# Designing transformative public health education for the developing world: how one course re-imagined a more indigenous MPH

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## Abstract
This manuscript proposes a novel version of an academic program for community outreach in Native populations of Bangladesh. The curricular content was designed to gather and comprehensively understand community health experiences, and the design methodology proposed structured student learning around integrative factors that determined community health realities. The authors refer to the need to curricularly assign a basic human health need, such as water, nutrition, housing, sanitation, or work, so as to undertake an in-depth exploration of that topic and understand the practical conceptual foundation and interdependencies among the social determinants of health that produce community health outcomes. This document showcases student projects, their own practical solutions to real health problems, and how they and their community of teachers successfully learned and carried out simple solutions that can be applied to disadvantaged communities.

Keywords: public health education; population groups; social determinants of health; curricular design

## Resumen
En este manuscrito se propone una versión novedosa de un programa académico para el extensionismo comunitario en poblaciones nativas de Bangladesh. Los contenidos curriculares se diseñaron para encontrar y comprender ampliamente las experiencias de salud de la comunidad y la metodología de diseño propuso un aprendizaje estructurado de los estudiantes en torno a factores integradores que determinaron las realidades de salud de la comunidad. Los autores refieren la urgencia de asignar curricularmente necesidades básicas de salud humana, como agua, nutrición, vivienda, saneamiento o trabajo, para emprender una exploración profunda de ese tema, obtener una base conceptual práctica y contar con las interdependencias entre los determinantes sociales de la salud que posibiliten los resultados de salud de la comunidad. Este documento muestra los proyectos de los estudiantes, sus propias soluciones prácticas a problemas de salud reales y cómo éstos, junto con su comunidad de maestros, aprendieron y llevaron a cabo con éxito soluciones simples que se pueden aplicar a comunidades desfavorecidas.

Palabras clave: educación en salud pública; población indígena; determinantes sociales de la salud; diseño curricular

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"What does Public Health (PH) mean to communities in the Developing World?" This thought-provoking question by our Learning Designer Mikhail Idris Islam in 2016, challenged me to critically consider the fundamental basis for our international Master of Public Health (MPH) Programme, which catered to Developing World students (MPH education programme: 562 graduates from 34 countries) and was based in Bangladesh. I was familiar with Global Health agendas, academic research, donor priorities and multilateral policies; there proved to be no clear-cut answer to how communities themselves perceived, comprehended or experienced PH holistically. Nor whether communities felt or evidence indicated that they achieved improved overall health and well-being. He thereby compelled me to reflect on the MPH Curriculum's overall need to prioritize communities' indigenous health outcomes. Brac James P Grant School of Public Health was established in 2004 to address the particular PH needs and priorities affecting disadvantaged communities within Asian, African and South American countries. The school since its inception focused on experiential learning in communities in rural areas and was featured by the World Health Organization Bulletin in 2007[1] for its focus on community-based fieldwork in our MPH program and again in 2019 by Johns Hopkins for its experiential learning.[2] However, this paper focuses on a further shift that took place in 2017, when we revised curriculum and added to the experiential learning methodologies to concretize communities' indigenous health outcomes. That overarching question echoing the School's original mission, recapitulated human and community health as the very purpose for PH and thereby PH education. Proving to be the catalyst for a lengthy overwhelming and ultimately fulfilling journey of discovery to re-imagine our MPH's learning and teaching ethos of Developing World PH.

At the time, what Mr. Islam proposed was intellectually compelling. Yet as a career medical anthropology researcher and a professor teaching two courses at the time; the prospect of undertaking curriculum reform without requisite, learning design or health practice implementation experience was daunting. Most importantly, where did one even begin?

Mr. Islam proposed a practical strategy of "starting small" by redesigning and piloting the MPH's introductory course and I had agreed to assume responsibility for. Since he had been working closely with myself and the Associate Dean on the School's long-term strategy, training and marketing since 2015 and his previous background experience, he brought a certain professional skills learning design experience which became essential. We started with the first module, the *Introduction to Public Health* in the programme. This paper focuses on the process of developing a module, which focused on indigenous public health practice, by positioning communities at the forefront of the entire module.

From the outset, he rigorously challenged the ingrained, modern conceptions of PH neglecting the lived health realities and socio-cultural contexts of the world's largely disadvantaged communities; and accordingly posed certain core learning design questions:

1. How would our MPH bring communities to the fore of indigenous PH practice and research, in order for students to comprehend community health on its own terms?
2. How should students learn about the multi-dimensional, interdependent factors underlying these communities' personal and social determinants of human health?
3. How does a human being in the Developing World define and experience her own self, well-being or health privation?
4. And finally, how should students integrate community, health factors and individual health conception to devise simple health solutions for and with communities to improve their health outcomes?

For the first time I was pressed to critically think through the broader philosophical and learning principles that should underlie a contextualized indigenous PH course's design.

What he was advocating was a more indigenous Developing World PH framework for the MPH, that genuinely corresponded to Developing World communities' lived health experiences.

As a medical anthropologist working in ethnographic research, I was accustomed to locating these critical queries about meanings of health and community engagement exclusively within research, but never having to apply them into actual curriculum reform. I was faced with the unsettling prospect of reforming an existing, established course; and there was nothing I knew of that validated this learning design approach in PH education as we often relied on curricula that was already established. How would we conceptualize and translate these PH and Learning principles into curriculum content; for student learning and how to actually teach in a fundamentally different way. The idea was to pilot initially the concepts and ideas and learn and test out this model in 2017. We worked for six months in 2016, prior to rolling out the revised module, with much trepidation.

## Community-centric PH: the community-learning praxis

The course structure was redesigned so that the community was no longer a secondary component but the center of the entire course, which meant that a selected established community in informal settlements of Dhaka city, became the central learning praxis and health context for students to learn. The design immersed students in local urban settlements from day one with increased overall fieldwork embedded throughout the entire course, to explicitly establish the primary 'real-world' PH classroom of the community.

All regular classroom sessions were then redesigned around the community, so that they were complementary and seamlessly referred back to the community reality and learnings, including Local Contexts of PH; Health Equity & Ethics, Structural and Social Determinants of Health, etc.

The field visits were also redesigned from research-oriented inquiries of communities to an explicit programmatic focus that holistically assessed health service-delivery links to community health outcomes. This shifted from studying communities as health objects or recipients of PH; and recognizing them as health subjects with agency to articulate and assert their health awareness, know-how and health-consciousness.

In planning this community-based teaching, the most challenging aspects were required by myself and faculty and facilitators intensive hands-on facilitation, providing the requisite in-depth ongoing teaching orientation; trial and error and learning as we applied the newly redesigned course. Soon we realized that this required more teaching facilitators to provide students with continual learning feedback and support; and ensuring in-depth post-community debriefs and reviews with students. Community centered learning demands being responsive and adaptive to students' learning process.

When this community fieldwork was piloted in 2017 in informal settlements in urban Dhaka city, students were initially overwhelmed at directly apprehending the stark living conditions of disadvantaged communities, which most had never witnessed before. Students recognized the ground realities of how health is experienced by communities; which formed a living context for comprehending and empathizing with community health; with many then able to relate to their own country contexts.

The continual community-centered immersion in general also allowed students to experientially grasp rudimentary health concepts and theoretical constructs more readily. Students also reflected on personal and peer assumptions around communities, who cannot be 'objects' of inquiry / interrogation and health interventions.

## Community integrative health learning

To broadly encounter and comprehend the community's health experiences, the design methodology proposed structured student learning around integrative factors that determined community health realities. Student groups were each assigned a basic human health need such as water, nutrition, housing, sanitation or jobs, to undertake an in-depth exploration of that theme, to gain a practical conceptual grounding in and the interdependencies between social determinants of health, to enable community health outcomes. Likewise, human health need as opposed to health assuming its own entity and construct, rather than privileging actual human needs to achieve genuinely humane, quality health outcomes.

The Integrative Health Learning teaching required the faculty team to set community dialogue guidelines to ensure students remained focused on their themes; follow appropriate ethical conduct; as well speak with cultural sensitivity to heterogenous groups. In shifting from a research-based inquiry to a programme-based group work, the team had to identify communities as well as non-governmental organization staff to discuss services related to the group themes.

In piloting this field work, groups passionately presented their health theme findings with continual peer-critiquing and mutual support, to discover how intrinsically related these themes were in contributing to or depriving quality community health. Students shared the importance of listening more respectfully, non-judgmentally and with humility when conversing with and learning from community members. They observed the inadequate biomedical disease-based models of PH which exclude the fundamental aspects constituting good health.

## Indigenous concepts of the self, body and health

In understanding communities' health factors, it was important to then consider how communities collectively and individually as human beings defined their own health, based on their own consciousness of selfhood. This resulted in brainstorming commonly accepted definitions of PH to identify what was missing. Mr. Islam proposed incorporating the elementary basis of indigenous concepts of the self, body and health within Asian, African and South American cultures, comprising physical; emotional, mental and spiritual health.

As the fieldwork took place, some inherent confusion and hesitancy amongst colleagues and myself emerged around emotional health, which is typically not recognized as a separate health dimension but subsumed or minimized under mental health. The teaching facilitators were familiar with mental health and mental illness within standard PH and medical school curricula, which required more reflective deliberation to prepare the teaching guielines. This led to many discussions as well as brainstorming on how to get students to ask questions on emotional well-being, separate from queries on mental health.

Discussions with students were facilitated by field visits so students divided into groups could understand the local meanings of 'emotional health,' as explained and understood by diverse community members. However, when students undertook their fieldwork with these indigenous conceptions of health, they initially struggled with distinguishing between emotional and mental health, which warranted continual feedback along with supplementary videos and literature from the teaching team. Through an organically adaptive learning process of student fieldwork findings, peer critique and interactive discussions allowed students to recognize the community experience of emotional determinants of health.

The spiritual health dimension, although newly introduced, immediately proved to be an important basis for understanding community health through its direct linkages with self-identity and health-seeking behaviors. Students also related to these body and health concepts through their diverse cultural backgrounds and personal experiences; acknowledging that such concepts were critical to designing health interventions that ensure health service use and uptake.

More recently, Developing World members of the Rockefeller 3D Commission on the Social Determinants of Health (commission work in 2021) included spiritual and emotional health as dimensions when defining and conceptualizing health for communities.[3]

By placing local health concepts of body at the MPH's outset the course legitimized and prioritized communities' perspectives of self, body and health. This was a powerful learning for in challenging the disease-oriented focus of PH models, which influences health approaches and action.

This incorporation in the module, was critical. If we note more recently, overall public health responses to Covid-19, demonstrate that spiritual health was a key factor in compelling communities across many countries from continually seeking out places of worship (i.e., churches, mosques, temples), despite the repeated warning of the need for physical distancing and lockdowns. Some communities did not report symptoms or seek care, as they feared improper burials, if they died in a hospital. This was the case earlier with ebola in Liberia and again in Bangladesh with Covid-19. A failure of risk communications in public health messaging with the focus on biomedical aspects of prevention, neglects the socio-cultural and religious dimensions, which is detrimental to achieving positive health outcomes.

## Community health solution framework: innovating simple health solutions

It was not enough for students to gain intensive community-immersive health learning, practically comprehend the social determinants of health; and examine the personal dimensions of human health. Students needed to synthesize, apply, and demonstrate by the course's end, the real-world health skills developed.

The Community Health Solution Framework was designed to integrate all three, general-to-specific levels of community health, to reflect and simulate the multilayered complexities embodying PH. It was imperative that students not only research or intellectually grasp these health realities; but most importantly confront them in simulated real-world practice. As PH challenges and crises mount, what's most urgently required but in short supply is innovative, impactful health solutions. Students were therefore tasked with developing simple, low cost, pilotable solutions on their assigned thematic groups.

Initially, I was extremely concerned as to whether students would be able to understand this task and be able to simulate–developing with communities' low cost, simple solutions in the time given. I was worried how I would be able to explain this to the students and whether my course facilitators and I could teach this learning methodology. There was also great reluctance and hesitation from a few colleagues, who believed that this may be too ambitious.

However, Mr. Islam pointed out that the object was not for students to develop perfect solutions but to begin learning and practicing creative solutions-thinking mindsets and skills. He also urged that we not underestimate students' creative thinking, but that we create a structured, step-by-step learning process for them to demonstrate it. Students would learn quickly and communities are capable of solving their own problems. After several gruelling deliberations with Mr. Islam, my colleagues and I decided that we would test this out and we would adapt the facilitation process in real time, as it unfolded during the course. This was labour intensive and quite intellectually stimulating but stressful, as adapted our facilitation during the solutions exercise.

As the course unfolded, and we saw students engage in this process, there was a realization that this was the perfect opportunity for students to be actively engaged in the learning process, and they would also understand how communities can be active agents and problem solvers in their own health challenges. The principle of simple solutions learning he advocated was not theoretical but based on the actual successful models of pilot solutions that revolutionized Grameen Bank's micro-finance[4] or Brac's Oral Rehydration Solution (ORS) for diarrhea;[5] and even more recently Silicon Valley business start-ups.

The Community Health Solutions Framework methodology was not left to the end of the course; but it was designed to be embedded into the entire course, from the first day and first fieldwork, for students to cumulatively learn and tie together through the final solutions projects.

The 2017 pilot implementation and teaching was challenging as students were initially overwhelmed in focusing on the more abstract structural problems in the settlements and initially devising unnecessarily complex solutions. The course faciliators* and I held several ongoing debriefs with students, reminding them of the basic concepts around simple solutions; and to keep bringing them back to the need to explore solutions within contexts, through and with communities, that were feasible and sustainable by communities themselves. While it was clear, we were not proposing students solve all the problems, it was clear that there were simple solutions that could address some basic needs and priorities of the communities.

As part of the learning process, students were required them to conduct literature searches and reviews of relevant community-partnership materials online; along with constant debriefs from teaching teams. As students continued their community exchanges, and began grasping the project solutions-thinking, we found the atmosphere transform. Students were exhilarated by this first-time chance to creatively think through and devise their own practical solutions to such relatable, real-world health problems.

## Solution projects & the way forward

After just a few intense late nights absorbed in group work, students produced some amazing solution projects (figure 1).

The students exuded pride in their presentations, which demonstrated that they had carefully thought through all the steps in developing their simple solutions. Suffice it to say, we were all astonished at how creative, and contextually feasible their solutions were.

They effectively demonstrated their skills learning of empathy, collaborative teamwork, problem-solving, critical thinking, community-centric design, systems thinking and solutions thinking (figure 2).

As a teacher, and for all of us involved in this process, this was quite an emotional experience, and personally and intellectually rewarding. The earlier stress of how this would unfold ultimately turned to joy and deeper realization that I could and did learn from students about simple solutions that can actually be applied to disadvantaged communities. Despite all

* I would also like to acknowledge all the teaching fellows, facilitators, faculty, and my colleague Bachera Aktar who co-coordinated this course and supported me in the piloting and implementation phase of this module in 2017.

**Figure 1. Hanging wall vegetable gardens with disposed plastic bottles nutrition to provide essential dietary nutrition within highly congested slum settlements. Bangladesh**

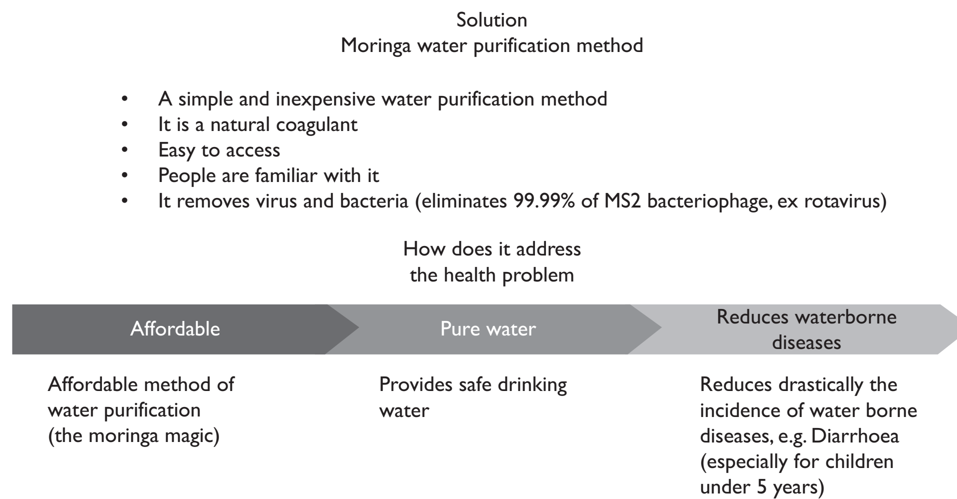


**Figure 2. Simple moringa water purification method that can be utilized to enable safe drinking water. Bangladesh**

the angst and intensive preparation and planning, the reform was hugely successful. We all felt relieved and elated with a sense of achievement at the final course outcomes and students' presentations and evaluations.

Students shared they were genuinely moved by their interactions with communities; the entire solutions projects and reflected on the vital importance of engaging with communities on PH action. The students' feedback exceeded all our expectations, as they were energized, motivated and keen to embark on the next module, and the entire MPH journey.

With the course's enormous success, Mr. Islam and I collaboratively redesigned and developed similar learning service management and solutions project methodologies in 2017 for some additional modules in the MPH program. Brac School is now offering Brac Health Program Management and Clinic based Health Systems Management module for students to learn from universities in the North. Based on this MPH reform, we were then invited to present on "Transformative Competency-Based Public Health Education For The Developing World" at the Consortium of Universities for Global Health 2019 Conference.[6] Other senior members at Brac School also presented at this special panel; on our Implementation Science module and Midwifery Diploma program, which allows for basic hands-on practical skills to be developed amongst students.*

In 2019, the redesigned courses resulted in the School leading an Erasmus+ Grant with two other universities to support further such course redesign, which Mr. Islam led with a coordination and management team at the School, in designing indigenous competency-based curriculum with university teaching teams in two universities in the country and working closely with partners in Europe There was a national symposium in January 2022 and a teaching and learning HUB set up as an outcome of this symposium, and the aim is to continue course reform and redesign, step by step, to interested national institutions.

* Professor Malabika Sarker, Associate Dean presented on Implementation Science course, which teaches students on the critical engagement with practitioners and researchers when implementing programs and has been offering this course since 2018 in our MPH program. Dr. Selina Ahmed, former head of the Midwifery diploma course, presented on Midwives programme (DMP), where Midwives are trained to be sensitive to socio-cultural notions of delivery and assist mothers during home births and provide referrals to facilities when complications occur.

This redesigned community-praxis curriculum for learning and teaching (it should be noted that we are distinguishing Learning & Teaching [L & T] from the conventional Teaching & Learning [T & L] term, the former making learning the principle around which teaching occurs, whereas T & L presupposes teaching informing learning) has led us to become the first Developing World MPH, and continues to be aligned with the vision of our Brac's late Founder Sir Abed;* who envisioned James P Grant School of Public Health being a leading School of Public Health in making a difference for disadvantaged communities. In hindsight the reform has proven essential in light of Covid-19's magnifying the disconnect between communities and Public Health Education. More recently in 2021, there have been increasingly calls to reform public health education that is more contextualized and adapted to needs on the ground of diverse LMIC contexts and communities, which differ from the needs and priorities in the North.[7] I met Late Fazle Hasan Abed, founder of the School and also of one the largest non governmental organization in the Global South, Brac; with the Dean from Harvard T.H. Chan School of Public Health. She was visiting the School and Brac in July, 2019, just months before he passed way. At this meeting, Late Fazle Hasan Abed, fondly recollected how the revolutionary ORS simple solution used by households, that saved tens of millions of people; was originally developed by simply listening to and learning from women and men in the rural communities.

*Declaration of conflict of interests.* The authors declare that they have no conflict of interests.

* We would like to acknowledge the support of Professor Malabika Sarker, the Associate Dean, when the reform for the Introduction to PH module took place in 2016.

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