REGIONAL UNIFIED HEALTH RESEARCH AGENDA 2017–2022

REGION I

ILOCOS REGION

National Unified Health Research Agenda 2017-2022

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Introduction

The Philippines is at a turning point where it is slated to reap the benefits of health research investment towards the country's economic, social, and scientific growth (Philippine National Health Research System, 2018). Research has a huge role in the competitive edge of the country to boost its health economy local and abroad. There is huge potential in expanding innovation, health services in the country, and production of health goods, as well as in building the capacity of highly qualified Filipino healthcare managers and researchers. Setting a research agenda is essential to maximize the impact of investments and is regarded as key in strengthening health research systems.

The Philippine National Health Research System, with its goal to enhance health status through health research, generates the National Unified Health Research Agenda (NUHRA) as one of its core areas, alongside ethics, utilization, resource mobilization, system monitoring and evaluation, and capacity building. While the NUHRA serves as the country's template for health research and development efforts, previous evaluations revealed that the Regional Unified Health Research Agenda (RUHRA) was still perceived as more important as it was more relevant to regional problems and gave direction at the regional level (Ramos-Jimenez et al., 2015).

In the development of NUHRA 2017-2022, the Regional Health Research and Development Consortium (RHRDC) of each region was included in the identification process of health research priorities through the conduct of a consultation with other relevant stakeholders. Their inputs, together with technical papers and situationers that defined the national and regional status of health research, were considered as important contributions in the formulation of the NUHRA and RUHRA (Philippine National Health Research System, 2018). The RUHRA presents the identified health research priorities and a contextual analysis of each and should guide researchers and funders alike in the development of more relevant health research in the region for the next six years

Beyond research agenda setting, there is a challenge in equipping health professionals and researchers with good opportunities in an academic environment of innovation and research. Each region should also consider strengthening capacity in the implementation of RUHRA, management of research, and ultimately generating research outputs that can compete in local and global markets.

Health research projects in the Ilocos Region mainly focused on drug discovery and medical technology development, implemented by research hospitals and academic institutions and generally funded by the Department of Science and Technology Philippine Council for Health Research and Development (PCHRD). Identified health research priorities include

improvement of existing research on drug discovery and technology development, and a more rigorous focus on communicable and non-communicable diseases (NCDs), vulnerable and indigenous populations (IPs), food safety and nutrition, and health governance and financing. In addition, the region also aims to improve and streamline health research funding for their researchers. This document outlines the methods undertaken in the development of RUHRA and the health research priorities identified for Region I.

Regional Consultation

The regional consultation for Region I was held on 23-24 March 2017 facilitated by the Alliance for Improving Health Outcomes, Inc. in coordination with the PCHRD Central Office, and the Region 1 Health Research and Development Consortium. There was a total of 23 participants, 10 of which from the academe, eight from government agencies, and five from hospitals (Annex A). The consultation defined the health needs and concurrent research priorities of different institutions through their representatives.

Each participant was provided with a regional consultation package, which included the consultation design and program. Technical papers were presented to provide a context on the research and policies of government and multinational agencies. A regional situationer, which described the stakeholders, health research context, and health challenges, issues, gaps, and threats in the region, was also presented.

The research priorities and perceived needs of each representative were raised through small focus group discussions, with participants grouped according to two categories: government agencies and hospitals, and academe. Each group was given metacards and asked to write down potential research topics. All groups proposed possible research topics, which were presented to the plenary by a representative from each group. The suggested topics were grouped under eight general themes.

These themes were prioritized using criteria with designated scoring weights established by the stakeholders. The participants were given metacards wherein they wrote down suggestions for criteria. After discussion and finalization, the following criteria was used: relevance (urgency or magnitude of the pressing issue) at 40%; feasibility (in terms of time, capacity, and capability) at 30%; and impact (if it benefits socioeconomic, public health, or regional development) at 30%. The scoring result is presented in Annex B.

Health Research Priorities of the Region

The research priorities for Region I comprise of eight themes, namely: (1) triple burden of disease, (2) health of the vulnerable populations, (3) drug discovery and development; (4) health technology and innovations; (5) food safety and nutrition; (6) health governance and policies; (7) functional foods and nutraceuticals; and (8) health financing. Some of the themes have corresponding specific research topics. These themes and topics are presented below, together with a brief situational analysis or data specific to the region.

Triple burden of disease
Research on factors that affect emerging and re-emerging diseases

Communicable diseases, such as acute or upper respiratory infection, skin disease, and diarrhea, are among the top ten leading causes of morbidity in Region I. NCDs are among leading causes of both morbidity (hypertension and musculoskeletal disorder) and mortality (cardiovascular disease, cancer of all forms, diabetes) (Department of Health Center for Health Development Regional Office I, 2015). Research should aim to understand and identify factors on emerging and re-emerging diseases. Specific research topics include:

a. Communicable diseases
   i. Identification of factors that affect increasing human immunodeficiency virus, acquired immunodeficiency syndrome (AIDS), and sexually transmitted infections
   ii. Assessment of local AIDS Councils in different areas
   iii. Assessment of effectiveness of laws and policies on dog rabies
   iv. Improvement of elimination programs of parasitic infections
b. Non-communicable diseases
   i. All forms of cancer
   ii. Access to mental health services (causal, predisposing, and mitigating factors)
   iii. Dental diseases
   iv. Community initiatives
c. Diseases of rapid urbanization and industrialization
   i. Health consequences of climate change and disaster (disaster preparedness, nutri-foods for emergencies and hazards, use of technology such as drones, natural hazards, climate change adaptation, resilience)
   ii. Environmental health (sanitation, pollution, waste management)

Health of vulnerable populations
Research on factors that affect the health of vulnerable populations and its relationship with their socio-economic status

In 2015, the contraceptive prevalence rate in the region was below the 65% national target at 55.31%. Only 67% of pregnant women in 2015 had four or more antenatal care visits. The region has a maternal mortality rate of 47 per 100,000 live births (Department of Health, 2015). A survey conducted in 2013 revealed that 28% of women age 15-24 years old in the region have had a live birth (Philippine Statistics Authority and ICF International, 2014). There is a need to understand the factors affecting the health of vulnerable groups (i.e. teenage and youth, geographically isolated and disadvantaged areas and IPs, and mothers) especially its relationship to their socio-economic status. Specific research topics include:

a. Teenage and youth
   i. Pre-teen pregnancy factors
   ii. Pre-disposing factors for teen pregnancy
   iii. Adolescent mental health
   iv. Adolescent health facilities accessibility/functionality

b. Geographically Isolated and Disadvantaged Areas (GIDA) and IPs
  i. Community profiling of GIDA/IP groups
  ii. IP traditional beliefs in health vs standards
  iii. Culture sensitivity of health workers in service delivery among IPs
  iv. Awareness on the Indigenous People's Rights Act law
  v. Access of IPs to health facilities
c. Mothers
  i. Factors affecting high incidence of maternal mortality in Region I
d. Tobacco farmers

Drug discovery and development
Research on medical products and medicines out of endemic herbal plants with medicinal value

The region aims to explore the fields of drug discovery and medical technology development. Mariano Marcos Memorial Hospital and Medical Center and some academic institutions like Don Mariano Marcos Memorial State University, Virgen Milagrosa University Foundation, and University of Northern Philippines are some of the most active institutions in implementing health research projects in the region. The health research studies done in the region include a survey of medicinal extracts from plants and development of medical technologies and products (Salazar et al., 2017). Region I aims to strengthen the development of medical products and medicines out of endemic herbal plants with medicinal value. The Region is building its capacity to make these researches feasible. Specific research topics include:

a. Indigenous/natural resources
  i. Plant sources
  ii. Animal sources
  iii. Mineral sources
b. Development of ethnic medicines/drugs
c. Efficacy of herbal plants for disease treatment
d. Drug development from local diversity
e. Phase 1 & 2 clinical trials
f. Molecular characterization of herbal plant extracts tested for biological activity
g. Drug development phase 2 & 3

Health technology and innovations
Research on data management and information sharing, and safe and accurate rapid diagnostic kits

Region I aims to develop health technologies to realize better health services through data management and information sharing, and safe and accurate rapid diagnostic kits. Specific research topics include:

a. Diagnostics
  i. Anato seed used as fungal staining agent and other indigenous/natural sources
  ii. Genomic basis for disease

b. Information and communications technology for health
      i. Telemedicine
      ii. Information technology solutions for governance
      iii. E-records for hospitals (paperless transactions)
   c. Biomedical devices
      i. Development of biomedical devices

Food safety and nutrition
Research that will evaluate nutrition status and programs implemented for a more in-depth understanding of malnutrition

Another health challenge faced by the region is the double burden of malnutrition. Accordingly, the region's nutrition status is improving with lesser population who are underweight, stunted, and overweight. However, among less than 5 years old and 5-10 years old group, wasting is considered a public health problem with 6.6% and 9.7% prevalence rate accordingly (Food and Nutrition Research Institute, 2016). This priority area aims to evaluate nutritional status and programs implemented towards in-depth understanding of malnutrition prevalence in the region. Specific research topics include:

   a. Complete food for nutrition and feeding
   b. Food fortification for nutrition
   c. Development of educational materials/e-nutrition
   d. Nutritional program assessments
   e. Documenting effects of the use of pesticides/herbicides to agricultural products and human health
   f. Food hygiene and safety (carcinogenic foods, food preparation especially street foods) (e.g. Hepatitis A, food poisoning)

Health governance and policies
Research that will assess and evaluate government health and health-related programs and policies

Priority health research in the area should target studies on service and societal impact. The health workforce needed to serve the population in the region falls behind the recommended number per 10,000 population, especially medical doctors (Department of Health, 2015). Research topics should aim to evaluate government health and health-related programs and policies and its effects in achieving better health outcomes. Specific research topics include:

   a. Assessment and evaluation
      i. Assessment of functionality of Health Facilities Enhancement Program (infra and equipment)
      ii. Medical missions and antibiotic resistance
      iii. School curriculum modification (health education)
      iv. Community rehabilitation program
      v. Decentralization of healthcare and community medicine
      vi. Health care studies primary vs special
      vii. Family health care profiling

viii. Gatekeeping and primary care physicians for better health outcome and cost reduction
ix. Early cancer screening programs
x. Vehicular accident (safety, policy, and implementation; e.g. motorcycle accidents due to alcohol intoxication)
xi. Impact studies (multi-sectoral, such as *Pantawid Pamilyang Pilipino* Program or 4Ps, and programs assessment and evaluation)
xii. Healthcare services (baseline survey and documentation of indigenous health; knowledge, attitudes, and practices; traditional practices)

Functional foods and nutraceuticals
Research on developing food products and nutraceuticals from available agricultural products

As part of enhancing research that enhance innovation and product development, Region I aims to develop food products and nutraceuticals from locally-available agricultural products. Specific research topics include:

a. Nutraceuticals
b. Impact assessment of functional food to improvement of nutrition

Health financing
Research that will evaluate the effectiveness and efficacy of health financing in public and private healthcare facilities

While actual spending on health has increased since 2014, the percentage of the budget allocated to health as part of the total expenditure has decreased from 9.7% in 2014 to 7.5% in 2016 (Department of Finance, 2016). Specific research topics include:

a. Evaluation of Philippine Health Insurance Corporation (PHIC) use: patients eventual out-of-pocket vs case rates
b. Impact of 4Ps on health improvement of beneficiaries
c. Evaluation of no balance billing of PHIC
d. Health care financing

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Annex A: Participants of regional consultation

Name	Position	Affiliation
Dr. May Rose Quezon	Regional Coordinator and Member, Research and Development Committee (RDC)	Commission on Higher Education Regional Office (RO) I
Dr. Amelia Dumaoang	Medical Specialist II	Department of Health RO I
Dir. Armando Ganal	Regional Director	Department of Science and Technology (DOST) RO I
Dr. Paulina Nebrida	Member, RDC	DOST RO I
Mr. Jonathan Viernes	Provincial Science and Technology Director	DOST Ilocos Norte
Dr. Adriano Esguerra	Member, RDC	Don Mariano Marcos Memorial State University
Dr. Marvin Munar	Medical Officer IV	Ilocos Training Research and Medical Center
Dr. Cynthia Lopez	Director, Research and Extension	Lyceum Northwestern University
Dr. Manolita Crisostomo	Member, RDC	Mariano Marcos State University
Dr. Jose Orosa III	Chief of Medical Professional Staff; Chairman, RDC	Mariano Marcos Memorial Hospital and Medical Center (MMMH&MC)
Ms. Maria Virginia Ulit	Secretariat, RDC	MMMH&MC
Ms. Ana Gay Ranga	Secretariat, Region I Health Research and Development Consortium (R1HRDC)	MMMH&MC
Ms. Rosemarie Fernandez	Head, Dingras Community Service Center, Ilocos Norte	National Commission on Indigenous People RO I
Ms. Ma. Cristina Carino	Senior Economic Development Specialist and Secretary, Regional Research Committee	National Economic and Development Authority RO I
Dr. Rose Merlyn Jubilo	Director, Research Community and Extension	Northern Christian College
Mr. Charliemane Bullalayao	Program Coordinator	Northwestern University
Mr. Freddie Lazaro	Officer-in-charge, DRD, Project Management Unit	Philippine Information Agency
Dr. Hilarion Maramba, Jr.	Chairman, Energy Regulation Commission; President, Pangasinan Medical Society (PMS)	Region I Medical Center and PMS
Dr. Mercita Queddeng	Chairman, RUC	University of Northern Philippines (UNP)
Dr. Marlou Sevella	Coordinator in House Review	UNP
Dr. Leo Solis	Vice Chairman, R1HRDC	Virgen Milagros University Foundation

Annex B: Results of priority scoring

Rank	Research area	Weighted average
1	Triple burden of disease	9.41
2	Health of vulnerable populations	8.93
3	Drug discovery and development	8.80
4	Health technology and innovations	8.67
5	Food safety and nutrition	8.50
6	Health governance and policies	8.15
7	Functional foods and nutraceuticals	8.08
8	Health financing	7.93