

Integrating Primary Care and Public Health in the UHC

Challenges in Service Delivery and the Role of the Philippine Medical Association

Maria Minerva P. Calimag, MD, MSc, PhD, FPSA, FPSECP

Professor, Faculty of Medicine and Surgery and the Graduate School
Senior Researcher, Research Center for Social Science and Education and
the Research Center for the Health Sciences

University of Santo Tomas

PMA President, 2014-2015; 2015-2016; 2022-2023; 2023-2024

What is Public Health?

- **Public Health is the art and science of preventing disease, prolonging life and promoting health through the organized efforts of society.**
- **It aims to improve the health of populations by keeping people healthy, improving their health or preventing the progression of disease.**

What is Public Health?

- **Public health skills are core to building responsive and appropriate health systems, and public health personnel including medical specialists are embedded in the health systems of many countries.**

Primary Health Care

- **All people, everywhere, have the right to achieve the highest attainable level of health. This is the fundamental premise of primary health care (PHC).**
- **Primary health care is a whole-of-society approach to effectively organize and strengthen national health systems to bring services for health and wellbeing closer to communities.**

Primary Health Care

- **Three components**
 - **integrated health services to meet people's health needs throughout their lives;**
 - **addressing the broader social determinants of health through multisectoral policy and action;**
 - **empowering individuals, families and communities to take charge of their own health.**

Primary Health Care

- **Primary health care enables health systems to support a person's health needs – from health promotion to disease prevention, treatment, rehabilitation, palliative care, and more.**
- **This strategy also ensures that health care is delivered in a way that is centered on people's needs and respects their preferences.**

Primary Health Care

- **Primary health care is widely regarded as the most inclusive, equitable, and cost-effective way to achieve universal health coverage.**
- **It is also key to strengthening the resilience of health systems to prepare for, respond to and recover from shocks and crises.**

Universal Health Care

- **UHC means that all individuals and communities receive the health services they need without suffering financial hardship.**

Universal Health Care

- **The delivery of these services require adequate and competent health and care workers with optimal skills mix at facility, outreach and community level, and who are equitably distributed, adequately supported and enjoy decent work.**

Universal Health Care

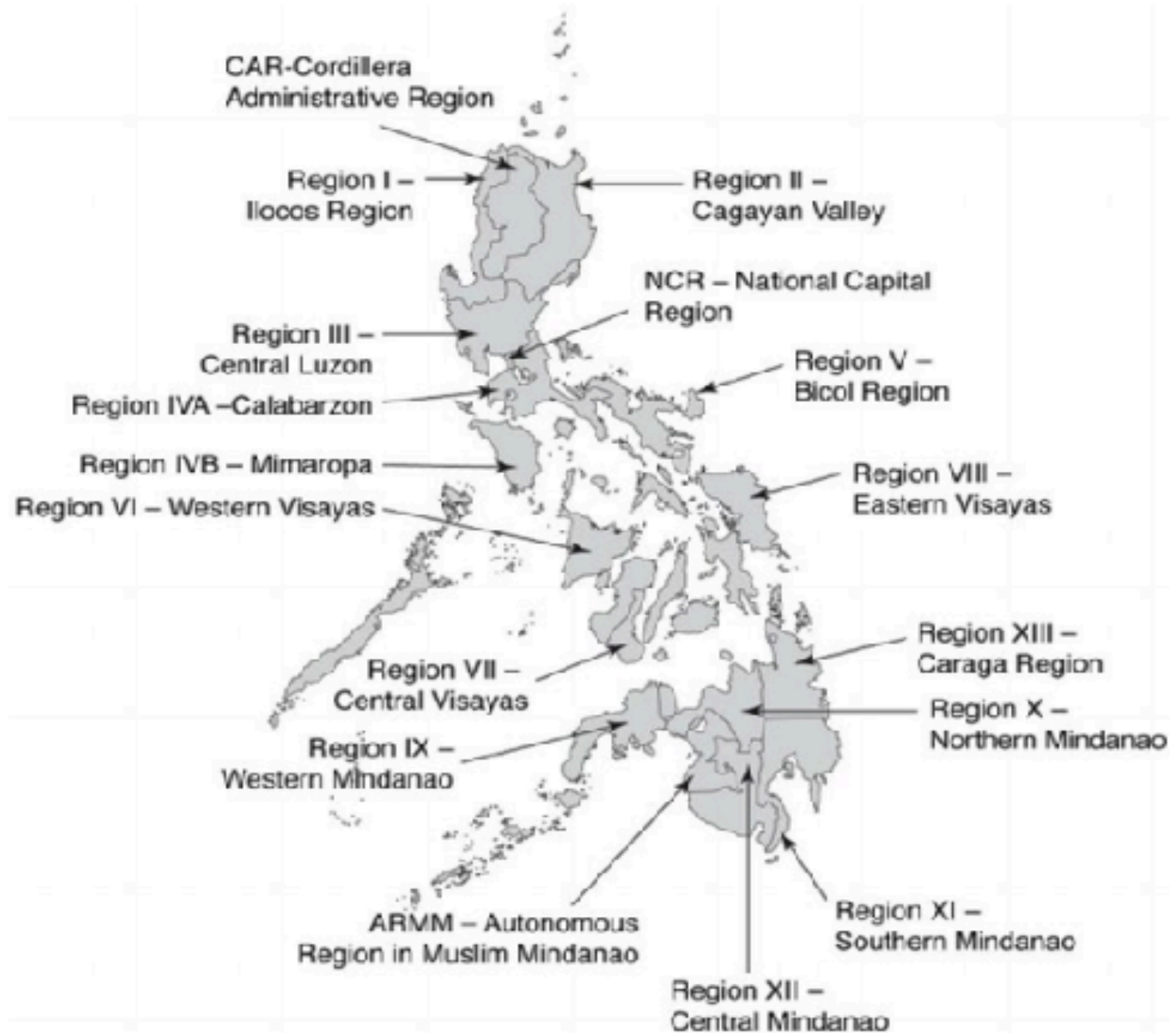
- **UHC strategies enable everyone to access the services that address the most significant causes of disease and death and ensures that the quality of those services is good enough to improve the health of the people who receive them.**

Universal Health Care

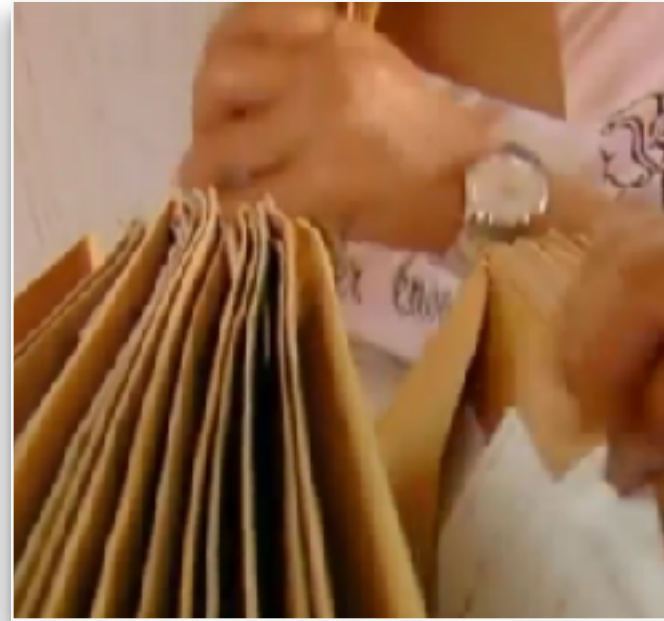
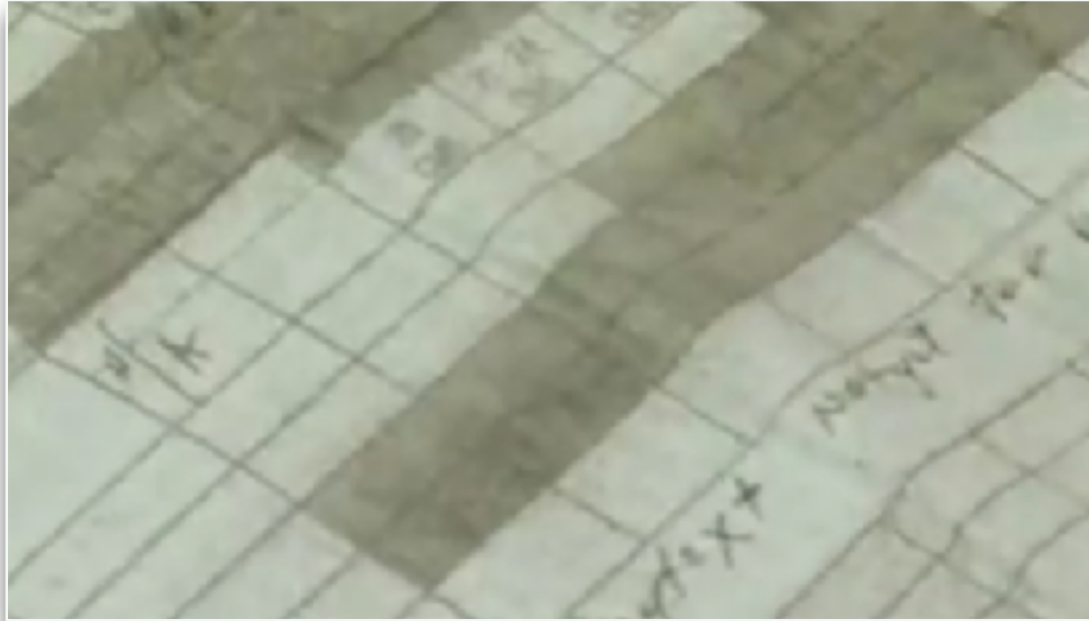
- **Achieving UHC is one of the targets the nations of the world set when adopting the SDGs in 2015. Countries reaffirmed this commitment at the United Nations General Assembly High-Level Meeting on UHC in 2019.**
- **Countries that progress towards UHC will make progress toward the other health-related targets, and goals.**

The country is divided into three geographical areas: Luzon, Visayas, and Mindanao. It has 17 regions, 81 provinces, 145 cities, 1,489 municipalities, and 42,029 barangays.

The Philippine Archipelago



Public Health in the Philippines



- * **Varied health-related data are collected in rural health units (RHU) on a daily basis all over the country using a variety of manual, paper-based methods which are often prone to error, destruction and alteration.**
- * **Consolidation and analysis of these disorganized data to produce information important to decision makers is also often impossible.**
- * **Current techniques are tedious and time-consuming and, hence, produce information which is stale and irrelevant.**

Public Health in the Philippines



* **The problem of data collection is compounded by poor information management system which prevents:**

- 1. the development of well-planned and targeted strategies to combat the Philippines' health problems,**
- 2. the reduction of inequity in health care access, and**
- 3. the improvement in the overall health of Filipinos.**

The Devolution of Healthcare in the Philippines

- **The implementation of the Local Government Code of 1991 (Republic Act No. 7160) resulted in the devolution of health services to local government units (LGUs) which included among others the provision, management and maintenance of health services at different levels of LGUs.**

The Devolution of Healthcare in the Philippines

- **The intent of devolution is to improve the efficiency and effectiveness of health service provision by reallocation of decision making and resources to peripheral areas. This is because the local units would know the current health situation in their own localities.**

The Primary Care Provider in the UHC Law

- **Primary Care Provider in the UHC
(Chapter 2 Section 4; Chapter 11
Section 41 of RA 11223)**

The Primary Care Provider in the UHC Law

- **The UHC Law aims to address the recurring problems in the decentralized health system, one of which is the poor state of the country's health workforce.**

The Primary Care Provider in the UHC Law

Service Delivery in the UHC



Contracting by network with primary care provider of choice as navigator

Consolidating fragmented providers into province-wide and city-wide health systems with clinical financial and management integration

Enabling income retention for all public providers through a Special Health Fund

Medical Education in the Philippines

- **Medical education in the Philippines is conducted by government-recognized medical schools in the country.**
 - **The CHED is mandated to prescribe standards for quality health science education and the health science curriculum, and to regulate public and private higher education institutions in the country.**

Medical Education in the Philippines

- **Medical education in the Philippines is conducted by government-recognized medical schools in the country.**
 - **The PRC is tasked to promote honest and credible licensure examinations of health professionals, provide continuing education and development, and ensure effective regulation of the professional practice.**



Republic of the Philippines
OFFICE OF THE PRESIDENT
COMMISSION ON HIGHER EDUCATION



CHED MEMORANDUM ORDER
No. 18
Series of 2016

SUBJECT: POLICIES, STANDARDS AND GUIDELINES FOR THE DOCTOR OF MEDICINE (M.D.) PROGRAM

In accordance with the pertinent provisions of Republic Act 2062, otherwise known as the "Medical Act of 1959 as amended", and Republic Act No. 7722, otherwise known as the "Higher Education Act of 1994", in pursuance of an outcome-based quality assurance system as stipulated under CMO No. 46 s. 2012 and for the purpose of rationalizing medical education in the country with the end in view of keeping pace with the demands of national relevance and global responsiveness, the following Policies, Standards and Guidelines (PSGs) for the Doctor of Medicine Program are hereby adopted and promulgated by the Commission.

ARTICLE I
INTRODUCTION

Section 1. Rationale

Based on the guidelines for the implementation of CMO No. 46 s. 2012, this PSG implements the "shift to competency-based standards/outcome-based education." It specifies the "program outcomes/core competencies" expected of Doctor of Medicine graduates "regardless of the type of higher education institution (HEI) they graduated from." However, in recognition of the spirit of learning outcomes/competency-based/outcome-based education and the typology of HEIs, this PSG also provides flexibility and ample space for HEIs to innovate in the curriculum in line with the assessment on how best to achieve program outcomes in their particular contexts and respective missions.

ARTICLE II
AUTHORITY TO OPERATE

Section 2. Government Authority

All higher education institutions (HEI) intending to offer the Doctor of Medicine program must first secure proper authority from the Commission in accordance with the existing rules and regulations and the provisions in this PSG. All HEIs with an existing Doctor of Medicine program are required to shift to a learning outcomes/competency-based/outcome-based approach as mandated by this PSG. Autonomous and deregulated institutions, State universities and colleges (SUCs), and local colleges and universities (LCUs), upon approval by their respective governing boards, should likewise strictly adhere to the provisions in this PSG, CMO No. 46 s. 2008 "Manual of Regulations for Private Higher Education" and CMO No. 2 s. 2004 "New Procedures in the Processing of Applications of Government Authority to Operate Doctor of Medicine and Bachelor of Science in Nursing programs."

3.3 Program Educational Objectives (PEOs)

The main goal of the Doctor of Medicine program is to develop professional physicians for the Philippine healthcare system. The graduate of the Doctor of Medicine program is a primary care physician who can pursue general private medical practice after passing the Physician Licensure Examination (PLE).

With additional training, graduates of the MD program may pursue any of the following careers to include:

- General medical practitioner
 - Local Government Unit Physician
 - Sched physician
 - Company/Corporate physician
 - Community Physician
- Clinical specialist
- Researcher/Medical Scientist/Innovator
- Health Professions teacher
- Health Administrator
- Health Economics Manager
- Health Economist
- Health Policy Maker

3.4 Allied Fields

All health science programs are considered to be allied fields of the Doctor of Medicine program.

Section 4. Program Outcomes

The minimum standards for the Doctor of Medicine program are expressed in the following minimum set of program outcomes and must be aligned with the mission, vision and goals of the institution:

4.1 Program Outcomes Common to all disciplines and types of HEIs (CHED Implementation Handbook for OBE and ISA, 2013)

- a. Articulate and discuss the latest developments in the specific fields of practice (as defined in the Philippine Qualifications Framework (PQF))
- b. Communicate effectively and orally and in writing using both English and Filipino
- c. Work effectively and independently in multi-disciplinary and multi-cultural teams
- d. Act in recognition of professional, social, and ethical responsibility, and
- e. Preserve and promote "Filipino historical and cultural heritage" (based on R.A. 7722).

Graduates of all higher education programs shall have the ability to:

- a. Work effectively in multi-disciplinary and multi-cultural teams
- b. Recognize professional, social and ethical responsibility
- c. Communicate orally and in writing using both English and Filipino effectively
- d. Engage in life-long learning and an understanding of the need to keep current of the developments in the specific field of practice according to the Philippine Qualifications Framework (PQF)
- e. Appreciate "Filipino historical and cultural heritage" as per RA 7722
- f. Work independently and/or in teams of related fields with minimum supervision

CHED Memorandum 18 Series of 2016



COMMISSION ON HIGHER EDUCATION
Technical Committee on Medical Education

Medical Education in the Philippines

- **The medical curriculum as provided for in CHED Memorandum 18 Series of 2016 ensures that graduates of the MD Program are primary care physicians first before they go into specializations.**

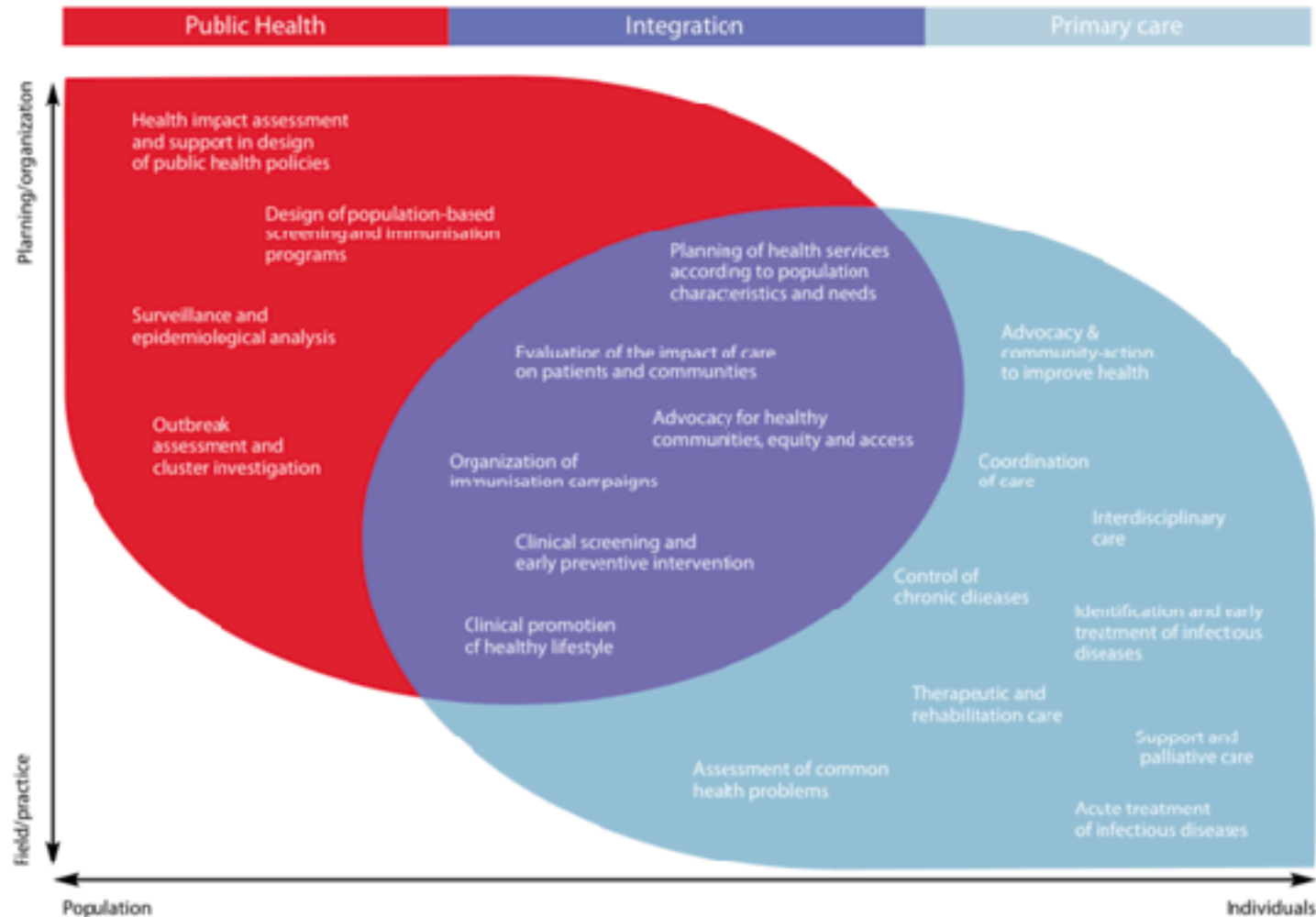
Credentialing of healthcare professionals rests on the Professional Regulation Commission

Medical Education in the Philippines

10 year-period

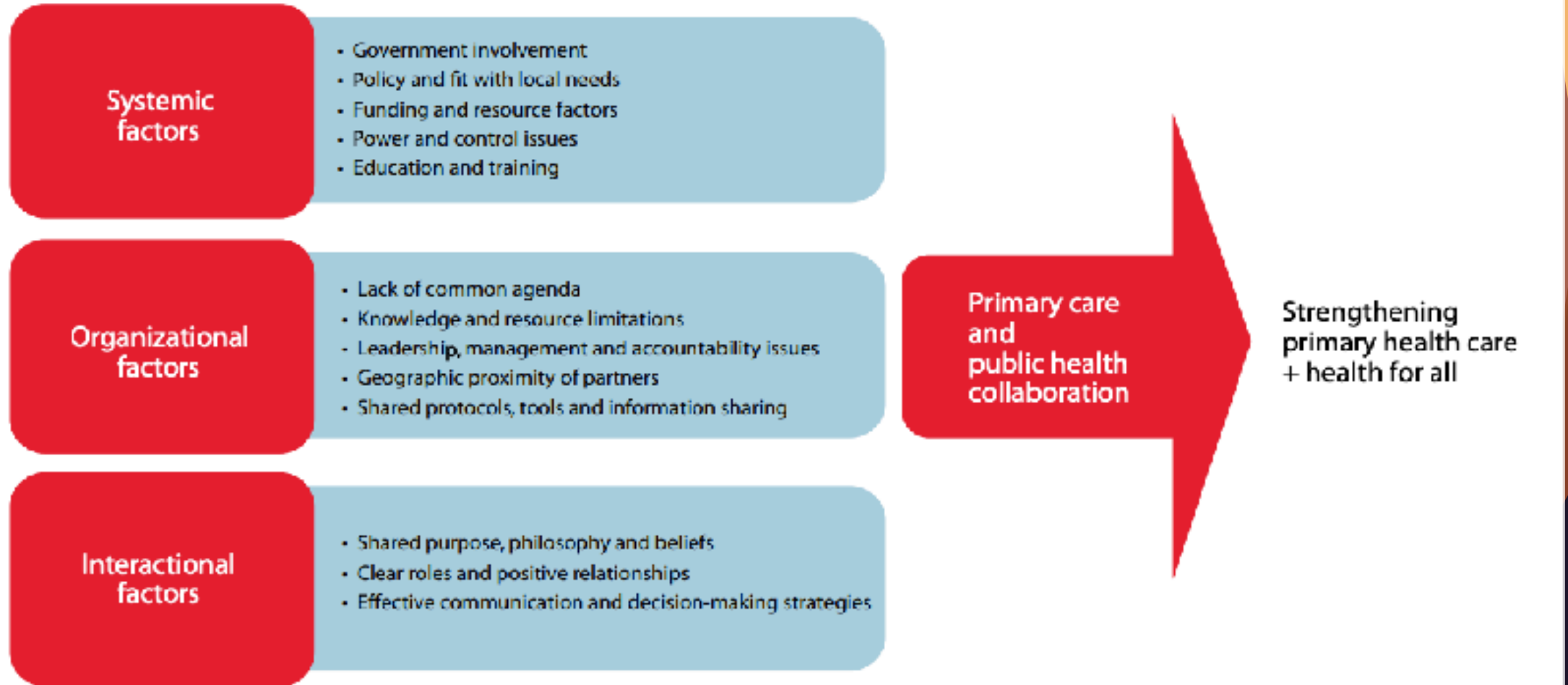
- **From 38 Medical Schools in 2012, there are now 67 Medical Schools in 2023.**
- **17 Medical Schools are State Universities and Colleges (SUCs) that receive Seed Grants for equipment and facilities from government.**

Integration of Public Health and Primary Care



Levesque J, Breton M, Senn N, Levesque P, Bergeron P, Roy D., 2013

Integration of Public Health and Primary Care



Integration of Public Health and Primary Care

- **In 2010, the Institute of Medicine in the United States formed a Committee on Integrating Primary Care and Public Health. In their influential report published in the same year, they identified five principles as being essential to the successful integration of primary care and public health.**

Integration of Public Health and Primary Care

- **The five principles**
 - **a shared goal of population health improvement;**
 - **community engagement in defining and addressing population health needs;**
 - **Aligned leadership that: bridges disciplines, programs, and jurisdictions to reduce fragmentation and foster continuity; clarifies roles and ensures accountability; develops and supports appropriate incentives; and has the capacity to manage change;**
 - **sustainability, key to which is the establishment of a shared infrastructure and building for enduring value and impact; and**
 - **the sharing and collaborative use of data and analysis.**

Integration of Public Health and Primary Care

- **The integration of primary care and public health can cover a wide range of activities, including**
 - **community engagement and participation,**
 - **health promotion,**
 - **health education,**
 - **prevention activities,**
 - **chronic disease management,**
 - **screening, immunization and communicable disease control,**
 - **information systems activities,**
 - **development of best practice guidelines,**
 - **conducting needs assessments, quality assurance and evaluation, and**
 - **professional education.**

Integration of Public Health and Primary Care

- **One way of categorizing interventions is to group them into five broad categories that follow Lasker's models of Medicine and Public Health Collaborations (1997) and the adaptation of these models by Shahzad, et al (2019). However, these categories are not mutually exclusive, and interventions can belong to several categories.**

Integration of Public Health and Primary Care

- 1. Coordinating health care services for individuals;**
- 2. Applying a population perspective to clinical practice;**
- 3. Identifying and addressing community health problems;**
- 4. Strengthening health promotion and disease prevention;**
- 5. Collaborating around policy, training, and research**

How can the nation's health care workforce best be defined?

- **Health care reform will bring something in between, demanding a shift toward a new breed of generalists to meet health care needs and absorb the impact of increased access to care under UHC.**

How can the nation's health care workforce best be defined?

- **The foundation of the healthcare system must be based on health care practitioners with specific but broad-based skills consonant with the delivery of primary care.**

How can the nation's health care workforce best be defined?

- **The primary care practitioner assumes continuous responsibility for the comprehensive health care of patients regardless of the presence or absence of disease and its nature and integrates other health resources when necessary.**

How can the nation's health care workforce best be defined?

- **A widely accepted definition stresses accessibility as well as comprehensive, coordinated, continuous, and accountable first-contact care.**

The Life Course Approach to Health Care

- **The life course approach to health is a concept that emphasizes on prevention and early intervention at every stage of life – intrauterine period, early childhood, adolescence, youth, middle age, and old age.**
- **Outcome at one point in the life cycle might be a determinant for health elsewhere further in the cycle.**

Options for MD : Generalist or Specialist Practice

- **The generalist health care workforce is best characterized as those practitioners who deliver primary care services.**
- **The term specialist refers to those who have undergone specialization training**

Who are the specialists?

- **To be qualified as a specialist in a field of practice in medicine, a medical doctor is required to undergo additional years of training.**

Who are the specialists?

- **Obtaining a specialist's credential starts with residency training in accredited hospitals and clinics, which takes 3 years and up to 6 years, depending on the field of specialization.**

Who are the specialists?

- **After the residency, the trainee may take the diplomate board examinations provided by various medical specialist boards and if they graduate from government training programs they serve in the provinces**
- **Espesyalista sa Bayan Program**

Who are the generalists?

- **In the Philippines, diverse practitioners deliver primary care services. They include most family physicians, general internists, and general pediatricians. They serve in the public and private sector.**

Who are the generalists?

- **There is a spectrum of generalist practice based on the type of practitioner and community epidemiology; this also forms a continuum that merges with specialist care.**
- **Doctors to the Barrios Program**

Who are the generalists?

- **General internists, for example, often supply secondary and sometimes tertiary care for their patients. There are, therefore, many levels of generalist care to be considered.**

The Scope of Generalist Practice

- **Generalists evaluate undifferentiated patient problems; deliver continuous and coordinated care; provide comprehensive preventive services; manage common acute illnesses, ongoing common chronic conditions, and common behavioral problems; and care for patients in multiple settings.**

Question: Can a specialist perform the generalist role?

- **A specialist may choose to deliver primary care services but cannot refer the patient to himself within the network.**

The Philippine Health System

Table 4.10 Number of health workers in institutions by category, affiliation and region, 2017

Group of Islands	Region		Doctors			Nurses			Midwives			Medical technologists		
			Public	Private	Total	Public	Private	Total	Public	Private	Total	Public	Private	Total
NCR	1	NCR	6 592	7 468	14 060	9 786	6 971	16 757	3 475	857	4 332	1 611	2 584	4 195
The rest of Luzon	2	CAR	794	339	1 133	2 192	592	2 784	1 675	67	1 742	273	110	383
	3	Ilocos III	1 158	905	2 063	3 657	2 086	5 743	2 679	192	2 871	460	259	719
	4	Cagayan Valley (III)	712	488	1 200	3 024	1 261	4 285	2 296	147	2 443	366	121	487
	5	Central Luzon (III)	1 924	2 235	4 159	4 915	3 854	8 771	3 475	352	3 827	666	679	1 345
	6	CALABARZON (IV-A)	1 172	3 044	4 216	4 126	5 694	9 820	3 022	426	3 448	361	572	933
	7	Mimaropa (IV-B)	453	132	585	1 514	245	1 759	1 493	90	1 583	138	32	170
	8	Bicol (IV)	914	570	1 484	3 210	1 403	4 613	2 742	296	3 038	349	206	555
Visayas	9	Western Visayas (VI)	1 164	1 241	2 405	3 871	1 703	5 574	3 661	160	3 821	512	268	780
	10	Central Visayas (VII)	1 335	1 039	2 374	4 520	3 435	7 955	2 976	296	3 272	492	477	969
	11	Eastern Visayas (VIII)	787	402	1 189	2 719	490	3 209	2 069	84	2 153	439	175	614
Mindanao	12	Zamboanga Peninsula (IX)	636	349	985	2 349	1 194	3 543	1 567	205	1 772	245	158	403
	13	Northern Mindanao (X)	778	618	1 396	2 445	2 066	4 511	2 327	176	2 503	274	163	437
	14	Davao Region (XII)	456	1 072	1 528	1 415	2 181	3 596	1 345	175	1 520	240	287	527
	15	Soccksargen (XII)	558	516	1 074	1 853	1 761	3 614	1 961	299	2 260	285	201	486
	16	Caraga (XIII)	428	129	557	1 705	397	2 102	1 348	70	1 418	236	45	281
	17	ARMM	353	14	367	1 642	30	1 672	1 027	14	1 041	124	5	129
Philippines			20 214	20 561	40 775	54 943	35 365	90 308	39 138	3 904	43 044	7 071	6 342	13 413
			50%	50%	100%	61%	39%	100%	91%	10%	100%	53%	47%	100%

Note: Data as of 31 December 2017

Source: Calculated by the authors from HHRDB, FHSIS & Deployment Program reports

The Philippine Health System

Table 4.11 Health workers in institutions per 10 000 population, 2017

Group of islands	Region		Doctors	Nurses	Midwives	Medical technologists
NCR	1	NCR	10.6	12.6	3.3	3.2
The rest of Luzon	2	CAR	6.4	15.8	9.9	2.2
	3	Ilocos (I)	4.0	11.2	5.6	1.4
	4	Cagayan Valley (III)	3.4	12.1	6.9	1.4
	5	Central Luzon (III)	3.6	7.5	3.3	1.2
	6	CALABARZON (IV-A)	2.8	6.5	2.3	0.6
	7	Mimaropa (IV-B)	1.9	5.8	5.2	0.6
	8	Bicol (V)	2.5	7.8	5.1	0.9
	Visayas	9	Western Visayas (VI)	3.1	7.2	4.9
10		Central Visayas (VII)	3.1	10.4	4.3	1.3
11		Eastern Visayas (VIII)	2.6	7.0	4.7	1.3
Mindanao	12	Zamboanga Peninsula (IX)	2.6	9.5	4.8	1.1
	13	Northern Mindanao (X)	2.9	9.3	5.2	0.9
	14	Davao Region (XI)	3.0	7.1	3.0	1.0
	15	Soccksargen (XII)	2.3	7.6	4.8	1.0
	16	Caraga (XIII)	2.1	7.9	5.3	1.1
	17	ARMM	0.9	4.2	2.6	0.3
Philippines			3.9	8.6	4.1	1.3

Source: Calculated by the authors from HHRDB, FHSIS & Deployment Program reports

Dayrit, M.M., Lagrada, L.P., Picazo, O.F., Pons, M.C. & Villaverde, M.C. (2018). The Philippines health system review. *Health Systems in Transition*, 8 (2), World Health Organization. Regional Office for South-East Asia.

The Philippine Health System

- **The national-level data for 2017 showed that there are 3.9 doctors working in health institutions for a population of 10,000.**
- **The highest density is 10.6 in the NCR while the lowest density is 0.9 in the ARMM.**
- **Physical access to doctors is also low in the island provinces of MIMAROPA (1.9) and CARAGA in Mindanao (2.1).**
- **On average, there is one doctor in an RHU.**

The Philippine Health System

- **The national-level data for 2017 showed that there are 3.9 doctors working in health institutions for a population of 10,000.**
- **The highest density is 10.6 in the NCR while the lowest density is 0.9 in the ARMM.**
- **Physical access to doctors is also low in the island provinces of Mimaropa (1.9) and Caraga in Mindanao (2.1).**
- **On average, there is one doctor in an RHU.**
- **Comparing the Philippine ratios to the WHO threshold of 44.5 HRH per 10,000 population, the Philippines falls short on the number of HRH needed to achieve its health targets as the country only has 33 HRH per 10,000 population.**

The Philippine Health System

- **The hospital-centric distribution of doctors and nurses in health institutions is reflective of a model of care that diverges from the ideal set-up of a first point of contact at the primary care level.**

The Philippine Health System

- **Mobilizing doctors who are providing services in their own private clinics as the first point of contact in a service delivery care network offers a solution to the challenge of shifting away from hospital-focused services.**

The Philippine Medical Association

- **PMA is the oldest medical organization of physicians (96,348 out of 114,000 physicians).**
- **It is 120 years old on September 15, 2023.**
- **It is the recognized Accredited Professional Organization (APO) of Physicians by the Professional Regulation Commission and awarded the Most Outstanding APO for the Health Sector this 2022.**

The Philippine Medical Association

- **It predated the Ministry of Health now the Department of Health and its forerunners established the medical schools and hospitals in the country.**
- **It consists of 121 Component Societies, 8 Specialty Divisions, 96 Specialty and Subspecialty Societies, and 42 Affiliate Societies in 17 Regions**
- **Component Societies are active in island provinces and in GIDA areas.**



Moving Forward:

Transforming Basic Education for UHC

DepEd fortifies its Health Education in the basic education curricula;

The PMA develops health literacy skills especially in the area of minority health through modules developed by partners

PMA meets with DepEd to propose enhancement of the K-12 Health Curriculum





Moving Forward: Fortifying Primary Care in Basic Medical Education for UHC

**CHED strengthens the integration of Primary Health Care and Public Health in the medical education curricula;
The PMA reinforces the knowledge of public health through Continuing Professional Development**



Moving Forward: Career Progression and Specialization

**The PRC strengthens Career Progression and
Career Pathways**

**The PMA reinforces the knowledge regarding career
pathways in public health for physicians through
Continuing Professional Development**



Moving Forward: Strengthening the Health System for UHC

**DOH creates policies for effective program
implementation of public health;
The PMA cooperates in the implementation of national
health programs in communities**



Moving Forward: Strengthening the Health System for UHC

LGUs enact stricter ordinances for effective program implementation of public health;

The PMA cooperates in the implementation of health programs; sits in the local health boards



Moving Forward: Leveraging Technology in UHC

**Hospitals invest in ICT and eHealth;
The PMA invests in developing digital literacy
skills for its members**

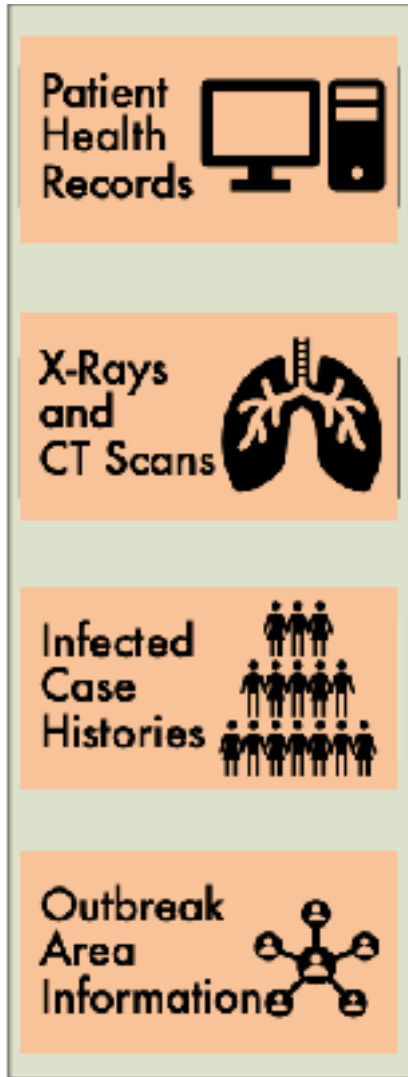
Leveraging Technology in UHC

- **ICT is key to achieving universal health care**
- **ICT is a key enabler of resilient health systems**
- **ICT is key to monitoring progress toward UHC**

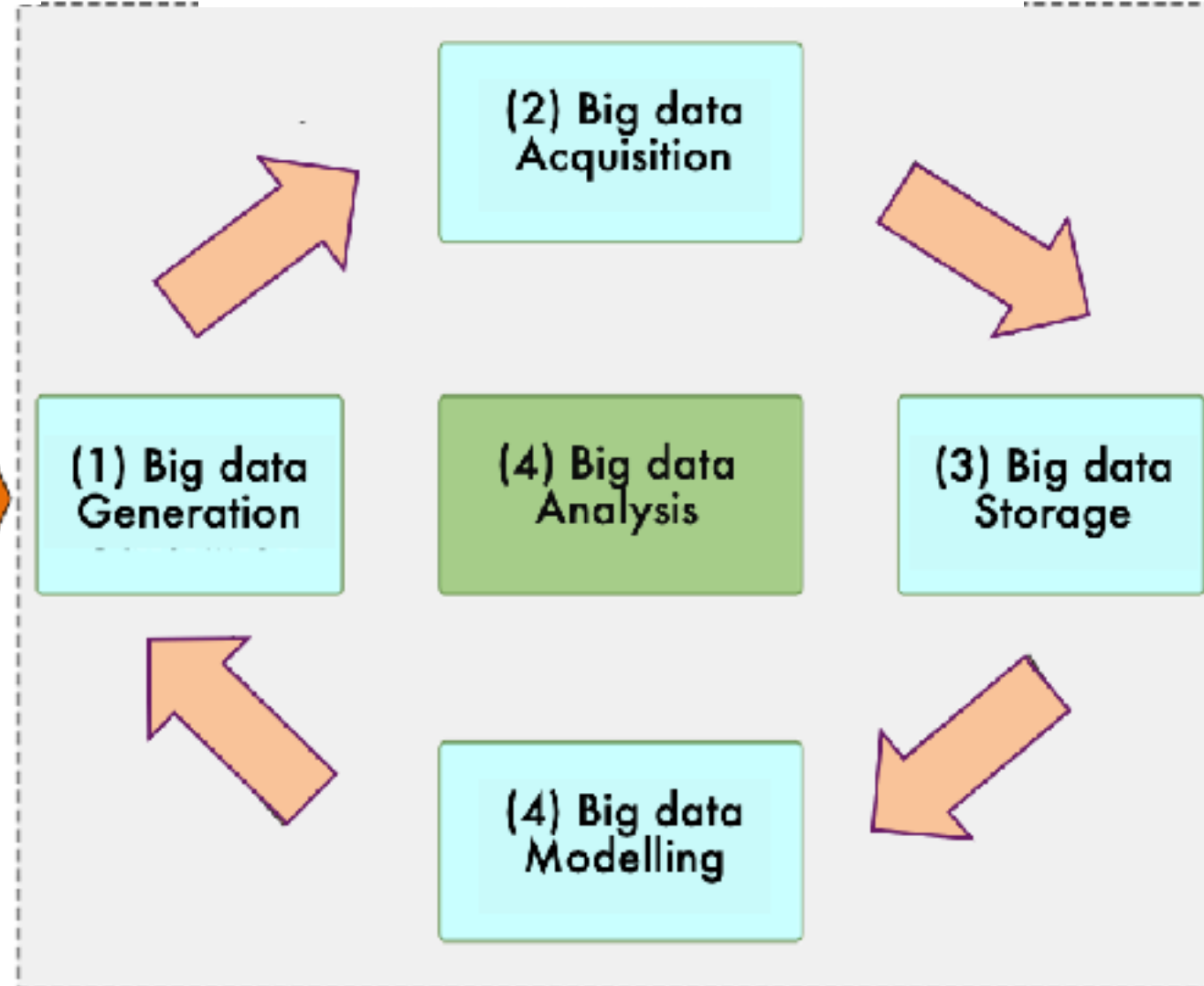
Going Digital

- **Capability-building in digital literacy among the PMA members so we can leverage digital health to move along that path to achieving universal health care coverage:**
 - **to increase the number of people reached,**
 - **provide enhanced service coverage and**
 - **reduce the financial burdens on individuals in need of health care.**

Big data Sources



Big data Processing of Population Data

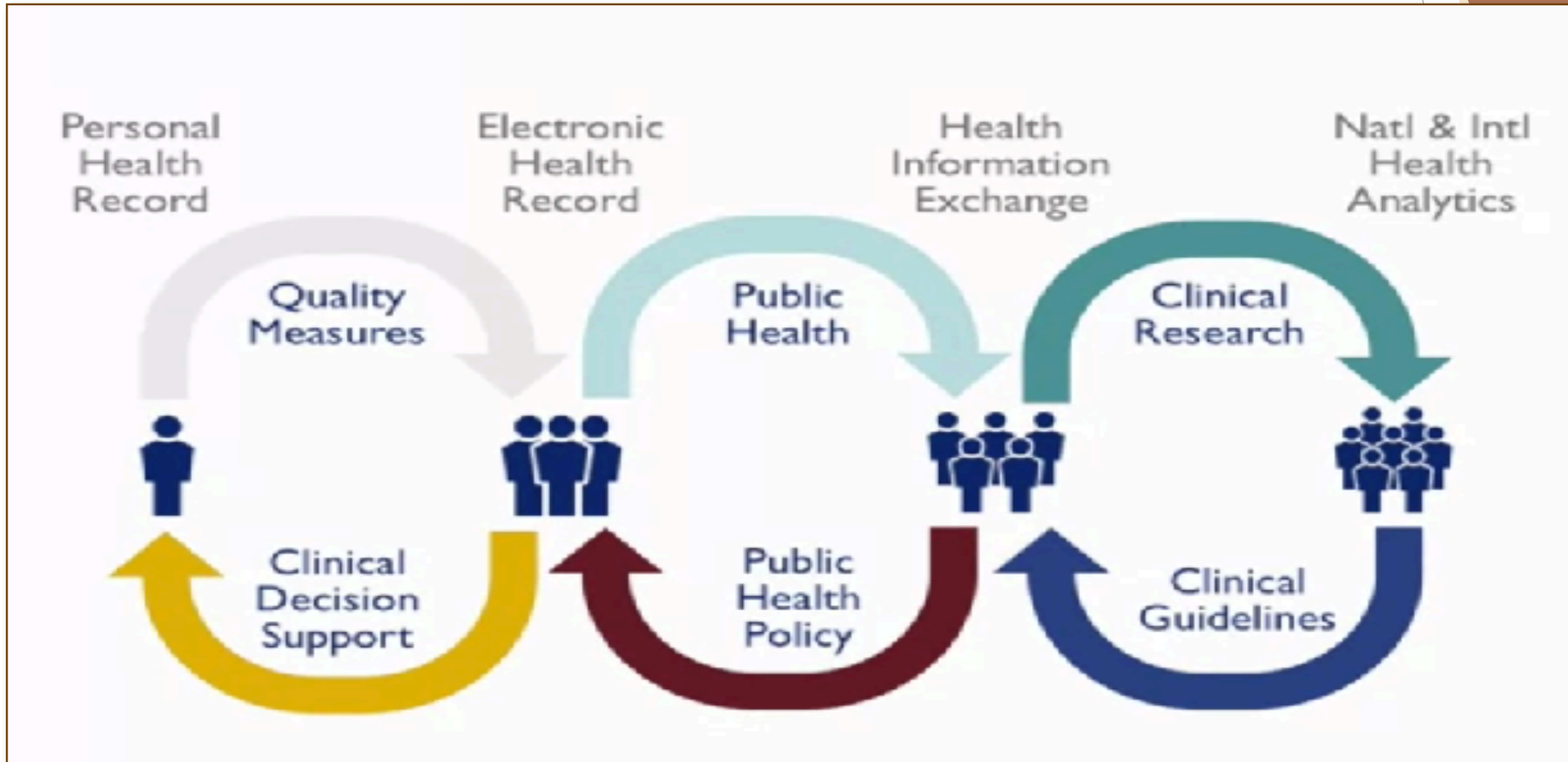


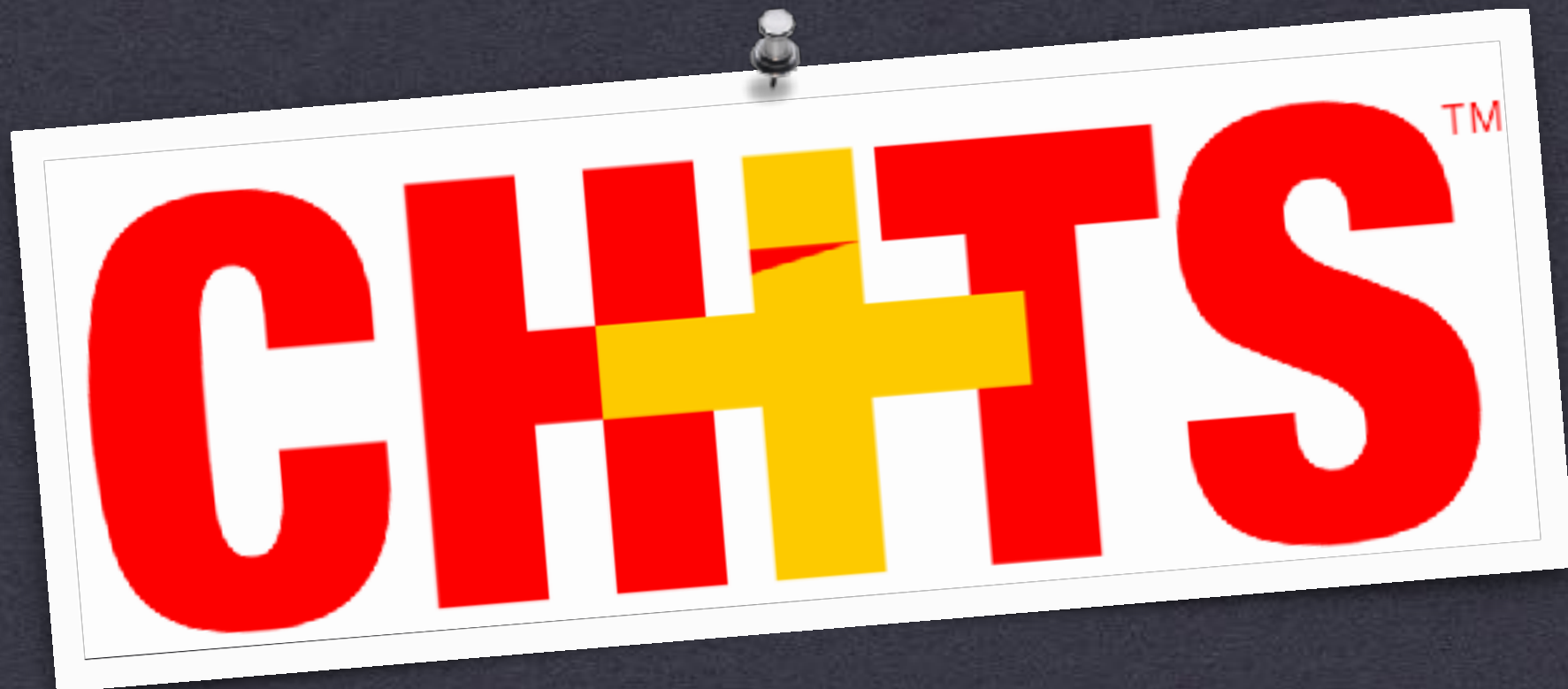
Big data Applications



Big Data Applications in Health Systems

Hospital Records and big data: from lab to clinic and back again





**THE COMMUNITY HEALTH
INFORMATION TRACKING SYSTEM**

AN ELECTRONIC MEDICAL RECORD (EMR) FOR HEALTH WORKERS



THE DOCTOR IN A BOX

A MULTI-COMPONENT MEDICAL AND TELEMEDICINE DEVICE

RxBox, a Telehealth System

- * a telemedicine device capable of capturing medical signals through built-in medical sensors, storing data in an electronic medical record (Community Health Information Tracking System – CHITS);**
- * transmits health information via internet to a clinical specialist in the Philippine General Hospital for expert advice;**
- * catalyzes improvement in the local referral system by facilitating teleconsultations (audio- video conferences) within the National Telehealth Service Program;**
- * can reduce the overall cost of healthcare by enabling health workers to diagnose, monitor and treat patients within the rural health facility, through medical sensors inside the box**

RxBox, a Telehealth System

Blood Pressure Monitor



Measures the patient's blood pressure to detect cardiovascular problems especially hypertension, a disease which can also worsen other chronic lifestyle disease conditions.

Pulse Oximeter



Measures the level of oxygen in the patient's blood and can help detect lung and cardiovascular problems – leading causes of death among Filipinos.

Electrocardiogram (ECG)



Monitors the heart's movement to pump blood throughout the body, helpful for those with acute and chronic heart problems, including pregnant mothers with cardiovascular problems.

RxBox, a Telehealth System

Fetal Heart Monitor



Measures the baby's heart rate while in the womb, helping detect fetal distress at critical times of the pregnancy and delivery.

Maternal Tocometer



Measures the strength of a mother's uterine contractions during labor and delivery, enabling early detection of distress to the mother and/or the baby.

Temperature Sensor



Measures a patient's body temperature. It can help detect fever, a common medical sign of infection and other disease conditions.

How to upskill / reskill?

- **Digital skills education programs should be systematically monitored and assessed for their effectiveness;**
- **Interdisciplinary and interprofessional collaboration was considered when developing a core curriculum for digital competencies for specialist medical training and CPD;**
- **Digital leaders should be identified in healthcare settings and become mentors, providing examples for others to follow.**



On-Demand Learning

Online Learning. When You Want It.



Learning OnDemand
Anytime, Anywhere

At the PMA medical educators and trainers with an eye on the future... we will always remember the 3 levels of learning:

INFORMATIVE,

which is about acquiring knowledge and skills;

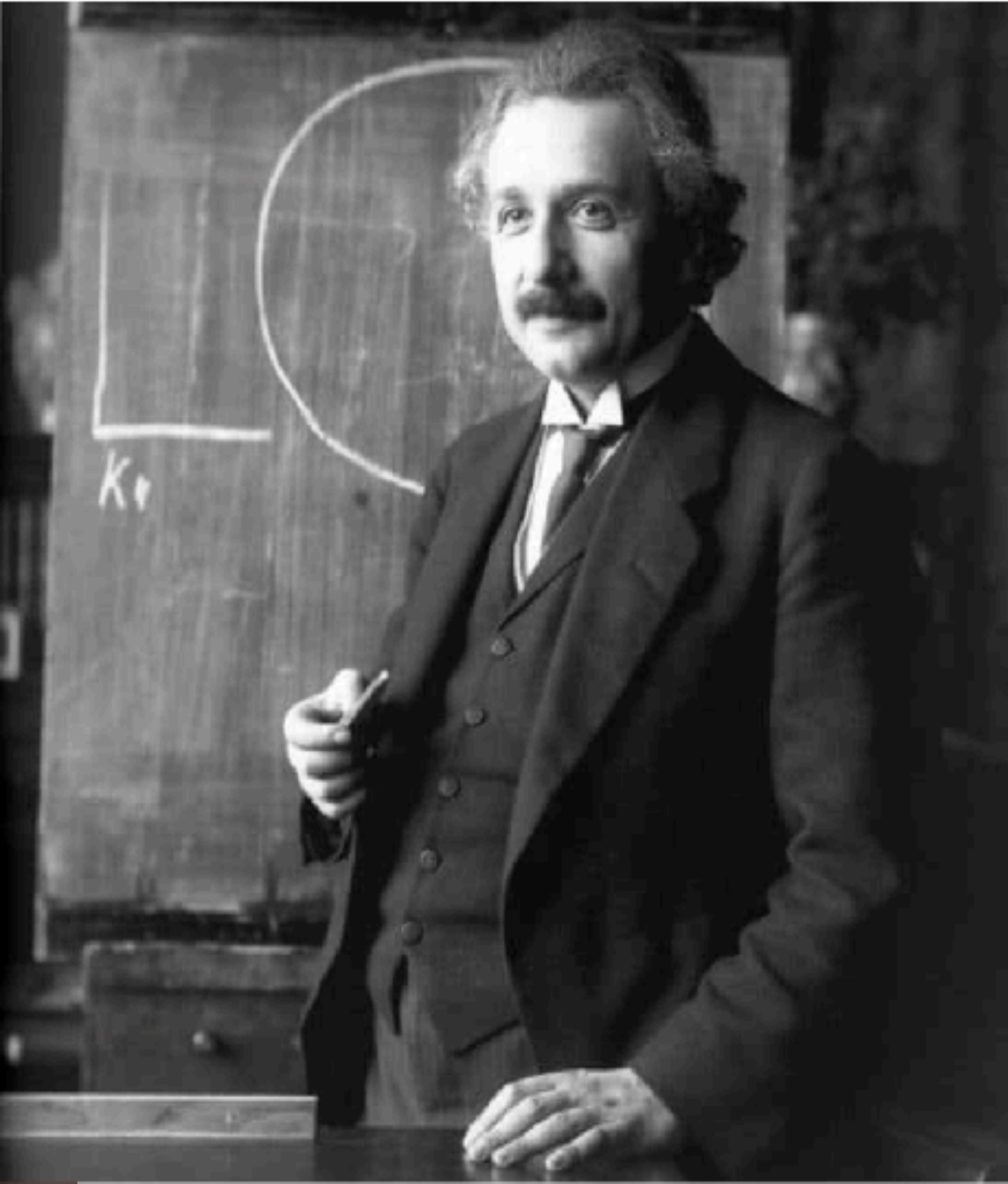
FORMATIVE,

which is about socializing learners around values; and

TRANSFORMATIVE,

which is about developing leadership to produce agents of change

Irby DM, Cooke M, O'Brien BC



We cannot solve
our problems with
the same thinking
we used when we
created them.