of eHealth practice, including health informatics, telehealth, telemedicine, electronic learning or e-learning, electronic medical records, electronic health records, electronic prescription or e-prescription, virtual healthcare teams, mobile health or mHealth, social media for eHealth, Health Information Exchange, Knowledge Management System, and patient self-education about healthcare.

7. Mandatory Reporting of Notifiable Diseases and Health Events of Public Concern Act (Committee Report No. 599) – This is not applicable to direct patient care per se but focuses on the disease surveillance and response systems of the DOH.

CONCLUSION AND RECOMMENDATIONS

While there is currently no law that directly governs eHealth, there are several existing laws that can significantly impact its practice. One way to address this critical gap is a stronger push to pass the Philippine eHealth Systems and Services Act. If enacted, it will provide a comprehensive framework that will guide the practice of the different aspects of eHealth. The Universal Health Coverage Act will further strengthen the groundwork, especially for telehealth and telemedicine services. The other proposed bills such as the EMR Act and the different versions of the Telehealth Act could be revisited and revised to align their definitions, scope, and/or objectives with that of the eHealth Act. Similar laws addressing the other aspects of eHealth may later be developed to supplement the eHealth Act. Finally, a more tailor-fit law on the data privacy and security of medical information should be developed since health data is unique from all the other types of sensitive personal information.

Developing the guidelines on the use of electronic signatures in Electronic Medical Records in the Philippines

CMS Ballecer, RN
Medical Informatics Unit – University of the Philippines, College of Medicine (MIU-UPCM)

BACKGROUND

The use of Electronic Health Records requires healthcare providers to use electronic signatures. Electronic signatures reveal the identity of the healthcare professional, the intent in performing a certain action and the integrity of medical data (Downing, 2013). The Philippines is one of the first countries to enact an E-Commerce Law. The RA 8792 or the Electronic Commerce Act of 2000 has given legal recognition to electronic signatures and electronic documents. With the Philippines fulfilling the eHealth agenda and achieve the eHealth vision indicated in the Philippine eHealth Strategic Framework and Plan, guidelines in electronic signatures and electronic record keeping should be established.

MAIN THESIS QUESTION

How can electronic signatures be properly used in electronic health records?

Specific Objectives:

1. Identify existing guidance on the use of electronic signatures for healthcare in the Philippines.
2. Provide a work flow process on the use of electronic signatures.
3. Make recommendations on the use of electronic signatures in electronic health records

METHODS

A Google search was conducted to find relevant available documents in the Philippines since 2000 which contained any of the following keywords: *electronic signature*, *digital signature*, *cryptography*, *health information security* and *electronic health records* since 2000. Additionally, email correspondence was sent to government agencies such as the Department of Trade and Industry, Department of Health and Food and Drug Administration for further leads.

RESULTS

Existing guidance on the use of electronic signatures for healthcare in the Philippines

Seven documents were included in this review: R.A 8792: *Electronic Commerce Act of 2000*, EO 810: *Institutionalizing the certification scheme for digital signatures and directing the application of digital signatures in e-Government services*, DTI DAO 10-09: *Prescribing rules governing the accreditation of certification authorities for digital signature*, DTI DAO 11-01: *Prescribing rules and guidelines for the implementation of Executive Order No. 810, Series of 2009, entitled "Institutionalizing the certification scheme for digital signatures and directing the application of digital signatures in e-Government services*, Senate Bill no. 2516: *Electronic Medical Records Act of 2010*, *A.O 2014-0034: Rules and Regulations on the Licensing of Establishments Engaged in the Manufacture, Conduct of Clinical Trial, Distribution, Importation, Exportation, and Retailing of Drug Products, and Issuance of Other Related Authorizations* and Joint A.O. No. 2016-0002: *Privacy Guidelines for the Implementation of the Philippine Health Information Exchange.*

Among the seven documents reviewed, no specific guidance has been provided regarding the use of electronic signatures for health care. These documents have a similarity in referencing RA 8792 or the Electronic Commerce Act of 2000 as the main law governing the use of electronic signatures in the Philippines.

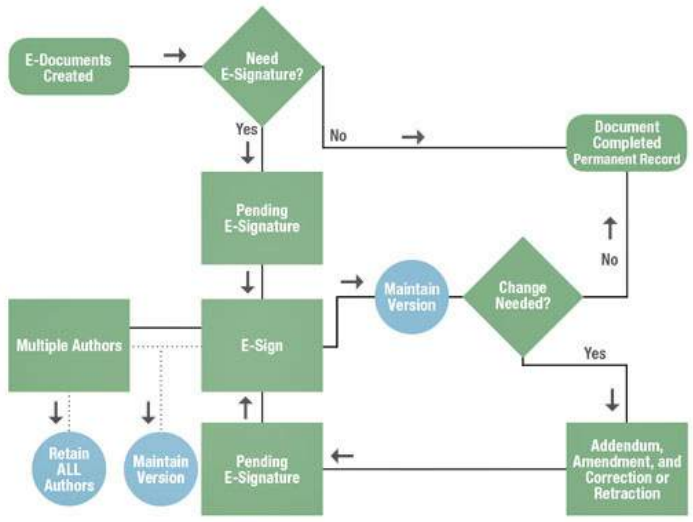


FIGURE 1. SUGGESTED WORKFLOW PROCESS FOR ELECTRONIC SIGNATURES ADOPTED FROM ELECTRONIC SIGNATURE, ATTESTATION, AND AUTHORSHIP (2013 UPDATE) BY KATHY DOWNING

Recommendations on the use of electronic signatures in electronic health records

The following recommendations are based on the Part 11 Title 21 of the Code of Federal Regulations of the US FDA, the Electronic Signatures and Trust Services guide by the United Kingdom and the guidelines established by the American Health Information Management Association.

A. To signify the intent of the electronic signature:

1. Electronic signatures should display the intent of the author. Some of the examples of the statements to signify the intent are as follows: *Generated by, Confirmed by, Reviewed by, Verified by & Approved by* (Downing, 2013)

B. To establish the identity of the individual:

1. Electronic signatures should be unique to each individual and cannot be shared with anyone else. Individuals who need to affix their electronic signature must enter credentials which meet complex password requirements. (Downing, 2013) (U.S Department of Health and Human Services & Food and Drug Administration, Aug 2003).
2. Individuals who need to affix their electronic signature must enter their credentials. (Downing, 2013) (U.S Department of Health and Human Services & Food and Drug Administration, Aug 2003).
3. Should an individual fail to perform any user activity with their accounts in ninety (90) days, the account should be disabled.

C. To maintain the integrity of the electronic signature:

1. Audit trails for each action performed must be present in the system. This should include a timestamp and the information of the individual who made changes in the records. (U.S Department of Health and Human Services & Food and Drug Administration, Aug 2003) (Electronic Signatures and Trust Services Guide, 2016) (Downing, 2013)
2. Once the electronic signature is affixed, an electronic seal will be created wherein no other actions can be made on the electronic document. Should there be a need to perform additional changes on the document, the electronic signature will then be removed and should be affixed once completed. (Downing, 2013)

Other recommendations are detailed in the full paper.

CONCLUSION

Health information retained and retrieved from Electronic Health Records are considered sensitive information. Establishing a set of guidelines in using electronic signatures will provide an additional layer of security to safeguard the integrity of the data and individual who affixed his/her signature.

"Balay Ni Nanay": A Culture Sensitive Birthing Facility Protocol For The Bag-O Tribe of Gregorio Del Pilar, Ilocos Sur

RC Bobis, MD, MPM
Municipal Health Office Of Gregorio Del Pilar, Ilocos Sur

BACKGROUND

In many developing countries, complications during pregnancy and childbirth leading to maternal mortality remain a big problem despite the interventions that are proven to stop this. Evidence shows that inadequate and poor quality maternal health care often results to high maternal, neonatal and child mortality rates (Carolli, 2001). As a result, the use of ANC and PNC are recognized as key maternal health services to improve health outcomes for women and children (Wagstaff, 2004). Understanding the factors that affect service utilization that helps to design appropriate strategies and policies towards improvement of service utilization, thereby, reduce probabilities of maternal mortality.

In the Philippines, utilization of maternal healthcare services is high at 94%; however, there is a disproportion between urban and rural areas with indigenous groups (Rogan, 2014). The National Capital Region accounts for the highest percentage of maternal health utilization with 97% ANC and 76% PNC utilization. In contrast, the community of Bag-o in the municipality of Gregorio del Pilar has a poor utilization and access to maternal health services. Antenatal care consultation is 54% in 2014, 42% in 2015 and 61% in 2016. All of these are below target which is 90%. Similarly, the rate of postpartum consultation does not meet the national standard (80%). Only 23%, 28%, and 36% of women utilizes postpartum care in 2014, 2015 and 2016, respectively.

The national government acknowledges that advocacy and awareness, behavioral change, identification of culturally sensitive and locally acceptable protocol contribute to the success of maternal programs. However, culturally responsive health strategies and protocols are still deficient. This leads to underutilization of health facilities and services that is available to them, ultimately, perpetuating the vicious cycle of ill-health and poverty.

MAIN THESIS QUESTION

This study aims to promote better access and utilization of maternal health services by the Bag-o tribe community in the Municipality of Gregorio del Pilar, Ilocos Sur. Specifically, the study aims to answer the following questions:

1. What are the socio-demographic characteristics of Bag-o Tribe in the Municipality of Gregorio del Pilar, Ilocos Sur?
2. What are the knowledge, attitudes and practices including preference components on birthing and newborn care of the Bag-o Tribe of Gregorio del Pilar, Ilocos Sur?
3. What are the factors influencing the knowledge, attitudes and practices including preference components on birthing and newborn care of the Bag-o Tribe?
4. What are the strategies in developing a culture sensitive birthing facility and protocol that will suit the culture Bag-o Tribe of Gregorio del Pilar, Ilocos Sur?

METHODS

A descriptive study design was conducted in Gregorio del Pilar, Ilocos Sur. The author did an extensive document review from the Municipal Health Office, Local Civil Registrar, and Municipal Planning and Development Office to evaluate the current state of maternal and infant health program implementation.
A total of 220 women from the Bag-o tribe were randomly selected for the study. Two sets of interviews were conducted. First, a guided interview was administered to the tribal community of Bag-o to determine the knowledge, attitudes and practices including preference components on birthing and newborn care and factors that encourages or hinders in their utilization of the maternal healthcare services in the municipality.

Second, a key informant interview and focused group discussion was done to reinforce the results from the survey. FDGs were composed of the tribal leaders and tribal elders. Complex phenomena such as

traditions, culture, behaviors and motivations that will emerge during the survey were explained through these activities.

Quantitative data coming from the document review and guided interviews was analyzed using descriptive statistics (frequencies, means, and standard deviations) in Microsoft Excel Application. Data collected through key informant interview and focused group discussions were analyzed using thematic analysis. Transcript from tape-recorded KII and FDGs were translated for coding and analysis.

RESULTS

The utilization of maternal health services by Bag-o Tribe in Gregorio del Pilar is poor. The percentage of mothers having more than 4 prenatal check-up is only 35% in 2015 and the number of postnatal mothers that are going back for their check-up is only 28%.

The Bag-o Tribe had a good amount of awareness about the maternal healthcare services provided by the Municipal Health Office. Most of the respondents also acknowledged that giving birth to a facility is important in preventing complications related to pregnancy (Table 1). However, there are Bag-o women who chose not to access maternal healthcare services.

The comparatively low perception of Bag-o women in the importance of maternal healthcare service observed is compounded by the perceived barriers related to the noted low utilization of maternal healthcare services in the local community. Majority of them are reluctant to access maternal healthcare from the health facility because of economic reason, distance of the facility and traditional beliefs.

Bag-o women felt uncomfortable with some of the protocol that is practiced in the RHU (Figure 1). They also fear that their traditional beliefs will not be allowed in the facility and suffer humiliation from health staff. The bag-o people are reluctant in utilizing formal health services because of lack of perception of poor quality of care, discriminating or condescending treatment by medical, embarrassment over being examined, and greater confidence in traditional healer.

TABLE 1. PERCENTAGE OF RESPONDENTS BY ATTITUDE TOWARDS PREGNANCY AND CHILDBIRTH

	Strongly disagree (1) / Disagree (2)	**Strongly agree (3) / Agree (3)**
I believe that every pregnancy is a risk	6.45%	93.55%
I think one can die when giving birth	32.36%	67.74%
I think that one can go well in pregnancy without any healthcare provider	93.55%	6.45%
I believe that somebody from the community will help me during birthing so I can just stay at home	12.90%	87.10%
If someone has had her last menstrual period, she should immediately go to the health center	87.10%	12.90%
I will seek for advice of a health professional once I missed my monthly menstrual period	80.65%	19.35%
I believe that having check up in a health facility will prevent birthing and newborn complications	10.8%	89.2%
I might be at greater risk of getting birthing complications if I do not have check up at the health center	74.19%	25.81%
I think i should go to the health center for checkup after giving birth	83.37%	32.36%
In my opinion, it is important to go to health center after giving birth	80.65%	19.35%

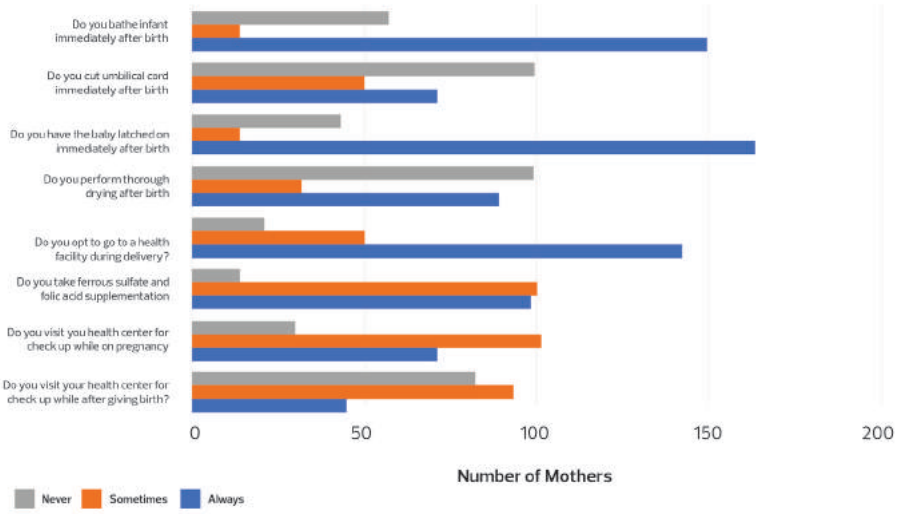


FIGURE 1. PERCENTAGE OF RESPONDENTS BY PRACTICES TOWARDS PREGNANCY AND CHILDBIRTH

In addition, low maternal health utilization in the Bag-o tribe can be attributed to the fact that they do not agree that ANC and PNC visit can prevent complications in pregnancy. Shiferaw (2013) acknowledged that one of the most significant explanations for not seeking maternal healthcare services was the belief that it is not essential and not customary.

CONCLUSIONS

Based on the finding of this study, the Bag-o tribe community has a fair knowledge and a generally positive perception on birthing and newborn care. Most of the respondents also acknowledged that giving birth to a facility is important in preventing complications related to pregnancy. However, it did not translate to good practice because majority still are reluctant to access maternal healthcare services available in the local health facility.

Socio-demographic and accessibility related factors were considered determinants of service utilization. Majority of the Bag-o women were from a lower financial rank, have poor knowledge of maternal health service, have no access to transportation and have faith in some traditional beliefs that hinders them in utilizing maternal healthcare services.

In general, the study findings show that the determinants of maternal health service utilization are multisectoral signifying a multisectoral approach should be involved for long term improvement in service access and utilization. Thus, changes in maternal health programs need to address such socio-cultural barriers for effective health care utilization.

RECOMMENDATIONS

For Local Health Unit and health workers

Maternal healthcare services should be tailored-fit to the client's need. A culturally sensitive birthing protocol for the Bag-o Tribe shall be developed. The local health unit should tap community organization in the formulation of guidelines in the birthing facility to guarantee that they are genuinely responsive and sensitive to the needs and culture of the Bag-o community in the study area.

In addition, it is imperative that community-based information be strengthened. Education and communication on the importance and availability of the services for all women at all parts of the study area is encouraged. Furthermore, cooperation of all stakeholders is necessary for the success of any programs that will be implemented to increase maternal health utilization in the study area.

For Local Government Unit

The local executives should be engaged in the legalization and operationalization of the Culture-sensitive birthing facility. There should be an ordinance or resolution adopting the protocol in the birthing facility of the health center. The local government should also address geographical barriers by providing transportation access to the members of the community or installing maternity halfway houses. Lastly, there should be interventions that integrate strategies minimizing expenditures of Bag-o community when seeking for appropriate healthcare services.

REFERENCES

Carroli G, Rooney C, Villar J. (2001). How effective is antenatal care in preventing maternal mortality and serious morbidity? An overview of the evidence. Paediatr Perinat Epidemiology 2001, 15(suppl 1):1–42.

Rogan, et. al, (2004). Factors affecting Maternal Health Utilization in the Philippines. 9th National Convention on Statistics (NCS) EDSA Shangri-La Hotel October 4-5, 2004

Wagstaff A, Claeson M. (2004). The Millennium Development Goals for Health: Rising to the Challenges. Washington, DC: The World Bank; 2004.

Safe In My Arms: Knowledge and Practices on Pregnancy and Childbirth Among Selected Women of Barangay Salong, Kabankalan City

KA Amar, JE Arroyo, A Barrredo, NG Briones, K Bustamante, TG Olmedo
University of St. La Salle – College of Medicine

BACKGROUND

Brgy. Salong, Kabankalan City, Negros Occidental is a one of the biggest barangays in Kabankalan City with a population of 8,060 covered by one barangay health station. According to the Negros Provincial Health Office data of September 2017, Brgy. Salong has the highest maternal mortality rate.

MAIN THESIS QUESTION

- What bridged the gap between the conventional and traditional knowledge and practices on pregnancy and childbirth among respondents?
- This study aimed to understand the discrepancy between the statistical findings and official real world situations.
- This study aimed to understand the experiences in the real world that comprised culture on knowledge and practices among respondents.

METHODS

38 respondents were purposively selected to gather data on demographic profile and obstetrical profile. A research-made instrument utilizing 3 jurors for face validation was utilized and Cronbach's alpha for internal relationship was set at 0.07. The focus of researcher-made instrument were: (1) knowledge of respondents on contemporary and traditional maternal care and (2) practices of respondents on modern and traditional care including compliance to new practices. A 5-point likert scale was used for inferential data analysis. Statistical tools utilized were: (1) Kruskal Wallis (2) Mann-Whitney U test. Alpha level was set at 0.05. From the 38 respondents, 5 respondents were opportunistically chosen for an in-depth interview wherein social constructionism[1] was used for qualitative data. Categories and themes from the in-depth interview were constructed utilizing the Grounded Theory[2].

RESULTS

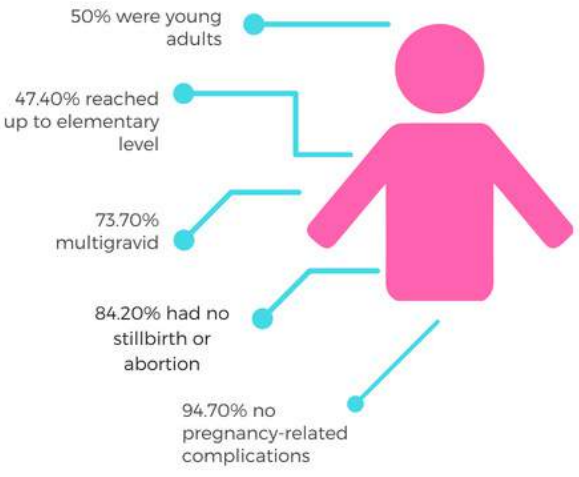


FIGURE 1. DEMOGRAPHIC AND OBSTETRICAL PROFILE OF RESPONDENTS

TABLE 1. KNOWLEDGE AND PRACTICES ON PREGNANCY AND CHILDBIRTH OF THE PARTICIPANTS

	Mean (M)	**Std. Deviation (SD)**	**Remarks**
Knowledge on Pregnancy and Childbirth	3.87	0.32	Excellent
Practices on Pregnancy and Childbirth	4.00	0.50	Excellent

N = 38

TABLE 2. KRUSKAL-WALLIS TESTS FOR THE KNOWLEDGE AND PRACTICES ON PREGNANCY AND CHILDBIRTH OF THE PARTICIPANTS WHEN GROUPED ACCORDING TO DEMOGRAPHIC AND OBSTETRICAL PROFILE

	Demographic Profile			**Obstetrical Profile**	
	Age	**Educational Attainment**	**Gravida**	**Complications**	**Stillbirth & Abortion**
Knowledge on Pregnancy and Childbirth	0.443	0.090	1.00	0.884	0.172
Practices on Pregnancy and Childbirth	0.697	0.054	0.778	0.169	0.645

N = 38
Asymptomatic significances are displayed. Level of signifance = 0.05

TABLE 3. MANN WHITNEY-U TEST FOR THE RELATIONSHIP BETWEEN THE KNOWLEDGE AND PRACTICES ON PREGNANCY AND CHILDBIRTH OF PARTICIPANTS

Variable		**Knowledge**	**Practices**
Knowledge	Correlation Coefficient (r.) Sig. 2-tallied (p) Total (N)	100 38	0.543 0.000 38
Practices	Correlation Coefficient (r.) Sig. 2-tallied (p) Total (N)	0.543 0.000 38	100 38

Correlation is significant at the 0.01 level (2-tallied).

Results of multiple data sources such as interview, observation, and documentation lead to generation of the following themes:

(1) Reflections: A Mothers' View of their Pregnancy, whereby mothers understand that pregnancy is the product of a man and woman's love and it is something that both of them wanted, and generally pregnancy is viewed as a positive experience for the family.

(2) Journey through Uncertainty: Changes and Risks for My Baby, whereby mothers believed that being pregnant is setting one foot on the ground and the other on the grave. Moreover, they are aware of the bodily changes that occur when they are pregnant.

(3) Tales of Culture: Beliefs and Tradition of A Filipino Mother, whereby mothers take culture as the most enduring among human knowledge and practices. Their overall perspective, understanding and compliance depend on their experiential learning lifted from generational and cultural beliefs. An example of this experiential belief is the practice of home-births, hilots to check fetal position as well as fulfilling food cravings to avoid spontaneous abortion. Mothers observe most of these practices because they have been effective for their community over time.

(4) Spectrum: The Over-all Wellbeing of Pregnant Mothers, whereby majority of the mothers find difficulty providing needs due to socioeconomic status causing emotional stresses and vulnerabilities.

A theory was generated through the observed disparities between the knowledge and the practices of mothers entitled Social Learning Theory. In this theory, it is assumed that there is a hierarchy with which knowledge is sifted before mothers overtly practice it (Figure 2).

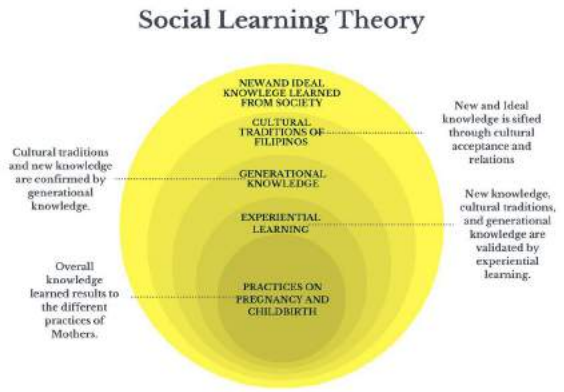


FIGURE 2. SOCIAL LEARNING THEORY PARADIGM

CONCLUSION

- Pregnancy-related complications, stillbirths and abortions were mostly seen among respondents with lower mean scores in terms of pregnancy and childbirth practices.
- Positive correlation between knowledge and practices implicates that the higher the knowledge of the participants on pregnancy and childbirth, the higher their practice is on such.
- Knowledge is only overtly practiced when it is coherent with their cultural traditions, generational beliefs and experience.
- Experiential learning bridges the gap between traditional and conventional practices of mothers through which culture is the most enduring form of knowledge.

RECOMMENDATIONS

- Formulate incentives for compliant mothers in their regular prenatal check-ups
- Facilitate travel expenses through allowances or compensations especially for indigenous and far-flung pregnant mothers that are beyond 2-hour walking distance to a health facility
- Integrate medical informatics to trained midwives or nurses that is accessible 24 hours for management of complications especially in rural areas where health care facility is inaccessible
- Collaborate with known hilots and palteras among the community in monitoring pregnancies, deliveries and possible risks

- Investigate on the process of delivery performed by palteras to identify possible health risks such as use of unsterile equipment and the like
- Selection of a health monitoring board or organization of a mothers group among community residents for identification of health risks detrimental to maternal and child health
- Integration of culturally-sensitive practices to ideal maternal practices for better compliance

FOOTNOTES

[1]Social constructionism is a sociological theory of knowledge wherein knowledge is examined through constructed understandings of the world that form the basis for shared assumptions about reality. It is founded on the premise that by reflecting on our experiences, we will be able to construct our won understanding of the world; creating a paradigm for our experiences

[2]Grounded Theory Approach is a systematic methodology in the social sciences which involves the construction of a theory through methodological analysis and gathering of data (Martin, 1986).

[3]To interpret the median scores, the following scoring system will be observed: "excellent knowledge/practice" if the median score falls between 3.68-5.00, "good knowledge/practice" if the median score falls betweem 2.34-3.67 and "poor knowledge/practice" if the median score falls between 1.00-2.33.

Using the Dimensions of Access Barriers Framework to Reduce Neonatal Deaths in Tagapul-an, Samar

TPJZ Capeding, MD, MPM
Development Academy of the Philippines – Graduate School of Public and Development Management

BACKGROUND

Tagapul-an, Samar - the farthest island of Samar Province, is a Geographically Isolated and Disadvantaged Area (GIDA) island municipality that has a high neonatal mortality rate at 23.8 neonatal deaths per 1,000 live births, almost double the national average. This high neonatal mortality rate is an indicator of poor health system performance. Neonatal death reviews of the recent cases revealed that delayed access to timely, appropriate care are the main preventable causes of neonatal mortalities on the island. Transportation difficulties are often cited by clients as the main reason for the difficulty in accessing health services, since only three of the fourteen barangays of Tagapul-an have roads leading to the health center; the rest of the barangays solely rely on boats for transportation. An action research was conducted to address the high number of neonatal mortalities, and the commonly expressed issue of difficulty accessing health services.

MAIN THESIS QUESTION

"What are the gaps in neonatal healthcare access and their possible interventions for Tagapul-an, Samar?"

Through community consultations, the action research aimed to identify gaps and possible interventions to improve neonatal healthcare access in Tagapul-an, Samar using the *dimensions of access barriers framework* (Jacobs *et al.*, 2011). Relevant stakeholders from the community led the design, implementation, and evaluation of identified solutions.

METHODS

The research framework was based on the Input, Process, Output, and Outcome model. Program-based data relevant to the Maternal, Newborn, Child Health and Nutrition (MNCHN) such as ANC4 (completion of four prenatal consults for each pregnancy) records, target client lists, and neonatal mortalities were gathered. Document analysis of works related to h*ealth access barriers* and *transportation affordability* were done to help guide the creation of activity designs for discussions and templates for focused group discussions (FGD) and key informant interviews (KII). Inputs from the community were documented through these FGDs and KIIs. Purposive sampling was done to select respondents for FGDs and the KIIs from health clients, health workers, and barangay captains, Convenience sampling was done for respondents representing the boatmen. Thematic analysis of responses from FGDs and KIIs using the d*imensions of access barriers* and *transportation affordability* concept was done. A comparative analysis based on the data sets of ANC4 from two timeframes: January-August 2016 (n=81) and January-August 2017 (n=80) was done to identify the performance gaps of the interventions. Outputs include statements of insights and issues related to healthcare access, community interventions and assessment of their performance gaps. Outcomes observed were changes in ANC4 performance, which was used as a proxy measure of access. Impact indicators, such as decreasing in neonatal mortality is the ultimate goal of the interventions. However, due to the fact that changes in these indicators do not show progress in short observational periods, the study was limited to monitoring outcome indicators.

RESULTS

Perceived gaps in healthcare access and proposed solutions

The respondents identified the following dimensions of access barriers that are present in Tagapul-an: *geographic accessibility,* which concerns the location of the service and the means to get there; *availability*, relates mainly on the presence of health services, competency and motivation of the staff; and acceptability, the congruency of expectations between providers and health clients, and local beliefs and practices. The only dimension not identified by respondents was the *affordability barrier*, which pertains to both the ability to pay of the clients, and the financing of services. Statements and insights regarding the access barriers were clustered, and organized into gaps and possible solutions in Table 1.

TABLE 1. CLUSTERING OF KEY INSIGHTS FROM FGDS AND KIIS

Access Gaps	Proposed Solutions	Actions Taken
Geographic Accessibility		
Health services can only be accessed by boat (D)	Expand services to barangay health stations	Regular, weekly provision of services at the BHS
Unable to access services during poor weather/monsoon seasons (S)	Circumferential road	Included circumferential road in Comprehensive Land Use Plan
Indirect costs to household (transportation affordability) (S)	Ridesharing, provision w of gas allowance	▪ MOA with Boat Service Providers ▪ Allotment of budget for gasoline
Availability		
Lack of motivation of BHWs (S)	Regular and standardized release of honorarium	Resolution on BHW Retention and Performance Management
Non-integration of MNCHN services in barangays (S)	Clear definition of BHW roles, performance monitoring	
Affordability		
None		
Acceptability		
Cultural preference (D)	Strengthen advocacy to dispel myths and misconceptions	▪ Include relevant topics in FDS ▪ Resolution on BHW Retention and Performance Management
Stigma (D)	Strengthen advocacy, information and education campaigns	
Lack of health awareness (D)	Close follow-ups by BHWs	

Type of barrier: **Demand-side** barrier (D), **Supply-side** barrier (S)

Acronyms: BHS – barangay health station, BHW – barangay health workers, FDS – family development sessions, MNCHN – maternal, newborn, child health and nutrition, MOA – memorandum of agreement

Design and Implementation of Solutions

- RHU-BHS Service: a boat procured and managed by the local health office, assigned for the sole use of health clients and health workers for each catchment area; implemented in one pilot catchment area, BHS Baquiw
- Brgy. Health Transport Service: each barangay has a designated health transport, primarily used to facilitate ridesharing practices among health clients to transport them to their assigned barangay health stations or to the main health center
- Expansion of Health Services to the BHS: regular, weekly maternal and neonatal care services are conducted in the barangay health stations
- Resolution on BHW Retention and Performance Management: a resolution implemented at the barangay level. The resolution sought to implement standardized and timely disbursement of honoraria for BHWs, as well as put in place performance monitoring mechanisms to be used by the barangay and the municipal health office. Implemented in thirteen out of the fourteen barangays.

Operational and performance gaps for the community identified health access solutions

- The combination of interventions chosen using the access barrier framework resulted in an overall increase of ANC4 completions from 32.1% in 2016 to 65% in 2017.
- Since majority of the interventions were focused on addressing issues related to transportation, the interventions possibly contributed to the larger increase of ANC4 completion for barangays using water transportation than for barangays that have land transportation options (Figure 1).

The interventions improved completion of antenatal follow-up (completion of the 2nd to 4th follow-up) but not did not affect the late detection of pregnancy (missed first trimester check-up); the two main causes of the incomplete ANC4. This could mean that

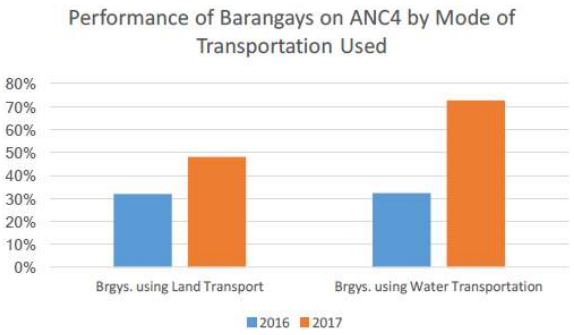


FIGURE 1. PERFORMANCE OF BARANGAY ON ANC4 BY MODE OF TRANSPORTATION USED

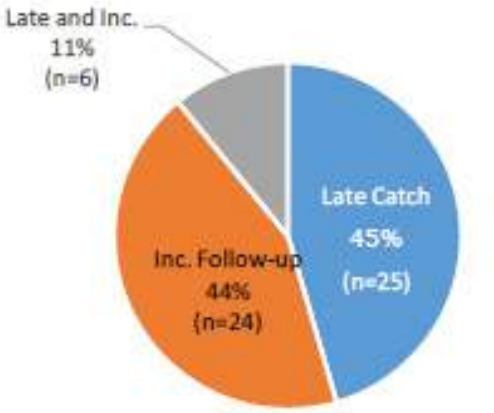
the current set of solutions address the difficulty in accessing prenatal services, rather than the late recognition of pregnancy, which has more to do with early referrals by BHWs or the ability or willingness of the mother to recognize the pregnancy signs.

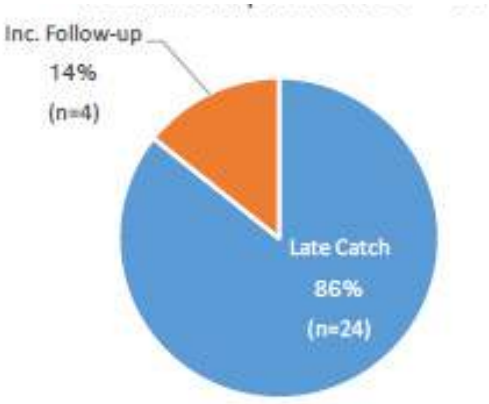
CONCLUSION

The combination of interventions chosen by the community had a positive effect on the chosen surrogate measures. This was made possible by identifying relevant issues guided by the dimensions of access barriers, and by choosing to address the identified concerns based on feasibility as perceived by the community.

One neonatal death was recorded in 2017. Unlike neonatal deaths in the past years where the patients died at home without being referred, 2017's neonatal death happened at the RHU. This is an illustration of the nature of public health interventions. Improving access alone does not instantly translate to improvement of health status.

Regular consultations made with stakeholders throughout the implementation of the initiatives helped better identify the operational gaps related





FIGURES 2 AND 3. DISTRIBUTION OF INCOMPLETE ANC FOR 2016 AND 2017
*Late catch: missed first trimester check-up, but completed the three remaining follow-ups
**Inc. follow-up: was able to have first trimester check-up, but was unable to complete the remaining follow-ups
***Late and inc.: missed first trimester check-up, was also unable to complete the three remaining follow-ups

to the projects. Discussing the data with stakeholders allowed policy makers to identify steps to improve implementation.

The breakdown of ANC4 data provided insights to where the interventions were most effective, and where the impact was limited.

RECOMMENDATIONS

Municipalities can use frameworks such as the one used in the study to evaluate programs or even improve specific areas of the local health system such as access. Local insights generated while using the frameworks are important in choosing which strategies are appropriate and feasible to the local setting.

Monitoring of community-based interventions, especially for novel projects and programs, is important for better recognition of operational gaps =to maximize their impact.

It should be emphasized to local health officers and other local policy makers that examination of data from program indicators such as ANC4, should not be limited to solely determining performance status, since disaggregation of local data may provide insights that would lead to better strategies to improve overall performance of programs.

Integration Of Mental Health Services In The Primary Health Care System In The Province Of Camiguin: A Program Evaluation

MRB Arellano-Bordado, MD, DPBP, FPPA, B Vicente, MD, FPPA, MHA, CESO IV
Department of Health National Center for Mental Health

DISCLOSURE: Funded by PCHRD
Acknowledgement: People with schizophrenia and bipolar affective disorders who participated in the study and families, DOH- National Program Management Committee on MH of the Special Concerns (Dr. Elmer Punzalan and Dr. Criselda Abesamis), Province of Camiguin (Governor Jurdin Jesus Romualdo, Provincial Health Office under Dr. Gretchen Cabalang, Marydel Credo and all LGUs), National Center for Mental Health, World Health Organization representatives (Dr. Helen Herrman, Dr. Tae-yong Hwang, Dr. Xiangdong Wang, Dr. Albert Miramis and Dr. Hervita Diatri), Dr. Cynthia Leynes, Ms. Karissa Loorin, RN and Ms, Marlyn Crisostomo, MH project leaders in Iloilo province, Albay province, Eastern Samar province and Negros Occidental province.
Conflict of interest: The primary investigator was involved in the initiation of the program.
Submitted to DOH HPDPB: 2017

BACKGROUND

According to the World Health Organization (WHO 2014), "mental health is an integral part of health and that there is no health without mental health."(1)

Mental and neurological disorders can be disabling (2, 3) and can cause death such as suicide (4, 5). However, in Camiguin province- Region X, Philippines, MH services to address these disorders were inaccessible and expensive. Together with other challenges, people with these disorders particularly chronic mental disorders such as schizophrenia and bipolar affective disorder lived without proper management and treatment.

In 2011, to address these concerns, the provincial health office of Camiguin Province initiated the integration of mental health services such as out-patient consultation, provision of psychotropic drugs and psychosocial rehabilitation programs in its primary health care (PHC) system.

GENERAL OBJECTIVE

This study aimed to describe the integration process of MH services in the PHC system of Camiguin province and assess the psychological, social and occupational functioning of people with schizophrenia and bipolar affective disorder undergoing their psychiatric treatment in the PHC units and those with a livelihood program.

METHODOLOGY

The program evaluation had 3 parts, first was a retrospective process evaluation of the integration of MH services in the PHC system of Camiguin in terms of the following indicators: provision of services, manpower, financial aspect, governance, monitoring and evaluation, problems and gaps and strengths.
The second and the third studies were experimental. The participants were people with schizophrenia and bipolar affective disorder receiving the following mental health services, outpatient consultation and provision of psychotropic medicines, at the PHC. The second was a study on the impact of the services while the third study evaluated the effects of a livelihood project. Both studies used the Global Assessment of Functioning (GAF) and the Personal and Social Performance (PSP) scales. The PSP measured dysfunction in 4 areas namely social useful activities, personal and social relationship, self-care and disturbing and aggressive behaviors.

For statistical analysis, Epi Info 7 was utilized to ensure accuracy. Baseline and end line GAF and PSP scores in each group were compared using paired T-test. A two-way Analysis of Variance (ANOVA) was run to examine the effects of group and time on GAF and PSP scores. Considering the limitation of a two way ANOVA, the results using Repeated Measures Analysis of Variance (RMANOVA) were also considered. The RMANOVA determined whether the variable group has an effect on GAF and PSP scores by time.

SIGNIFICANT FINDINGS

The study showed that the integration of MH services in the PHC system in Camiguin province was developed primarily to the address the insufficient MH services in the area. Results showed that after integration, the PHC provides outpatient consultation, psychotrophic medicines, home and jail visits, family support and psychosocial rehabilitation programs, for the financial aspect, each municipality allotted unequal amount for mental health, for governance, the integration was initiated and monitored by the provincial health

office, for the problems and gaps, there are strong traditional, cultural beliefs and public misconception regarding mental disorders, PHC workers' limited knowledge on MH and infrastructure for acute psychiatric care.

The strengths of integration of MH in the PHC system involved multiple trainings, continuous support and collaborations with other agencies, institutions and organizations and supervisions from MH professionals (Figure 1).

For the experimental studies, participants were selected from the 5 municipalities of Camiguin province (Table 1). Results showed that regular outpatient consultations and provision of free psychotropic medicines at the PHC slightly improved the GAF of persons with schizophrenia and bipolar affective disorder in 4 months, but not statistically significant in both control and intervention group. The studies also showed that after 4 months, the PSP scores showed lowered dysfunction for both control and intervention groups, however, participants in the intervention group (with livelihood program) had statistical significant lowering in the level of dysfunctions on self-care and disturbing and aggressive behavior than the control group compared to the baseline.

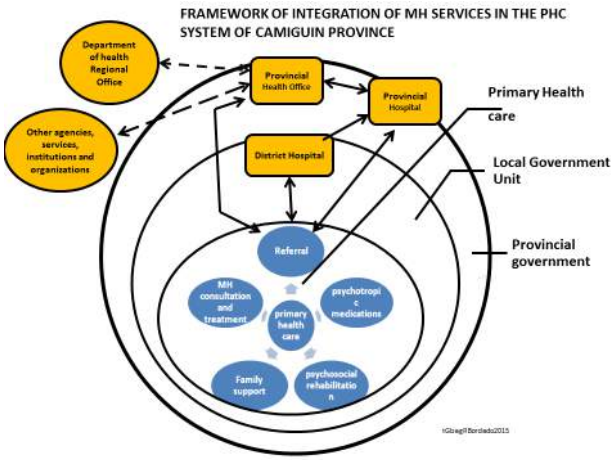


FIGURE 1. FRAMEWORK OF INTEGRATION OF MH SERVICES IN THE PHC SYSTEM OF CAMIGUIN PROVINCE

TABLE 1. SOCIOECONOMIC AND DEMOGRAPHIC CHARACTERISTICS OF PEOPLE WITH SCHIAOPHRENIA AND BIPOLAR DISORDERS WHO PARTICIPATED IN THE STUDIES

Characteristic	Control		Intervention		p-value
	No.	%	No.	%	
N	29		24		
Age					
Mean number (±SD)	41.17 (±9.28 SD)		38.12 (±9.34 SD)		0.241
Median (Min, Max)	42 (23, 59)		36 (22, 55)		
Sex					
Female	18	62.1	7	29.2	0.027
Male	11	37.9	17	70.8	
Barangay					
Catarman	8	27.6	8	33.3	0.853
Guinsilaban	5	17.2	2	8.3	
Mahinog	4	13.8	5	20.8	
Mambajao	6	20.7	4	16.7	
Sagay	6	20.7	5	20.8	
Marital Status					
Married	5	17.2	3	12.5	0.842
Single	23	79.3	21	87.5	
Widowed	1	3.4	-	-	
Occupation					
None	27	93.1	24	100.0	1.000
Laundry Woman	1	3.4	-	-	
Barker	1	3.4	-	-	

CONCLUSIONS

The study showed that integration of MH services in the primary health care (PHC) of Camiguin Province is beneficial to persons with schizophrenia and bipolar affective disorders living in the communities because consultation and psychotropic medications are accessible and affordable. The MH services improved their psychological, social and occupational functioning. It is also beneficial to their families because of the support coming from the PHC workers, and the integration trained the PHC in the management of people with schizophrenia and bipolar affective disorders.

RECOMMENDATIONS

Mental health services should be integrated in the primary health care service to improve the lives of persons with schizophrenia and bipolar affective disorders living in the community and their families and to assist the primary health care providers in delivering holistic health care.

The following are specific recommendations:

1. To overcome the fragmentation of services, there should be a structure of governance on MH, in Camiguin province, the provincial health office governs the integration and provision of services.
2. Separation of hospital based treatment and community based treatment with strategy on the continuance of care.
3. Develop standards for community MH services particularly integration of MH services in the PHC for people with schizophrenia and bipolar affective disorders
4. Development of Acute Psychiatric Units in general hospitals.
5. Amount and source of budget for the integration of MH services in the PHC must be indicated and defined.
6. Development of Clinical Practice Guidelines for managing schizophrenia and bipolar affective disorders for PHC workers.
7. Psychosocial rehabilitation programs should be included in the treatment of persons with schizophrenia and bipolar affective disorders
8. There should be continuous training and |supervision of PHC workers in providing outpatient consultation for people with schizophrenia and bipolar affective disorders.
9. The rights of persons with MH problems and disorders should be protected. People with schizophrenia and bipolar affective disorder should be included in the list of Persons with Disabilities (PWD) under psychosocial disabilities.
10. Mapping of MH services nationwide.
11. Encourage research and publication on MH
12. Develop monitoring and evaluation strategies of MH services

REFERENCES

World Health Organization (2014). Mental Health Strengthening our response, Fact sheet N'220. WHO August 2014

Murray, CJ. The Global burden of disease, a comprehensive assessment of mortality and disability from disease, injuries and risk factors in 1990 projected to 2020. WHO 1996.

World Health Organization (2003), What are the arguments for community based mental health care? WHO regional office of Europe 2003.

World Health Organization (2014). Regional Agenda for implementation of the Mental Health Action Plan (2013–2020) in the Western Pacific Region. WHO Western Pacific Region 2014

World Health Organization (1997). Quality Assurance in mental health care. WHO Geneva 1997.

Interim Report: Impact assessment of diagnostic tools and algorithms and tools for multi-drug resistant (MDR-TB) and drug sensitive tuberculosis (TB) in the Philippines (TB-FIT) (January 2018)

I Langley, E Tomeny, CY Yu
De La Salle Medical and Health Sciences Institute, Liverpool School of Tropical Medicine

BACKGROUND

With the onset of new tools and strategies for tuberculosis (TB) disease detection and diagnosis recommended by the World Health Organization (WHO), the country's National TB Program (NTP) will have a need to integrate these in the current TB diagnostic algorithm. However, there is a challenge on which diagnostic tools to implement, where to place them in the algorithm, and whether or not these are cost-effective.

OBJECTIVES

1. To develop a computer model of patient pathways for drug-susceptible TB and multidrug-resistant TB (MDR-TB) diagnosis that projects the impact on patients and health system of alternative diagnostic algorithms
2. To collate data from Cavite and use it in the developed model to determine the most cost-effective strategies for new TB diagnostics in Cavite.
3. To build sustainability in the modelling approach at the NTP and De La Salle Health Sciences Institute (DLSHSI) so relevant stakeholders can understand and use the approach to develop a strategy for all provinces in the Philippines

METHODS

An operational model (Virtual Implementation) to assess the impacts of different diagnostic algorithms for TB including currently available tools such as Xpert MTB/RIF and new tools such as Ultra and Omni (expected to become available later in 2018) has been developed.

To understand the impacts of new diagnostics from the patient and health system perspective detailed data were collected from six representative facilities across Cavite province and patients were interviewed about the cost impacts of the diagnostic process.

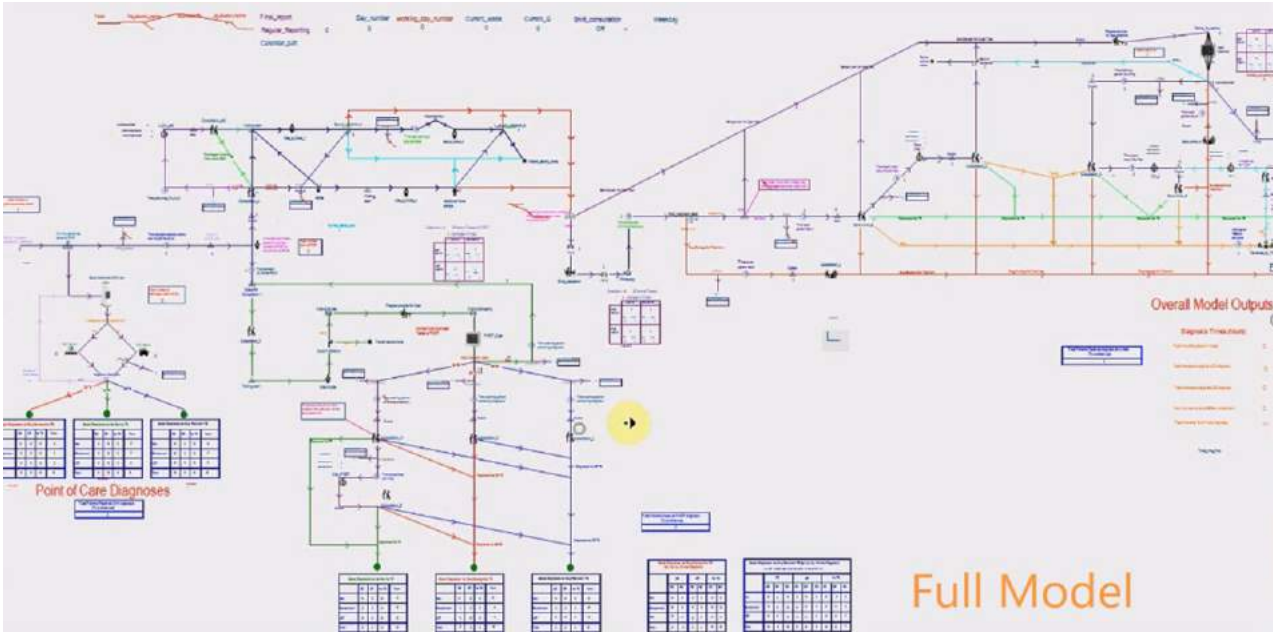


FIGURE 1. STUDY MODEL

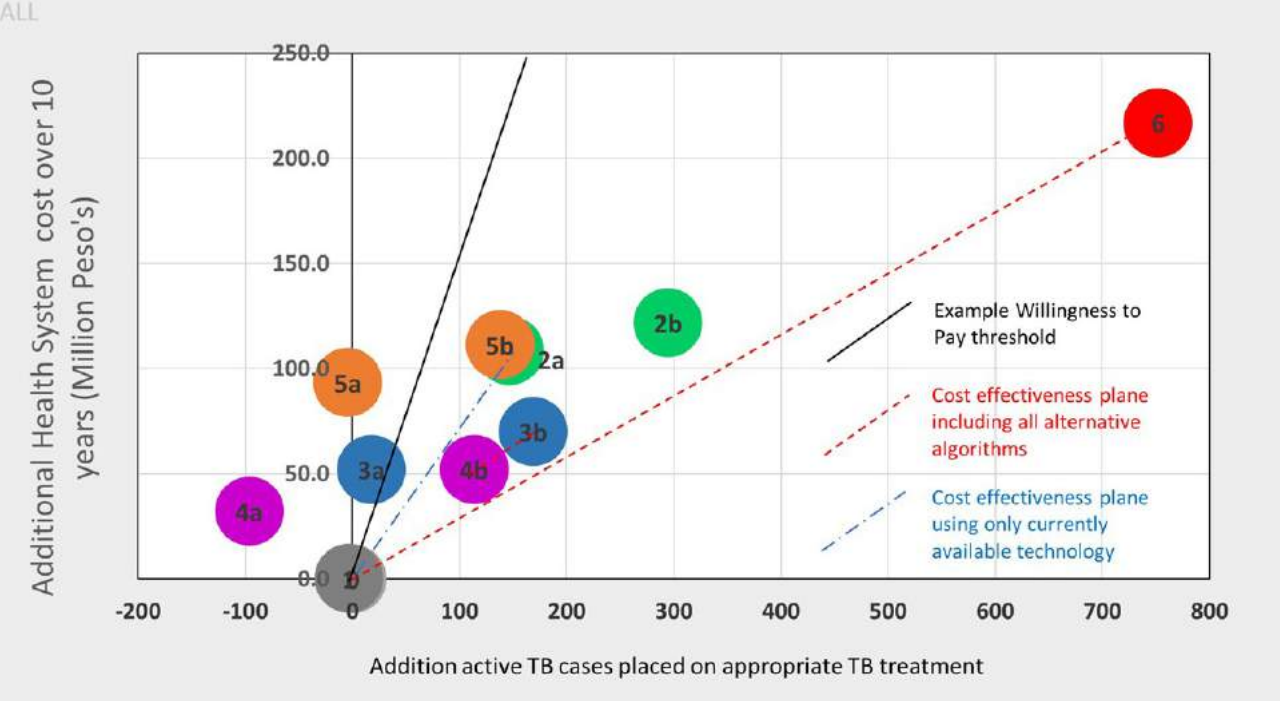


FIGURE 2. ADDITIONAL ACTIVE TB CASES PLACED ON APPROPRIATE TREATMENT (X-AXIS) BY THE ADDITIONAL HEALTH SYSTEM COSTS (Y-AXIS) FOR ALL THE ALTERNATIVE DIAGNOSTIC ALGORITHMS BASED ON THE SIX SITES MODELLED IN CAVITE PROVINCE OVER 10 YEARS.

The model was designed to represent the patient pathways at these sites and was used to compare the impacts and cost-effectiveness of different diagnostic algorithms.

Members of the NTP and DLSHSI have been trained to use the model so that other provinces can now be modelled by them. (Fig. 3)

RESULTS

Figure 1 shows a snapshot of the overall model developed as part of this study illustrating the complex and detailed patient pathways that were modelled.

An initial estimate can be made based on a willingness to pay threshold equivalent to the Gross Domestic Product (GDP) per capita in the Philippines of 150,000 pesos (US $3,000)11 and an assumption that on average an additional 10 years of life might be expected for a patient with TB who receives appropriate treatment 12, 13 compared to a patient not receiving treatment and relying on self-cure.

Using these assumptions (see Figure 2) all the Ultra alternatives (including Omni) would be cost-effective although 5b would be dominated by alternatives that provide greater benefit at lower cost. Using only currently available technology only full roll-out of Xpert with a standard cartridge (2a) would be cost- effective. Alternatives 4a and 5a do not deliver an overall benefit and option 3a delivers a benefit at 2.8 million pesos per additional active case treated (or 280,000 pesos per additional year of life assuming on average an extra 10 years of life for a patient with TB who receives appropriate treatment

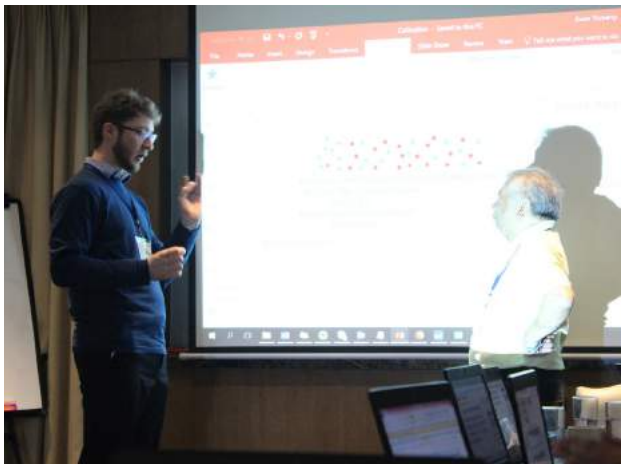
CONCLUSION

A strategy using the currently available technology of Xpert with the standard cartridge as a replacement for microscopy has been shown to be cost-effective in Cavite at 0.7million pesos over 10 years per additional TB case placed on appropriate treatment. The primary benefit of this strategy is to increase MDR-TB diagnosis by 48% and reduce costs incurred by patients.

Four cost-effective strategies have been identified. All these use the Ultra cartridge. The most cost-effective would use the Omni diagnostic tool at the Barangay health stations. This is projected to increase MDR-TB identification by 73% and DSTB by 5% at a health system cost per additional TB case placed on appropriate treatment of 0.3 million pesos over 10 years.

RECOMMENDATIONS

The analysis suggests that an effective policy for new TB diagnostics in Cavite province would be full roll-out of Xpert MTB/RIF. From the initial results, use of Ultra and portable Omni at point of care can possibly increase benefits even further.



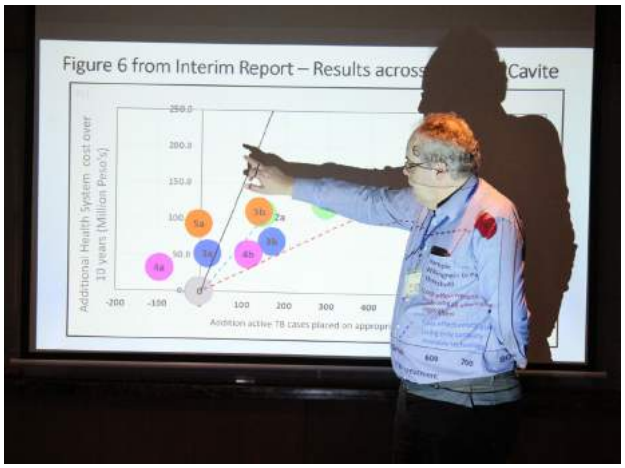


FIGURE 3. VIRTUAL IMPLEMENTATION MODELLING TRAINING WORKSHOP PART 2 – JANUARY 30 – FEB 2, 2018

PHOTO GALLERY


17th National Health Research Forum for Action
FULL SPEED
AHEAD


17th National Health Research Forum for Action
FULL SPEED
AHEAD









17th National Health Research
for Action


17th National Health Research Forum for Action
FULL SPEED
AHEAD


17th National Health Research Forum for Action
FULL SPEED
AHEAD


FULL SPEED
AHEAD


17th National Health Research Forum for Action
FULL SPEED
AHEAD
ACCELERATING UNIVERSAL HEALTH COVERAGE
THROUGH HEALTH POLICY AND SYSTEMS RESEARCH


Advancing
Health through
Evidence-Assisted
Decisions with
Health Policy
and Systems
Research


Verbal
Autopsy
BENEFITS OF
AUTOMATED VA:
How it works:


A PROJECT OF


HPSR FELLOWS
Health Financing
Universal Health Care
Christian Edward Nuevo
Health Sciences
AHEAD


HPSR FELLOWS
Health Service Delivery
Health Services Research
Aliyah Lou Evangelista, MSc
Health Informatics
Gabrielle Anne Gabaton
AHEAD


HPSR FELLOWS
Medical Products and Technology
Health Technology Assessment
Diana Beatriz Bayani, MSc
Health Economics
Geovin Dexter Uy, RPh
Industrial Pharmacy
Bernadette Joy Almirol, RMT
Biostatistics
AHEAD


HPSR FELLOWS
Leadership and Governance
Health in All Policies
Frances Claire Onagan, MPH
Life Sciences
Armund DM Arguelles
Development Communications
Alyzza Vienn Eclavea
Social Sciences
AHEAD


Research and Information
Celina Ysabel Gacias
Applied Math
Ramon Rafael Tonato
Applied Physics


PMOR FELLOWS
Monitoring and Evaluation
Renerio Codova Jr.
Health Informatics
Emmanuel Gloria
Applied Math
AHEAD


PMOR FELLOWS
Hospital Financial Management
James Bryan de Guzman
Biochemistry
Jonna Mae Sena, RM, RN
Public Health
AHEAD


PMOR FELLOWS
Logistics Management Team
Tanya Mara Gagalac
Public Health
Mary Joy Padilla
Biology
AHEAD


17th National Health Research Forum for Action
FULL SPEED
AHEAD


Management Team
Frances Beltran, MPH, RMT, MLS
Public Health
Judith Mariano
Nutrition


17th National Health Research Forum for Action


FULL SPEED
AHEAD