

Global Pharmacy Education and Practice in the Context of the Sustainable Development Goals (SDGs)

Global Education SIG with Moderator from Ghana & Speakers from Ghana and United States

March 31, 2022

Presenters:

- ***Joyce Addo-Atuah, PhD, MSc, B. Pharm***

Associate Professor, Touro University, College of Pharmacy, New York & Chair,
Global Education SIG of AACP

- ***F. Amah Nkansah, PharmD, MS, EMBA***

Consultant Clinical Pharmacist/Visiting Lecturer, KNUST & Legon; Deputy
Director of Pharmacy, Korle Bu Teaching Hospital, Accra, Ghana

- ***Roman Fazylov, PharmD, BCPS***

Assistant Professor, Touro University, College of Pharmacy New York; Clinical
Pharmacist-Internal Medicine, Kingsbrook Jewish Medical Center, Brooklyn, NY



Moderator:

- ***Frances Owusu-Daaku, PhD, MSC, B. Pharm***

Professor, Faculty of Pharmacy, Kwame Nkrumah
University of Science & Technology (KNUST), Kumasi,
Ghana

Learning Objectives

At the completion of this activity, participants will be able to:

- ❑ Outline the key elements of the Sustainable Development Goals with special reference to SDG3 and 17 & the areas of pharmacists' contribution
- ❑ Discuss the educational needs and teaching strategies required to equip pharmacy students and practicing pharmacists with the requisite knowledge, skills, values, and attitudes for effective contribution to SDG 3 & 17
- ❑ Experience SDG 3 and 17 in action in the day to day work of a practice faculty

Presentation 1

Key Elements of the SDGs with Special Reference to SDG3 & 17: Highlighting Possible Areas for Pharmacists Contribution

Presentation 2

***Preparing for and Demonstrating Effective
Pharmacists' Contribution to SDG3 & 17: The
Experience of a Practice Faculty in Ghana***

Presentation 3

***Preparing for and Demonstrating Effective
Pharmacists' Contribution to SDG3 & 17: The
Experience of a Practice Faculty in the United
States***

Key Elements of the SDGs with Special Reference to SDG3 & 17: Highlighting Possible Areas for Pharmacists Contribution

Joyce Addo-Atuah, PhD, MSc, B. Pharm

Associate Professor, Touro University, College of Pharmacy, New York & Chair,
Global Education SIG of AACCP

March 31, 2022



Global Development Frameworks: The MDGs and the SDGs

MDGs

- The Millennium Development Goals (MDGs)
- 1990-2015

SDGs

- The Sustainable Development Goals (SDGs)
- 2015-2030

MDGs vs SDGs

Millennium Declaration (Sept 2000)	2030 Agenda for Sustainable Development (Sept 2015)
Gave rise to the 8 MDGs	Gave rise to the 17 SDGs
Ultimate Aim--End Poverty, hunger, illiteracy & disease	Ultimate Aim--End Poverty, hunger, illiteracy & disease; Protect the Planet; Ensure Prosperity for All
Focused mainly on low and middle-income countries	Focused on ALL countries of the world
Health-Related—MDGs 4, 5, & 6	Health-Related---SDG3
Reference Period for Monitoring & Reporting progress to the United Nations ----1990-2015	Reference Period for Monitoring & Reporting progress to the United Nations----2015-2030

SUSTAINABLE DEVELOPMENT GOALS



What are the Sustainable Development Goals?

The Sustainable Development Goals (SDGs), otherwise known as the Global Goals, are a

The 17 Sustainable Development Goals

SDG1---No Poverty	SDG10---Reduced Inequalities
SDG2---Zero Hunger	SDG11---Sustainable Cities & Communities
SDG3--GOOD HEALTH & WELL-BEING	SDG12—Responsible Consumption, Production
SDG4---Quality Education	SDG13—Climate Action
SDG5— Gender Equality	SDG14—Life Below Water
SDG6---Clean Water & Sanitation	SDG15---Life On Land
SDG7---Affordable & Clean Energy	SDG16---Peace, Justice, & Strong Institutions
SDG8---Decent Work & Economic Growth	SDG17---PARTNERSHIPS FOR THE GOALS
SDG9—Industry, Innovation, Infrastructure	

SDG3 & 17 Expanded

SDG3

- ENSURE HEALTHY LIVES & PROMOTE WELL-BEING FOR ALL AT ALL AGES

Targets

- 13 and associated indicators for monitoring

SDG17

- PARTNERSHIPS FOR THE GOALS
- Finance; Technology; Capacity Building; Trade

Selected SDG3 Targets Summarized

- End the global epidemics of HIV/AIDS, TB, Malaria & other communicable diseases (hence includes pandemics)
- Reduce by 30% premature mortality arising from noncommunicable diseases
- Reduce infant & under 5 mortality ratios
- Reduce maternal mortality ratios
- Promote universal access to safe, effective, quality, and affordable essential medicines & vaccines for ALL (AND THEIR RATIONAL USE)

Pharmacists' Contribution to SDG3 & 17 Achievement— Present at ALL 3 levels of Public Health Interventions

I

- Primary Prevention
- Prevention of disease/condition before it arises

II

- Secondary Prevention
- Focuses on early diagnosis & treatment of diseases/conditions

III

- Tertiary Prevention
- Focus on optimal treatment of diagnosed conditions to prevent/minimize complications & improve QoL of affected individuals

Pharmacists' Contribution to SDG3 & 17

Achievement: Focus on Rational Use of Medicines

- ❑ Rational use of medicines requires the following:
 - ❖ Patients receive medicines appropriate to their current clinical needs
 - ❖ In doses and dosage forms to meet their individual requirements
 - ❖ For adequate duration of treatment
 - ❖ At lowest cost to them and their community

Summary

- ❑ SDG3 promotes good health & well-being for all people across the age spectrum
- ❑ SDG17 promotes partnerships for achieving the other goals including SDG3
- ❑ IPE & Interprofessional Collaborative Practice including CDTM are in line with SDG 3 & 17
- ❑ Pharmacists at all practice settings including academia are important partners in the global efforts outlined by SDG3 to promote good health through primary, secondary, and tertiary prevention of disease, including pandemics
- ❑ Pharmacists in academia better placed to develop future pharmacy leaders & practitioners with the requisite knowledge, values, and attitudes for the continued relevance of the profession

References

- ❑ United Nations. The Millennium Development Goals and beyond 2015. Available at: <http://www.un.org/millenniumgoals/>
Accessed 3/17/2022
- ❑ UNDP Sustainable Development Goals Available at:
<http://www.undp.org/content/undp/en/home/sdgoverview/> Accessed 3/17/2022
- ❑ United Nations. Sustainable Development Goals: Take Action for the Sustainable Development Goals Available at:
<http://www.un.org/sustainabledevelopment/sustainable-development-goals/> Accessed 3/17/2022
- ❑ WHO Promoting Rational Use of Medicines. Available at: <https://www.who.int/activities/promoting-rational-use-of-medicines>
Accessed 3/17/2022
- ❑ WHO Study Group. Framework for Action on Interprofessional Education and Collaborative Practice, 2010
Available at: https://www.who.int/hrh/resources/framework_action/en Accessed 3/17/2022
- ❑ Addo-Atuah J. Making a case for a public health orientation in global pharmacy education and practice in the context of the Millennium Development Goals (MDGs). *Currents in Pharmacy Teaching and Learning*. 2014;6(5):723-729

Preparing for and Demonstrating Effective Pharmacists' Contribution to SDG 3 & 17: The Experience of a Practice Faculty in Ghana

F. Amah Nkansah, PharmD, MSc, EMBA

Consultant Clinical Pharmacist/Part-Time Lecturer, KNUST & LEGON
Deputy Director of Pharmacy, Korle Bu Teaching Hospital, Accra, Ghana

March 31, 2022



Learning Objectives

- ❑ Discuss the educational needs and teaching strategies required to equip pharmacy students and practicing pharmacists with the requisite knowledge, skills, values and attitudes for effective contribution to SDG 3 &17
- ❑ Experience SDG 3 and 17 in action in the day to day practice faculty in Ghana



KORLE BU TEACHING HOSPITAL

- The largest referral centre in Ghana with a bed-size of 2000
- World class center of excellence for treatment of many tropical, non-communicable and infectious diseases
- 21 Clinical & diagnostic departments & 3 centres of excellence including Radiotherapy & Oncology, Reconstructive surgery and Cardiothoracic Centres
- Average OPD cases of 1500 & 250 in-patient admissions per day



KNUST, Kumasi
Ghana's 1st Training Institution for Pharmacists



SOP, UG, Legon
Ghana's 2nd School of Pharmacy

Types of students trained (KBTH)

- Undergraduates
 - Pharm D Students
 - 3rd & 6th year Pharm D students (KNUST & UGSOP)
- B. Pharm students (Central University)
 - Intern pharmacists
- Post graduate students (Practicing pharmacists)
 - Pharm D TopUp students,
 - Residents of Specialist Pharmacy Colleges (GCOP, WAPCP)
- Training of pharmacists from other countries under FIP Pharmabridge e.g. Ethiopia, USA

The KBTH Team

- Consultants, Senior Specialists, Specialists etc
 - Specialty roles in different fields of medical practice such as Oncology, Paediatrics, Accident & Emergency, Internal Medicine, Surgery, Maternal Health, Infectious Diseases , Electives etc,
 - Residents (of the colleges) and PharmD Housemen
- Tutor practitioners /Preceptors offered adjunct lecturer positions /Part-time lecturers with the universities
- Some Medical Doctors
- Training emphasizes on experiential practice throughout the course of training; IPPE and APPE

Services rendered by pharmacists in Ghana

Pharmacist- provide pharmaceutical care and primary health care –

- Screening for NCDs
- Prescription refill and counselling for patients especially at the community level
- Train in screening/vaccination plus practical skills and experience

- Support national health policies through the design and implementation
- Eg. medicines policies- STG/EML, procurement policies

SDG 17- strong global partnership and cooperation.

Other health professionals-
(team work)

- Drug Therapeutics Committees,
- Clinical teams for wards (MDT)
- Participate in south-south collaboration- design of sub-regional policies eg. regulatory policies, research collaboration
- South-north collaboration in pharmacy/health related research

SDGs and Pharmacists

- ❑ Currently there is only one SDG sub target—3.c—that speaks about health-care workers: “to increase substantially... the **recruitment, development, training and retention** of the health workforce



SDGs and Pharmacists

- *Pharmacists have a KEY ROLE to play in achieving each of the targets of health-related SDGs*
- This means that pharmacists NEED the following:
 - Appropriate training to contribute to attainment of the SDGs as relates to health
 - Adequate number of facilities for internship and on-the-shop training
 - Exposure to the policy making process and the development of treatment guidelines and practice standards etc.
- Pharmacy schools are obliged to train pharmacy students to meet the priority health needs of the population so that graduates are ‘fit for purpose’
- Pharmacists in academia and practice are better placed to develop future pharmacy leaders & practitioners with the requisite knowledge, skills, values, and attitudes for the continued relevance of the profession

What will be the educational needs to allow pharmacists to contribute to attainment of SDG 3 and 17?

- Pharmacy needs to develop strategies that give them a “world view” of healthcare and treatment
 - Community health
 - Public health
 - Neglected tropical diseases
 - Nutrition
 - Infectious disease control and prevention
 - Immunization and immunity
- How can pharmacists be trained to be “team workers” with other healthcare workers like physicians BEFORE they graduate?

SDG 3 & 17 Impacts

- In order to meet the requirements of these global goals
 - Pharmacy practice MUST change in response to the changing needs of patients and public health
 - Pharmacy practice in Ghana has changed completely over the past 2 decades
 - The change is with regards to both academic teaching and its set up and in the practice setting
 - However, the change is not fast nor broad enough to make Ghanaian pharmacists fit-for-purpose
 - There is an urgent need to review the curriculum REGULARLY (at least every 5 years) in order to respond to changes in a fast changing world
- At the level of practicing pharmacists, continuing education programs and specialty colleges have been set up to produce Specialist practitioners who are to lead excellent practice in all areas of pharmacy practice

Educational Needs and Ghana's Response

- The traditional BSc Hons degree program has given way to the PharmD advance degree program in all Universities in Ghana
 - Disease Specific modules (Pharmacotherapeutics) : Didactic methods
 - Maternal health, Child health, Infectious and communicable diseases, Neglected tropical diseases, Non-communicable diseases, Sexual & reproductive health, etc
- Training emphasizes on experiential practice throughout the course of training. IPPE and APPE
 - i) IPPE 1-4 levels (6 wks practice experience in community, hospital(nursing & laboratory practice), industry etc
 - ii) APPE : 40 wks of clerkship rotations comprising clinical experiences. Students merge theory & practice to enhance positive patient outcomes
- Focus is aimed at practical solution of pharmaceutical care issues encountered on daily practice with an ultimate aim of meeting SDG 3 & 17

Training Needs for SDG 3

- Training of pharmacists and students on importance of SDG 3
- Train and retrain in health promotion: with focus on preventive strategies, early case detection and comprehensive pharmacotherapy and students to be personally involved in healthy lifestyles, aerobics etc.
- Improve promotion of specialist pharmaceutical care for the aged and paediatrics
- Train pharmacists and students in TV and Radio programmes to be able to create and host health programmes

Training Needs for SDG 17.

- Incorporate the attitude of team work and “soft skills” into the training of pharmacists (critical thinking; emotional intelligence; communication etc.)
- Encourage the multi-stakeholder approach to many of the health issues
- Collaborate with local and international colleagues
- Promote exchange programmes to improve knowledge, skills and attitudes to promote development

Teaching strategies



- ❑ **Lecturing** at universities/professional colleges on some aspects of Public health such as Environment and Health as well as SDGs target areas where teaching curricula/module can be developed.
- ❑ **Seminars, symposia, continuous education programs** for target areas that cannot be covered training curricula.
- ❑ **Clinical/community/industries attachment, internships, on the job coaching** for target areas that needs practice.

Way forward

- ❑ Establish signed MoUs with practice establishments to facilitate adequate experiential exposure for all students
 - ❖ 6-year Doctor of Pharmacy degree
- ❑ Long -lasting collaboration & cooperation between universities & healthcare institutions in training Doctors, Pharmacists & Nurses & other HCPs to ensure multidisciplinary team approach to patient care
- ❑ Ensure multidisciplinary ward rounds, discussion of patient cases encountered, tasking of student groups to prepare on specific topics
- ❑ Documentation of case studies in SOAP format for discussions of multidisciplinary student groups with preceptors

Case Study

- PC: DO, a 49 yr old male presents with painful mass in the left breast for past 1 yr
- PMH: Hypertension and Hip pain
- Rel. signs:
 - BMI-27.3kg/m²
 - Breast mass (3 X 2 cm) oedema around the breast (T4bN1Mo), Hb 10.3g/dl BP 166/100- 175/125 mmHg
 - ER+, PR+, HER 2-ve, K67 unfavourable, eGFR 42.5ml/min
 - Histology report: Left breast (core biopsy): invasive ductal carcinoma, NST, Grade III, ECHO report: Hypertensive heart disease with Grade II LV diastolic dysfunction, EF 60%

- Medical problems:

Left breast cancer, Severe uncontrolled hypertension, ? Renal impairment (CKD), Anaemia, Erectile dysfunction

Current medications:

Tabs Tamoxifen 20mg, Tabs. Nifedipine 40mg 12 hrly, Tabs

Indapamide 1.5 mg daily, Tabs lisinopril 10mg daily, Tabs Bisoprolol 5mg

- Pharmaceutical care issues identified
 - Improper medicine selection
 - Anaemia not treated
 - Monitoring needs(doses of antihypertensives in a moderate renally impaired patient)
 - Counselling needs
- At MDT meeting, Recommendations made and actions taken
 - Stop indapamide, bisoprolol
 - Change Nifedipine to Amlodipine 10mg, increase lisinopril 10-20mg, add tabs hydralazine 25mg and monitor
 - IV Docetaxel 75mg/m² and Xeloda 1000mg/m²(when BP 140/90),
 - Tabs Ferrous fumarate

- Patient counselled and monitored
- After 5 weeks, BP stabilized, patient counselled on xeloda use and followed with mastectomy.

Preparing for and Demonstrating Effective Pharmacists' Contribution to SDG3 & 17: The Experience of a Practice Faculty in the United States

Roman Fazylov, PharmD, BCPS

Assistant Professor, Touro University, College of Pharmacy New York; Clinical Pharmacist-Internal Medicine, Kingsbrook Jewish Medical Center, Brooklyn, NY

March 31, 2022



Overview of PharmD Curriculum at Touro

- Didactic Education- 2.5 years
- Introductory Pharmacy Practice Experiences – 6 Months (takes place during didactic education)
- Advanced Pharmacy Practice Experiences- 1.5 years

Interprofessional Education

- Definition:
 - “When students from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes.” (WHO 2010)
- Effective Interprofessional Education is required by ACPE (American College of Pharmacy Education)

Interprofessional Core Competencies

1. Work with individuals of other professions to maintain a **climate of mutual respect and shared values**.
2. Use the knowledge of one's own role and those of other professions to appropriately assess and address the health care needs **of patients**

Interprofessional Core Competencies

3. Communicate with patients, families, communities, and professionals in a **responsive and responsible manner** that supports a team approach to the **best possible health outcome**
4. Apply **relationship-building values and the principles of team dynamics** to perform effectively to plan, deliver, and evaluate patient/population-centered care. (Teams and Teamwork)

Teaching Strategies for SDG17

- Shared classes between professions that foster a collaborative work environment to solve common clinical problems
- Scheduled IPE events where students work in interdisciplinary groups to care for a patient.
- Advanced Pharmacy Practice Experiences

Post-Graduate Training

- Not required, but pursued by 50-75% of Touro Students upon graduation
- Residency training → Clinical Pharmacist
- Fellowship training → Industry Pharmacist
- Both career strategies rely heavily upon the successful execution of SDG3 and SDG17

IPE at Work

- JB is a 68 y/o female presenting from a nursing home to the ER with new onset altered mental status and fever of 102.5°F
- PMH: depression and anxiety
- Allergies: penicillin
- The patient was found to have a UTI and started on ciprofloxacin IV 400 MG q12hours

IPE at Work

- 48 hours after admission the patient was not improving as expected and urine culture results show the following susceptibility pattern ...

IPE at Work

- E.coli
 - Ampicillin – S
 - Ampicillin/sulbactam - S
 - Cefazolin – S
 - Ceftriaxone - S
 - Ciprofloxacin – R
 - SMX/TMP – R
 - Gentamicin – R

Follow-Up

- After a thorough history by the Pharmacists, it was determined that the patient will likely tolerate a cephalosporin with low chance of cross-reactivity
- JB was started on ceftriaxone and responded well to therapy
- JB was educated on her allergies and discharged after spending 5 days in the hospital

Elements of Collaborative Practice

- **PATIENTS ARE CENTER OF HEALTH CARE
DELIVERY**
- **TRUST**
- **RESPECT**
- **COMMUNICATION**

Bringing them all together....

- In this webinar, the panel speakers have:
 - ❖ Provided an overview of the Sustainable Development Goals (SDGs) with special focus on SDG3 (Health) & SDG17 (Partnerships)
 - ❖ Outlined the strategies that are being used to develop the requisite knowledge, skills, attitudes & values to prepare pharmacy students and practitioners to contribute meaningfully to the achievement of SDGs 3 & 17
 - ❖ Provided examples of practice faculty as active members of multidisciplinary healthcare teams for optimum patient care

Questions??

Free AACCP Membership!

- To facilitate expanded collaboration between U.S. and international faculty, AACCP is pleased to offer international pharmacy educators a **complimentary membership for 2022-2023**.
- Through many valuable professional development and networking opportunities, we hope this collaboration of pharmacy colleagues will help transform health professions education.

Link can be found in the Chat!

