BOSTON UNIVERSITY

Implementing the Primary Health Care Playbook

"Family doctors are our rising stars for the future. Out of the ashes built up by highly specialized, dehumanized, and commercialized medical care, family medicine rises like a phoenix, and takes flight, spreading its comprehensive spectrum of light, with the promise of a rainbow."
– Dr. Margaret Chan, WHO Director General[1]

The Boston University Global Health Collaborative (BU GHC) has been working for more than a decade on establish enabling ministries of health, healthcare managers, and teachers of medicine to establish community-level primary care sectors that improve the health of citizens, increase efficiencies, and lower costs.

Background: the case for Family Medicine

As global health programs around the world have matured, it has become increasingly clear that the basic health needs of populations in both the developing and developed world are best served by highly competent generalists well-trained in principles of primary care. To be sure, disease-focused public health crusades such as those against polio and small pox have had impacts of historic proportions. However, robust epidemiological data indicates that over the long term, improving health outcomes correlate best with the density of primary care physicians, and that the effect is greatest when those primary care providers are family doctors. Recently, the U.N. established as a new Sustainable Goal in Health ***Ensure healthy lives and promote well-being for all at all ages***, an ambition that reflects clearly this emerging consensus around the central role of primary care.

The Boston University Global Health Collaborative

Based at the Boston University School of Medicine, the Boston University Global Health Collaborative (BU GHC) has established itself as one the leaders in this important new field of Global Primary Care. But in contrast to many university-based programs, most of which are concerned primarily with research, ours is devoted to an action-oriented agenda and rooted in a commitment to effecting systemic change on a national level. In over two decades of working intensely with a small number of countries, we have developed a practical playbook that is intended to provide national leaders, healthcare policy specialists, the administrators of national and regional healthcare systems, and medical educators with guidance in the process of assessing the needs of people at the grassroots level and then designing and carrying out full scale overhauls of their healthcare systems.

We base our model on a hub-and-spoke approach in which academic medical centers provide centers of learning for community-based clinicians. Rather than working at the grass roots level ourselves, we focus on teaching teachers to teach, modeling effective concepts of management

Our objectives:

The objectives of the Global Health Collaborative in the Department of Family Medicine at Boston University are as follows:

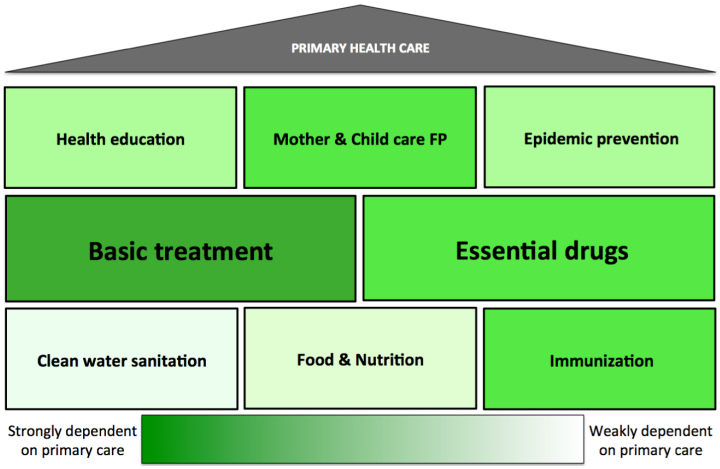
- **Capacity Building:** Strengthen capacity of local trainers and create high-quality educational opportunities in primary care
- **Clinical Services:** Develop models for high-quality outpatient training and primary care services
- **Policy & Advocacy:** Advance regional and national policies and programs to support primary care

Background:

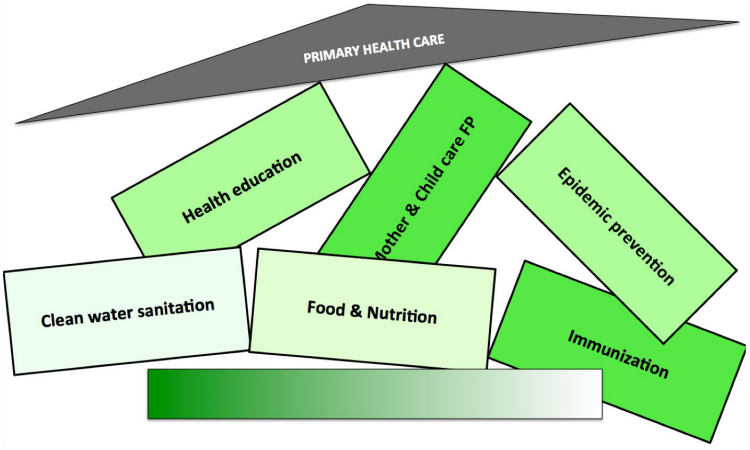
THE CASE FOR FAMILY MEDICINE

It is clear that health care systems based on primary health care (PHC) have better health outcomes and are more equitable and cost effective than systems based on specialist care.[1] Family medicine physicians and PHC nurses are the foundation of a well-functioning, coordinated health care system, with training and retaining these primary care providers a high priority of the World Health Organization (WHO).[2]

Ideally, health systems around the world would be constructed of **eight core primary health care elements:**



Unfortunately, **most systems lack effective provision of the core primary care elements** of both **basic treatment** and **essential drugs**, resulting in health systems that look more like this:



[1] Starfield, B., Shi, L., & Macinko, J. (2005). Contribution of primary care to health systems and health. *Milbank Q,* 83:457–502.

[2] World Health Organization (WHO) (2009). Sixty-second World Health Assembly. Geneva: WHA62/2009/REC/1. Available at: http://apps.who.int/gb/ebwha/pdf_files/WHA62-REC1/WHA62_REC1-en.pdf.

The Primary care provider as the focal point of a coordinated system

Core public health elements may be present, however primary care components are often neglected, resulting in an uncoordinated and less effective system. The WHO has previously outlined how **global inequities have been exacerbated by an under appreciation and inadequate support for primary care.**

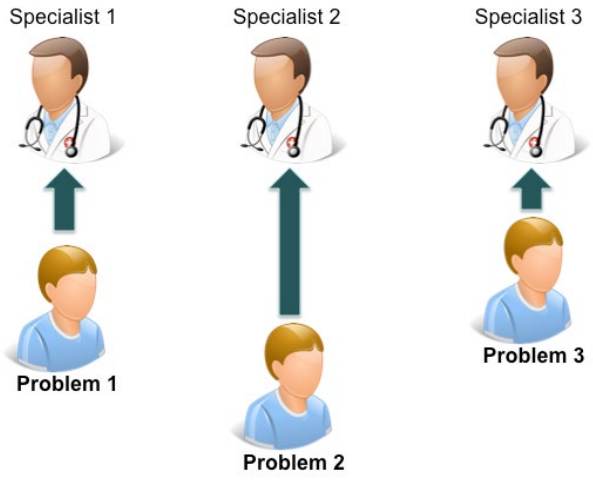
Box 2 What has been considered primary care in well-resourced contexts has been dangerously oversimplified in resource-constrained settings

Primary care has been defined, described and studied extensively in well-resourced contexts, often with reference to physicians with a specialization in family medicine or general practice. These descriptions provide a far more ambitious agenda than the unacceptably restrictive and off-putting primary-care recipes that have been touted for low-income countries[27,28]:

- primary care provides a place to which people can bring a wide range of health problems – it is not acceptable that in low-income countries primary care would only deal with a few "priority diseases";
- primary care is a hub from which patients are guided through the health system – it is not acceptable that, in low-income countries, primary care would be reduced to a stand-alone health post or isolated community-health worker;
- primary care facilitates ongoing relationships between patients and clinicians, within which patients participate in decision-making about their health and health care; it builds bridges between personal health care and patients' families and communities – it is not acceptable that, in low-income countries, primary care would be restricted to a one-way delivery channel for priority health interventions;
- primary care opens opportunities for disease prevention and health promotion as well as early detection of disease – it is not acceptable that, in low-income countries, primary care would just be about treating common ailments;
- primary care requires teams of health professionals: physicians, nurse practitioners, and assistants with specific and sophisticated biomedical and social skills – it is not acceptable that, in low-income countries, primary care would be synonymous with low-tech, non-professional care for the rural poor who cannot afford any better;
- primary care requires adequate resources and investment, and can then provide much better value for money than its alternatives – it is not acceptable that, in low-income countries, primary care would have to be financed through out-of-pocket payments on the erroneous assumption that it is cheap and the poor should be able to afford it.

From WHO's 2008 report, *Primary Care: now more than ever.*

Compounding this issue, **most systems are designed as if each patient has one medical problem, each requiring a subspecialist to manage that problem**:



The reality, however, is that **a wide variety of illnesses contribute to overall mortality**, and typically it is the comorbidity of multiple problems that is most harmful. Considering child mortality in Africa[3], one can see that while well-known infectious diseases such as HIV and malaria do contribute, more routine illnesses such as **pneumonia, diarrhea and preterm birth account for nearly half of all mortality** with **malnutrition as a major contributor to more than half of total mortality.**

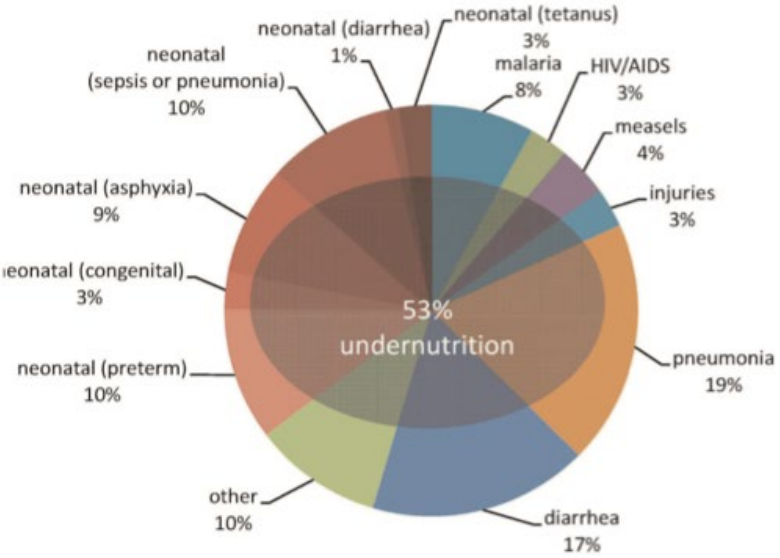
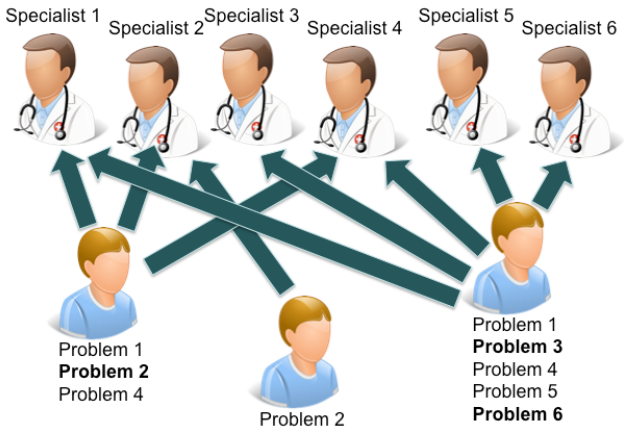


Figure 1—Malnutrition is a contributing cause of the majority of childhood deaths.[16,32] In Africa, 45% of deaths occur in children under 14.[33]

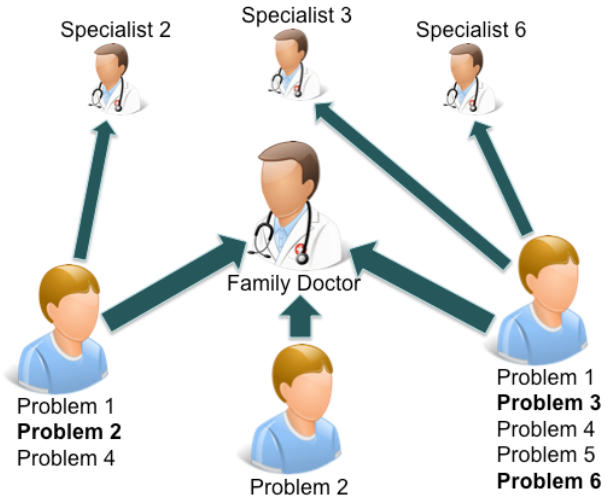
From Egilman et al. Int J Occ Env Health 2011

In actual front-line practice, **each patient has an average of *three* problems**, and only some of those problems (shown here in **bold** type) require the expertise of a subspecialist. However, in systems where numerous **subspecialists operate in parallel, patients seeking comprehensive care have to make separate health care visits for each problem:**

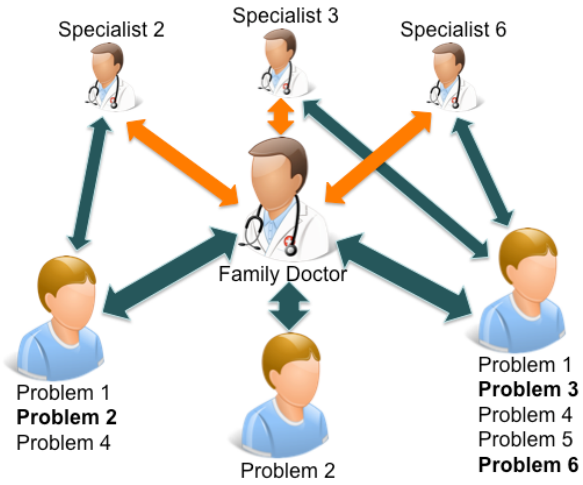


[3] Egilman et al. *Get AIDS and Survive? The "Perverse" Effects of Aid: Addressing the Social and Environmental Determinants of Health, Promoting Sustainable Primary Care, and Rethinking Global Health Aid.* Int J Occup Environ Health 2011

A more rational and patient-centered model would be designed around a local primary care provider as a familiar entryway to the health system, such as **a well-trained family doctor who typically can manage 90% of the problems that present at the grassroots level:**



In the optimal model, however, both patients and information should be facilitated in flowing both directions, effectively **integrating care throughout the system**, coupled with additional supports by the primary care provider to promote preventive care efforts and many of the other primary health care elements above:

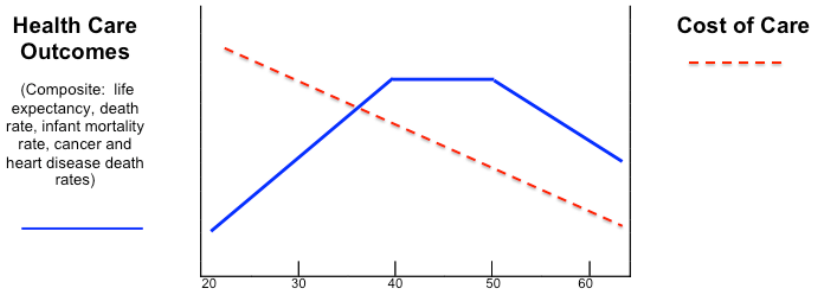


Extensive epidemiologic research backs this up, showing that **basic health needs of populations are best served by highly competent generalists** well-trained in principles of primary care. Robust data indicates that **improving health outcomes correlates best with the density of primary care physicians**, and the effect is greatest when those primary care providers are family doctors. Good in-country training that provides doctors with the skills needed to be effective clinicians at the community level and a system that supports primary care providers and services together will result in considerable health gains for the region.

In addition, we have good evidence to show how many providers are needed. It is clear, for example, that **health care outcomes improve with the percentage of primary care**

physicians, achieving optimal outcomes when between 40 and 50% of all physicians are trained generalists. Furthermore, we know health care costs decrease continuously as the percentage of primary care providers increases, thus suggesting a mixture of half primary care and half subspecialists would be ideal. Regrettably, most health systems operate with many more subspecialists.

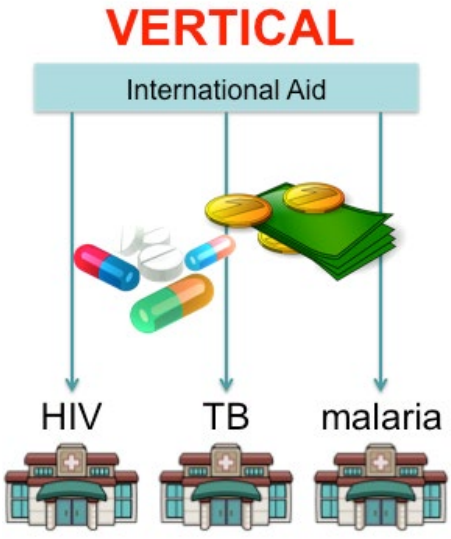
Relationship of Physician Workforce and Health Outcomes



Source:
Composite Model Using Data from The Bloomberg School of Public Health (John Hopkins University)

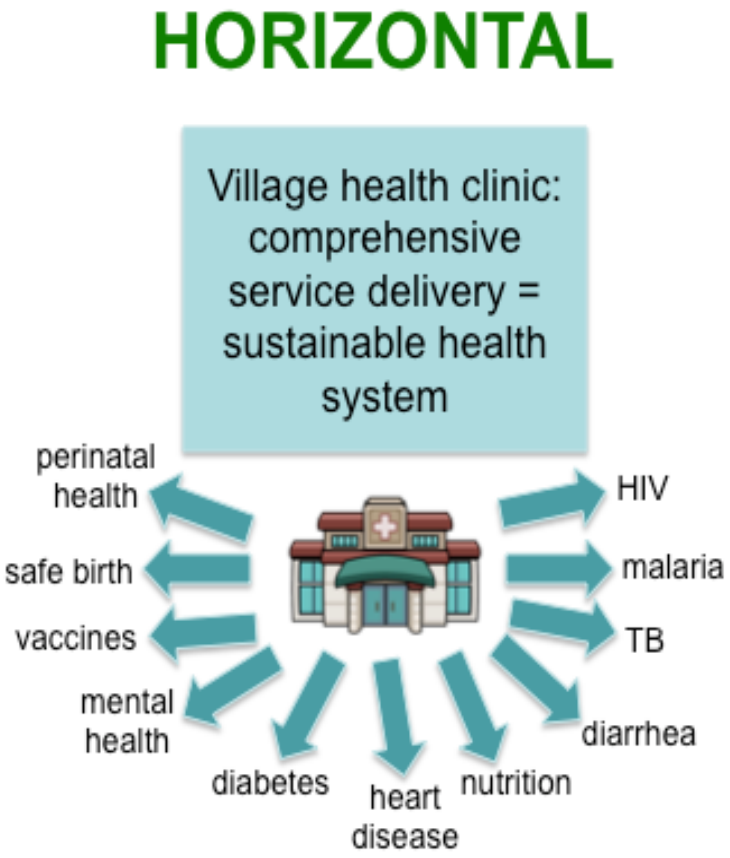
Family medicine, not disease-specific care, as the foundation of effective, efficient national healthcare systems

Our model is based on the conviction that there is an **urgent need to shift from traditional vertically-oriented programs toward more horizontally-integrated efforts**. In the traditional model, funds and medications—and in some instances training as well—flow to individual disease-specific entities, setting up redundant and parallel systems of care and requiring patients to go from location to location for their various health needs.



Adapted from Egilman et al. Int J Occ Env Health 2011

A more rational and efficient system integrates these programs into grassroots facilities capable of caring for a wide variety of common diseases specific to the community they are located in, and integrated into the fabric of the public health and hospital systems.
As USAID and PEPFAR funding diminishes, countries such as Vietnam are now looking to integrate their parallel networks for HIV care into their larger national healthcare systems.



Adapted from Egilman et al. Int J Occ Env Health 2011

Likewise, many leading international NGOs have recognized the gaps and inequities that resulted from this previous approach, and the U.N. has created a new Sustainable Goal for Health: ***Ensure healthy lives and promote well-being for all at all ages***, a clear reflection of shifting priorities in global health.

BU GHC Partnerships:

STRENGTHENING PRIMARY CARE

The Boston University Global Health Collaborative (BU GHC) has been working for over 15 years to improve the quality of health care around the world by strengthening primary health care systems and increasing access to primary care services for underserved populations. **We focus on building local partnerships to develop and implement sustainable models of primary care.** In the process, we collaborate with and **support local partners who perform front-line program implementation**. Our faculty act as expert consultants providing guidance to local partners seeking to integrate Family Medicine principles and practices and other culturally-appropriate models into pre-existing primary care structures. Using family medicine as a cornerstone, we promote primary care systems to provide the highest quality health care to all regardless of age, gender, income, geography, ethnicity or illness.

In Southeast Asia, we have worked in Cambodia, Laos, Myanmar and Vietnam with proven success in each to date:

Socialist Republic of Vietnam

Following the end of the war and the re-establishment by the US of diplomatic relations with Vietnam, BU GHC launched an effort to establish a partnership devoted to reform of the nation's healthcare systems. The Ministry of Health (MOH) having decided to reorient their health system towards primary care, this led quickly to the GHC agreeing to collaborate with Vietnam's Health Strategy and Policy Institute in the performance of a national needs assessment. The conclusions of the assessment were all perfectly clear. We found that (1) Vietnam had a tremendous asset in over 10,000 commune health centers (CHCs), most staffed with physicians and nearly all with at least a nurse; (2) despite this remarkable geographic access, patients recognized that CHC clinicians were poorly prepared to provide high quality of care; (3) most chose to bypass their local health center and instead seek care in provincial or central hospitals; and (4) therefore that the hospitals were overcrowded and the CHCs underutilized. The BU-Vietnam partnership began as the Vietnam Family Medicine Development Project. By working closely with the highest level of heath care administration, and with the critical support of generous philanthropic organizations such as the Atlantic Philanthropies, BU GHC was able to take advantage of the cultural shift towards more equitable health systems and translate it into concrete action, resulting in Family Medicine (FM) officially being recognized and approved in 2001 as a specialty in Vietnam and an effort at key medical schools to upgrade general doctors with more substantial and relevant clinical training.

Despite needing to overcome regular resistance by practicing stakeholders invested in maintaining the current subspecialty-oriented system, the success and sustainability of primary care training programs in Vietnam is evident now with:

- Trained local trainers and primary care policy consultants throughout the country
- Over 700 trained family physician specialists
- Hundreds more frontline providers with primary care-specific training
- Nearly all public universities with departments and training programs
- Flagship Family Medicine training centers
- Electronic medical records designed for frontline primary care providers
- Referral systems to promote hospital and grassroots integration
- Key legal policies and prescriptions supporting primary care development
- Inclusion of primary care services in universal health coverage
- A civil society organization to support Family Medicine
- Public service campaigns to promote grassroots utilization
- Research and evaluation programs demonstrating effectiveness

Based on this overall success towards health system reform, the Ministry of Health recently approved a $106 million dollar World Bank Health Professional Education & Training (HPET) project to promote capacity-building, largely focused on primary care and utilizing core curricular elements from BU GHC's work with multiple universities in Vietnam.

Much of this success is thanks to a group of committed champions who saw this new model and joined with BU GHC to carry out this vision, such as:

- Dr. Nguyen Phuong Hoa in Hanoi, a pulmonary subspecialist traditionally trained to fight the scourge of TB and she is now the premier primary care policy expert in the country
- Dr. Pham Le An, a pediatric intensive care unit specialist and medical education expert who, after learning of the logic of Family Medicine, abandoned his discipline to create a new department and open the doors of the first academic FM clinic in Ho Chi Minh City
- Dr. Nguyen Minh Tam, a rising star as a dynamic and charismatic young doctor of both medicine and public health who staked his claim on Family Medicine, going on to design and lead the construction of a flagship academic training center for Family Medicine

These champions now advocate for both policy and educational change in Vietnam, and have successfully incorporated Family Medicine as a key solution in Vietnam's national health plan—a plan they will now also be charged with implementing over the next decade and beyond.

Lao People's Democratic Republic

In Laos, we began a similar program based on the initial blueprint developed in Vietnam. In Laos, the population is largely rural and the system was vastly under resourced in human resources for health. As a result, most doctors including general doctors worked in a district hospital with few other physician colleagues. Working with the University of Health Sciences (UHS) in Vientiane, BU GHC designed a program together with Sing Menorath (center of photo), the Vice Rector of UHS – a pediatrician trained in East Germany, Russia and Cuba, and fluent in English, German, Russian, and Spanish in addition to his first language of Lao. Dr. Sing is a perennially upbeat patriot committed to his country, who saw bringing FM training to the largely abandoned rural doctors of Lao as an essential step towards moving access to training beyond the capital city and his own university. This project supported training-of-trainers and developed a national curriculum for general doctors in rural hospital settings, utilizing training facilities outside the usual ones based in Vientiane and it produced results similar to those achieved in Vietnam:

- national approval of a Master of Family Medicine degree program
- four Family Medicine libraries and training centers
- a pilot of the three-year distance education Family Medicine program at Luang Prabang Provincial Hospital for five district hospital physicians from remote areas

A group of five pioneering rural doctors traveled several times per year from far flung district hospitals ranging dozens to hundreds of kilometers on dirt roads over challenging mountainous terrain to come together and meet at the closest provincial hospital where they could learn new skills and bring them home to teach the other health professionals in their communities, ranging from physician colleagues to village health workers. Results from our evaluation of the pilot program identified far-ranging improvements in practice, especially in key governmental priorities such as such as community disease prevention and the expanded provision of life-saving surgical services for laboring mothers.

Kingdom of Cambodia

BU GHC has been in engaged in Cambodia for nearly 10 years now to support the development and continued expansion of Family Medicine education and training with newer programs in Cambodia with the University of Health Sciences (UHS) in Phnom Penh. This process began with efforts to understand how best to intervene in a country plagued by cultural inaction as a result of suffering long-term damage and trauma caused by a ruthless genocide. One leader of a key institution was brought to the killing fields three times and yet inexplicably released each time – scarred by such atrocities. With these kinds of experiences, it was hard for many to take risks and change. However, one young up-and-coming leader (and now medical school dean), Youttiroung Bonuchan, recognized the urgent need for an overall upgrade of the basic medical school curriculum and ventured to introduce BU GHC to a young

French pulmonary care intensivist sponsored through a program with the French Embassy, proposing that they all work together to establish a series of training programs for faculty and medical students designed to improve existing curricula in general medicine topics at the medical school and support capacity-building in curriculum development and research. Activities so far have included:

- Working with UHS faculty to review and revise the clinical general medicine curriculum
- Leading UHS faculty development workshops on how to develop competency-based curricula
- Mapping curriculum to MOH guidelines to identify training and policy gaps
- Teaching select top-tier UHS medical students about Family Medicine as part of an innovative medical and language program teaching both French and English

This has now led to the next generation of Cambodian doctors demonstrating the country's resiliency by spontaneously developing a dynamic new student-led Family Medicine Interest Group (pictured above). Two leaders of this growing group traveled to Brazil for the world meeting of the World Association of Family Doctors (Wonca) to present their experience of working with BU GHC in developing FM in Cambodia. One now hopes to become the eventual leader of the first academic department of Family Medicine in Cambodia.

Republic of the Union of Myanmar

BU GHC has been active in Myanmar since 2013, working with local general practitioners (GPs) interested in improving primary care capacity in Myanmar. Our needs assessment established that there are approximately 15,000 GPs in private practice. However, as in Vietnam, most of these clinicians lack significant post-graduate clinical training. As a result, they recognize their deficiencies and are interested in developing more robust training for themselves and future providers. Unlike Vietnam, however, these providers also described a long and recent history of systematic persecution by the military-run government, which denied to members of certain ethnic, religious and political minorities the chance to obtain specialty training or work in hospitals of the public sector, and even sometimes jailed, harassed and blacklisted them. This forced these minority GPs go underground and open private clinics.

Buoyed by rapidly shifting political dynamics, we have begun working with a core group of community-based private GPs to establish a new civil society organization in the Myanmar Academy of Family Physicians (MAFP), provide training-of-trainers and develop a curriculum for a new and improved postgraduate training program in Myanmar. We also have been advocating for policy changes in the universities and government that would help facilitate new sustainable mechanisms for capacity-building in primary care. Ongoing activities include:

- Providing technical assistance for the strengthening and development of the MAFP
- Implementing training-of-trainers in curriculum development, evaluation and clinical teaching
- Supporting dialogue between the MAFP, universities and the MOH in developing a specific playbook for primary care development in Myanmar
- Promoting the development of departments of Family Medicine at medical universities
- Piloting new mechanisms for providing outpatient training in Myanmar

Regional efforts

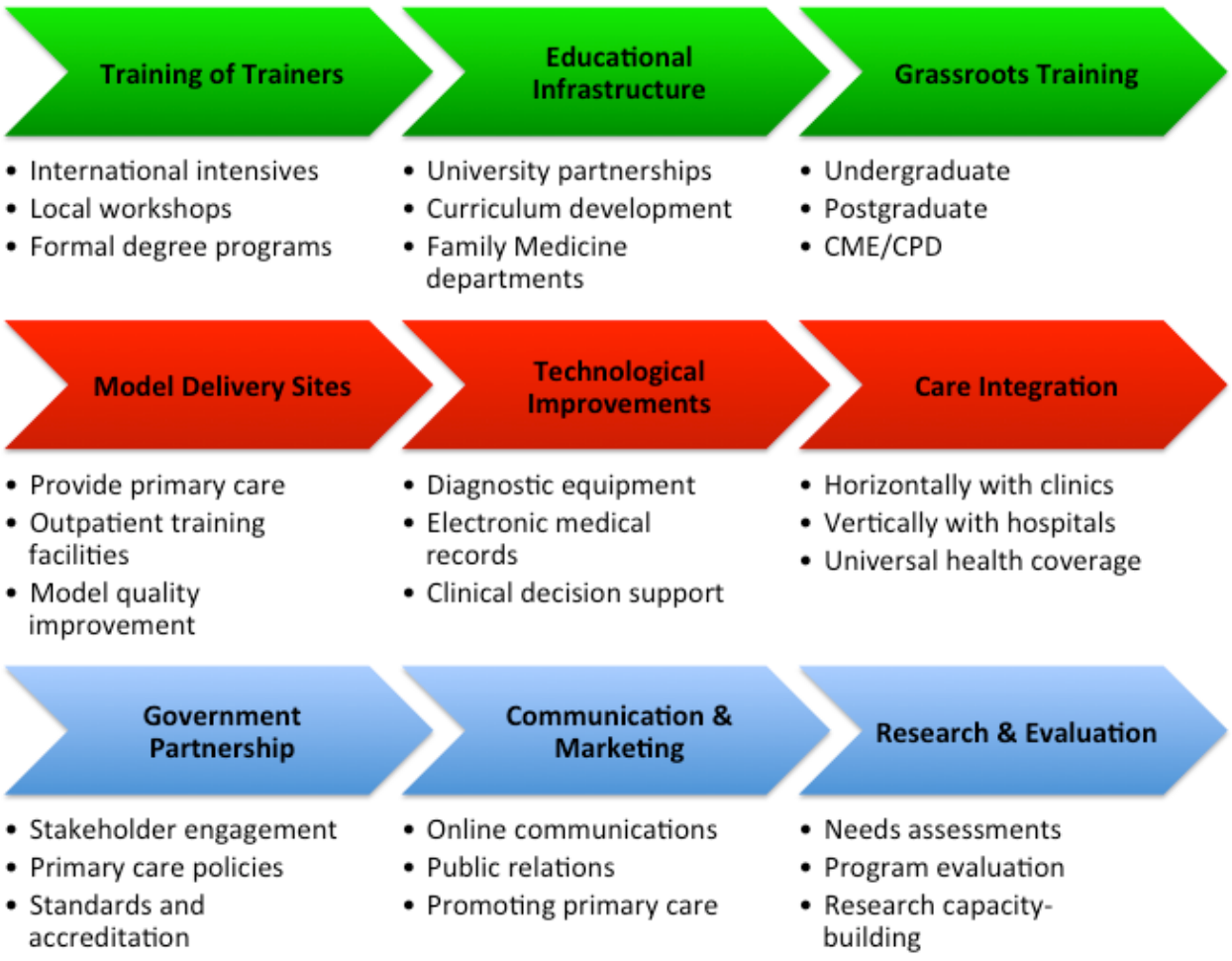
BU GHC has been active in promoting regional networking, partnerships and collaboration throughout southeast Asia and worldwide. Resources abound just waiting to be utilized in various regional and global meetings such as the World Association of Family Doctors (Wonca) southeast Asia regional meeting, the Society of Teachers of Family Medicine in the U.S., and the WONCA World Congress but few have stepped up to help partners from lower-resourced settings effectively access these programs. We utilize regional partnerships wherever possible to support our training efforts, such as sponsoring partners to pursue Masters degrees at the University of Philippines in Manila or Thammasat University in Thailand. One of the more exciting recent initiatives we have promoted has been partner participation in the ASEAN Regional Primary Care Association (ARPaC), where family medicine partners from all the ASEAN countries have been working to try to develop a regional standard for accreditation that can be applied in existing ASEAN agreements on recognition of qualifications for health workers throughout the region.

The Primary Care Playbook

Over the last 20 years, working in Lesotho, Vietnam and elsewhere, the BU GHC has established an effective playbook for comprehensive system strengthening in primary care. While each country has its own unique circumstances, strengths and challenges, the playbook for effective system reform remains similar. Elements may be differ in order of implementation or seek to capitalize on different assets within a system, but the overall plan remains similar:

Our program is designed to improve health outcomes through primary care strengthening efforts that will advance: (1) high-quality local training programs and faculty, (2) quality outpatient care centers, and (3) supportive national and regional policies and programs.

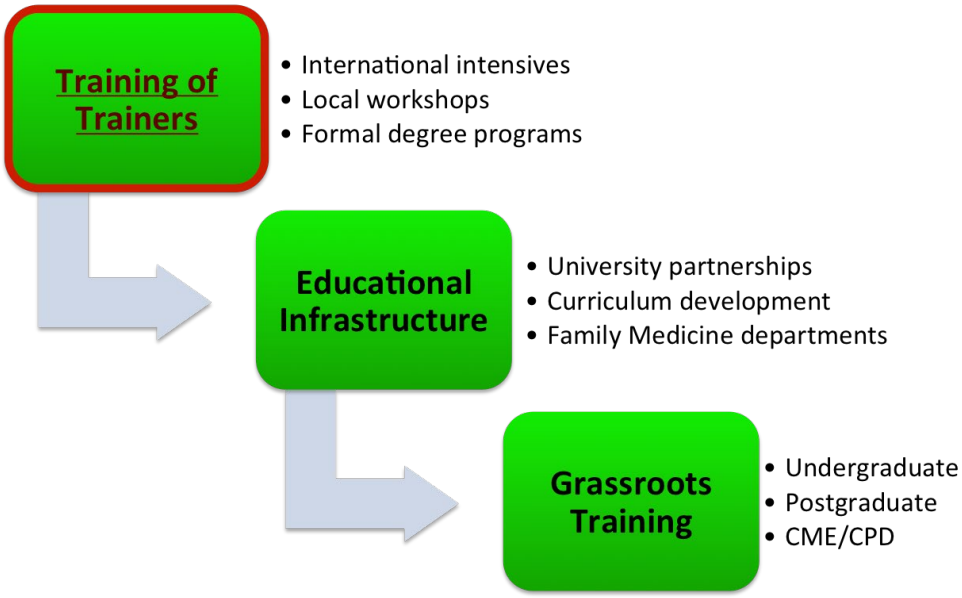
In promoting system change, it is essential to recognize that each component impacts the others, and so coordinated and comprehensive efforts need to progress simultaneously in order to maximize efficiency and effectiveness. While there are a variety of specific elements within each component and the process begins with a thorough needs assessment to determine assets and challenges of a particular system, each program follows a step-wise and integrated approach to maximize rational system change:


Training of Trainers
Educational Infrastructure
Grassroots Training
• International intensives
• Local workshops
• Formal degree programs
• University partnerships
• Curriculum development
• Family Medicine departments
• Undergraduate
• Postgraduate
• CME/CPD
Model Delivery Sites
Technological Improvements
Care Integration
• Provide primary care
• Outpatient training facilities
• Model quality improvement
• Diagnostic equipment
• Electronic medical records
• Clinical decision support
• Horizontally with clinics
• Vertically with hospitals
• Universal health coverage
Government Partnership
Communication & Marketing
Research & Evaluation
• Stakeholder engagement
• Primary care policies
• Standards and accreditation
• Online communications
• Public relations
• Promoting primary care
• Needs assessments
• Program evaluation
• Research capacity-building

BU GHC focuses on activities supporting common initial elements of each component that are uniformly needed throughout the globe in an effort to accelerate the development process and rapidly expand the cohort of program champions, trained experts, model facilities and committed policy-makers.

Objective 1: Capacity-Building

Strengthen capacity of local trainers and create quality training opportunities in primary care development.



Training of Trainers

In most low and middle income countries, there are too few primary care providers with the advanced clinical and teaching skills required to deliver quality educational programs. **This is the biggest limitation to advancing primary care education in the region** and is, therefore, our highest priority. After many years of experience delivering international, in-country, and distance education workshops and courses for new faculty, we have learned what advanced training programs are needed to strengthen and expand the capacity of faculty and "trainers of trainers" in the region:

- **The International Primary Care Faculty Development Program at Boston University.** This one month intensive international course equips carefully selected, highly committed physician champions from each partner country with the skills they need to become leaders in the academic discipline of Family Medicine in their home institutions. These champions will be nominated in part based on their current institutional role and capacity to implement sustainable system change. Learners can directly observe highly-functioning primary care delivery and training systems that may not exist in their home countries while simultaneously engaging in aligned educational activities and highly structured mentorship introducing them to core skills for developing and implementing training programs. It also provides a rare opportunity to gain an

"insider" view of the Boston HealthNet system, which is one of the few horizontally AND vertically integrated networks in the world to link community health centers with an academic tertiary care center and provide top-notch academic primary care training through grassroots-based clinics dedicated to caring for underserved populations. Experience in Vietnam and elsewhere suggests that this program delivers a unique and invaluable experience resulting a cohort of highly-skilled and committed program champions and local experts committed to transformational change.

- **Longitudinal training-of-trainers (TOT) courses.** Following the BU intensive, core elements of that program can be replicated regionally utilizing local infrastructure - an example in Vietnam would be as the new state-of-the-art Hue Family Medicine Center at Hue University of Medicine & Pharmacy. This three-month program trains faculty on: (1) curriculum development, (2) teaching methods, (3) clinical teaching skills, 4) training program development, and 5) integration with outpatient clinical services. Delivery as part of the network will allow program champions to continue to work together in further refining their skills and implementing them locally as well as recruitment of additional champions to facilitate their work.
- **Outreach workshops at local institutions in partner countries.** In the final phase, BU GHC works with leaders to support local champions in delivering workshops for trainers and academic leaders within their own institutions. These workshops are tailored to meet the specific needs identified by these local champions, but based upon the principles covered in the prior trainings.

Educational Infrastructure

Focusing on developing a core group of committed champions with a strong understanding of the training needs in primary care will subsequently facilitate establishing deeper partnerships with universities and create the necessary nucleus for implementing sustainable training programs that can eventually be sufficiently scaled-up to fully meet local, national and regional needs. The joint trainings above coupled with later regional workshops and conferences allow the building of support for regional collaboration, and permits partner institutions to being working together to solve their infrastructure challenges.

Grassroots Training

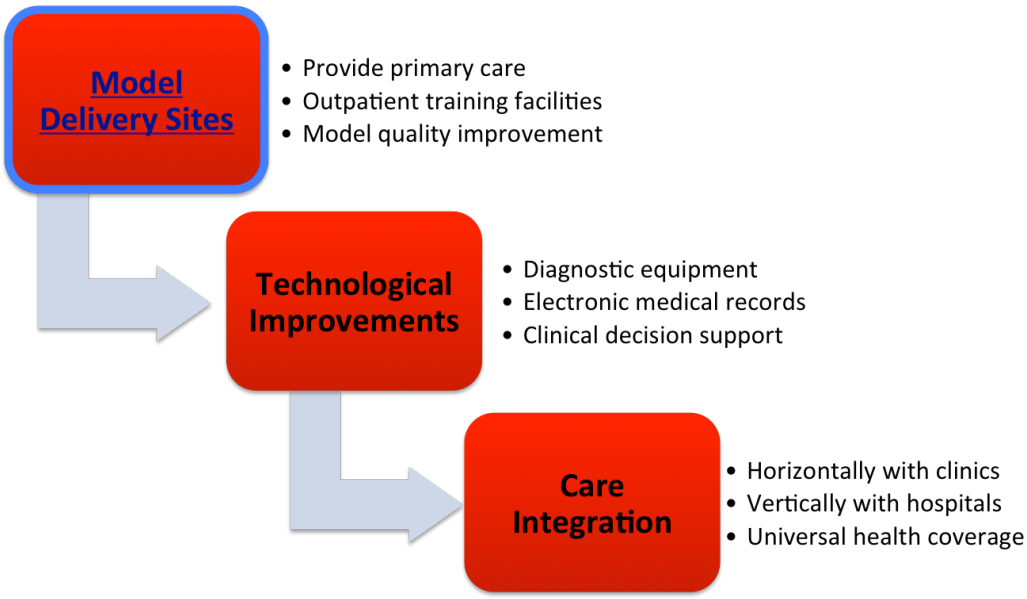
The ultimate goal for each country and institution is to develop and implement grassroots level training for primary care providers. This typically consists of a range of programs, including

- undergraduate introductory courses in primary care to attract high quality providers
- retraining programs for those already in practice but in need of comprehensive improvements in primary care skills
- postgraduate specialty programs in Family Medicine that match the quality and requirements of subspecialty training typically given to other medical providers

Champions from the Network programs represent the necessary initial expertise to successfully develop, implement, improve and expand these programs.

Objective 2: Clinical Services

Develop model outpatient clinical service delivery sites and training centers.



Replication: establishing Model Delivery Sites

To effectively deliver training targeted at providers working in outpatient settings, programs need optimized models for this type of clinical service delivery as well as functioning clinics that can serve as outpatient training sites that effectively replicate the anticipated work experience upon completion. Throughout low and middle income countries, however, functioning models of high quality primary care are often extremely limited, and clinical training is almost entirely offered exclusively in inpatient settings.

Outpatient clinics are common, however, and economic expansion globally is growing the demand for high quality primary care services. With new investments being made, **now is the time to develop a collection of practical outpatient training facilities** where quality primary care can be modeled, and trainees can learn the necessary skills to provide it. As many programs are now looking for how to develop their own locally-optimized clinics in conjunction with other institutional partners, there are a few already developing.

The new flagship **Hue Family Medicine Center** in Vietnam is the result of extensive investment in both physical infrastructure and local training, developed with the intention of becoming a gold standard for primary care innovation in clinical service delivery, training, management and financing models for all of Vietnam and the southeast Asia region. This facility has the potential to act as a "home base" in the region to support regional initiatives such as those described above. Support for the Hue FM Center is aimed at maintaining the quality of care and education delivered at the Hue FM Center and utilizing it as a model to support development of similar outpatient service delivery models at partner institutions.

Example training center activities include:

- **Institute a formal rotation program of BU FM faculty, residents, and medical students to the Hue FM Center to optimize the model of care and support regional activities.** The Hue FM Center was designed with specific space for BU GHC to provide a home-base for a variety of educational medical exchange activities in Vietnam, including faculty, resident, and student exchanges in a variety of areas. Ongoing, regular engagement of BU faculty, fellows, residents, and students, especially in these early years, will help to ensure the quality of care and teaching that is delivered. Visiting faculty can participate in capacity-building programs as outlined above as well as deliver special training on key areas relating to clinical care (e.g. clinical pathways for chronic disease management, techniques for thorough clinical history taking and physical examination) outpatient center operations (e.g. writing good policies and procedures, maintaining patient records, continuous process improvement), and policy development.
- **Showcase the model of care and support leaders from throughout the region to develop similar gold-standard clinical care and training centers.** Leaders from partner organizations involved in developing outpatient care demonstration and training centers visit the Hue FM Center in structured visitations and workshops to apply lessons from Hue to their own centers. We assist organizations in identifying site(s) (if not already established), creating a comprehensive plan for building and/or improving the center(s), and establishing on-site precepting and consultation. Sites are responsible for securing independent country-specific funding for developing and operating these centers, such as through philanthropy and outside development aid or government support, with support from BU GHC in this ongoing process. We also assist the Hue FM Center and other centers interested in working towards developing and achieving PHC accreditation with the aim of becoming the first ambulatory facilities in these countries to achieve such status.

Technological Improvements

Capacity-building must reach beyond simply improving human resources for health, and ensure that systems are adequately resourced with essential equipment and technology to allow newly-competent primary care providers to fully practice their craft. In the modern health care environment, this also means maximizing the use of technology to assist with diagnosis, management, patient tracking, and population monitoring. In addition to applying the latest in high technology and low maintenance point-of-care testing devices, electronic health records (EHRs) are increasingly becoming an essential tool for the frontline primary care practitioner. Not all EHRs are equal however, and to date, most of those implemented in the region are either designed for inpatient or public health use. The needs of grassroots primary care providers straddle both these functions however, and therefore they require a record designed to support both outpatient clinical service delivery and assist with population health management. Ideally, these tools should also include point-of-care clinical decision support tools to enhance the diagnostic and management capabilities of frontline providers. In Vietnam, we have supported partners in developing local primary care-oriented EHRs including those

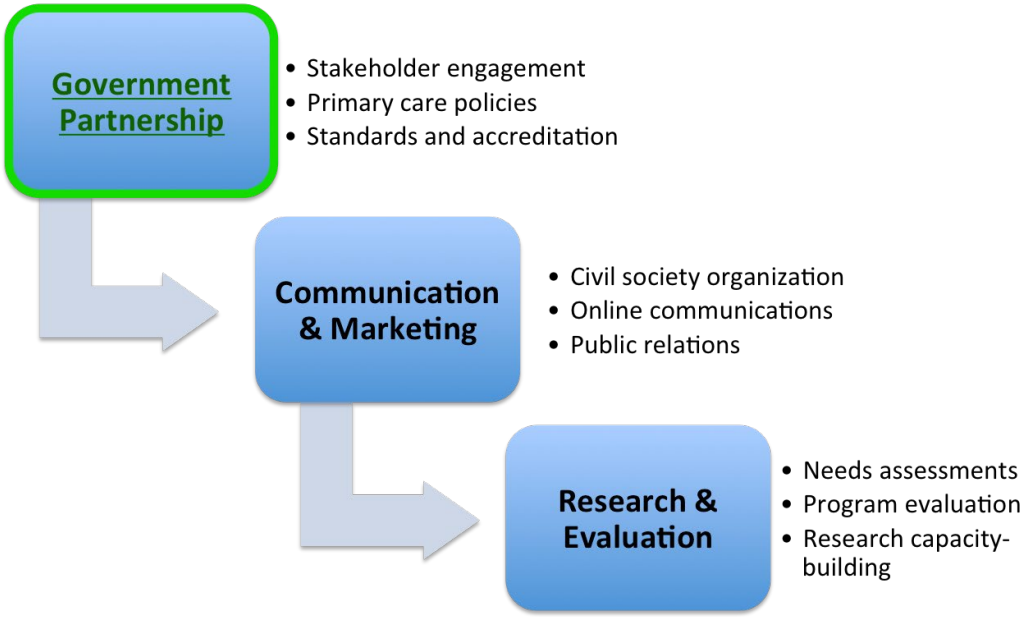
currently being installed at the Hue FM Center, and such model centers will provide practical laboratories to promote innovation with such technologies throughout the region.

Care Integration

Ultimately, these new training centers will need to be meaningfully integrated with their local hospital networks. Modeled in many ways on the Boston HealthNet model, the Hue FM Center is already nationally approved as a regional referral center for local commune health centers, and is vertically integrated with the Hue University of Medicine & Pharmacy and their academic tertiary care hospital as a point for helping patients navigate referrals. Embedded BU faculty seek to help in refining this model so it can again act as a reference point for other institutional partners in the region as they seek to achieve similar levels of integration.

Objective 3: Policy & Advocacy

Advance regional and national policies and programs that will support and improve primary care.



Even if each country created an endless supply of primary care providers trained in well-resourced model clinics, **public policies to support primary care providers and encourage utilization by patients remain vital** to realizing transformational system change. Each country has a unique context and associated set of challenges to consider in working towards universal access to primary care and making primary care a building block in the transformation of each health system. And while it is important for each country to set country-specific strategic priorities, there are also advantages to sharing resources and information, benefits to aligning policy reforms, and efficiencies of scale in terms of certification procedures for provider qualifications and accreditation systems for specialty training programs.

Government Partnership

When promoting primary care improvements, it is important to recognize that much of the outpatient provision of primary care occurs in the private sector. To achieve long term sustainability, however, it is essential that capacity-building systems and clinical service delivery regulations are supported by government policies that promote primary care as a priority in developing human resources for health and encourage utilization of services at the grassroots level. We have worked closely with government partners throughout the region to align their strategic priorities in health with the various elements involved in primary care system strengthening and assist in developing public policy provisions that advance this agenda.

Building on past successful activities in advocating for primary care system reform, we aim to stimulate government partnership and engagement through:

- **Policy delegations to Boston engaging in primary care capacity-building and policy development.** BU GHC seeks to increase institutional support for primary care and Family Medicine by sponsoring carefully selected delegations of representatives from ministries of health, universities, and relevant civil society organizations and institutions to lead strategic planning and advocacy for primary care education and service delivery reforms. These delegations are designed to foster meaningful dialogue amongst key stakeholders and promote regional primary care champions as available experts to policy makers seeking to promote primary care. Initial delegations convene in Boston to observe Boston HealthNet's integrated primary care model, similar to those in the BU intensive training program. Delegates have an opportunity to tour the relevant hospital and university-based units that operate as the academic hub and tertiary referral center for the Boston HealthNet network, as well as experience our training and clinical service delivery units in community health centers throughout Boston. Delegates are provided the opportunity to interact with network leaders as well as community health center staff and management. No system can or should be imported wholesale from one country to another, however, and so delegates are encouraged to work together with BU GHC consultants in determining the elements that might be most effectively utilized in their own local settings, as well as those elements that are better disregarded or substantially modified for optimization in their own countries. This unique program showcasing an organizational structure that is rare throughout the world provides an unparalleled opportunity for delegates to envision how tertiary care delivery, academic training programs, integrated community-based primary care delivery and training, and management and educational networks interact to create a successful health system.
- **Policy delegations locally to explore and successes and challenges specific to the region.** In Vietnam for instance, subsequent delegations convene at the Hue FM Center in follow up from Boston, where delegates can explore the Vietnam model and apply lessons from both Boston and Vietnam to their own specific contexts. Focus is on public policy reforms that have already proven helpful, those that were less successful, and what additional high-priority reforms would be likely to best augment and accelerate primary care system improvements.
- **Regional networking and learning exchanges among partner countries.** A series of local conferences to address country-specific policy issues are convened and supported by BU GHC and local leadership. These conferences are designed by local primary care champions to bring together key stakeholders from the ministries of health, universities, medical associations and councils, and international NGOs to clearly define goals for individual country programs, build the case for the primacy of FM in national health care reform, advocate for broad-based support of FM post-graduate training, and most importantly, foster exchange of information and experiences between countries in the region. One regional focus includes certification of primary care providers and facilities and accreditation of primary care training programs throughout the region, in cooperation with the ASEAN Regional Primary Care Association (ARPaC). We work with regional

stakeholders to build on the groundwork laid by ARPaC around ASEAN recognition of training programs and certification of specialists in primary care and seek regional accreditation and certification standards for educational programs, clinics and providers.

Communication & Marketing

Developing and engaging civil society organizations such as associations of family physicians that are committed to primary care in each individual country is an important part of the playbook for enhancing the voice of local providers and ensure sustainable mechanisms for continued advocacy for primary care system improvements. The regional Network will enhance this element by bringing together primary care champions who are already or likely to become leaders in their respective civil society organizations. Working with these organizations in partnership with government and other key stakeholders to develop online marketing and communication tools as well as public service campaigns to promote Family Medicine and community-based primary care utilization also remains an important part of the playbook to disseminate news of local primary care improvements to the general public and stimulate greater interest in these services.

Research & Evaluation

As elements of the playbook are implemented, it is essential to measure and monitor progress in order to flexibly adapt activities and implementation to realities on the ground. Well-established research already underlies the core components of this playbook and the overall rationale for primary care system strengthening, however achieving measurable improvements in overall health outcomes from such work typically takes years or even decades. In addition, measuring only individual elements of primary care such as numbers of patients diagnosed with or treated for a particular disease risks the creation of perverse program incentives that distort health care away from the core principles of primary care that have been shown to underpin the proven benefits of primary care. As a result, developing mechanisms to effectively monitor progress begins with outputs and process indicators as initial proxies for ultimate improvements in health outcomes.

Throughout program implementation, elements of the playbook must be mapped to measurable outputs and process indicators. It is also important that reasonable outcome measures and relevant tools be developed and applied that meaningfully reflect the comprehensiveness and core principles of primary care known to result in the overall improvements in morbidity and mortality that all stakeholders seek. To date, we have developed and validated a tool for measuring primary care improvements in Vietnam, and BU GHC seeks to support development of similar country-specific tools and ideally a regional tool for measuring improvements throughout the region.

The Primary Health Care Performance Initiative has also taken on an important global role in creating an important mechanism for future regional assessments of primary care improvements. The PHC Vital Signs Profile is an excellent example of how countries can measure baseline performance in PHC, and then use those measures to drive and evaluate ongoing improvement efforts.

Financing

Comprehensive health system change requires commitment and buy-in from a variety of partners, and this applies both to activities and financing. Financing for such initiatives can seem overwhelming, as ultimately it requires a shift in both market demand and government priorities including a dedication of a country's own tax dollars to help incentivize and properly operate a well-functioning grassroots health system. Nonetheless, there is an important role for philanthropy, official development assistance (ODA), and internal government investment. Innovative philanthropy provides essential support for "high-risk high-reward" efforts such as novel pilot programs like our previous programs supported by the China Medical Board to develop and implement various initial training programs. Philanthropy is also particularly helpful in providing strategic investment in activities likely to catalyze and accelerate change, such as our support from the Atlantic Philanthropies to develop a flagship Family Medicine center in Hue as well as our advocacy activities to promote development of new primary care policies in Vietnam.

Bilateral ODA such as that provided by country-to-country aid (such as USAID, DfID, AusAID, and KOICA) often bolster these strategic efforts by providing funds for country-level expansion of programs that meet both country's strategic aims, and we have partnered with such organizations in the past to jointly deliver training programs sponsored by philanthropy and bilateral aid to meet mutual goals. Multilateral ODA provided by international financing organizations (such as the Global Fund, World Bank, and Asia Development Bank) provide the next step through large grants, loans at concessional terms, and very low rate interest loans that allow countries to begin to make early systemic investments in health care transformation. The $121 million Health Professionals Education and Training (HPET) for Health System Reforms project of the World Bank in Vietnam, much of directly grows out of our earlier work in Vietnam, is an existing example of this type of negotiated investment, as both the World Bank and Vietnam have recognized the need to move away from vertically-oriented development in health and towards improving the competencies of primary health care teams at the grassroots level. Philanthropy may still play an important role in supporting strategically important activities that continue to catalyze the change process, particularly those which large programs may be prohibited from supporting or simply neglect. Over time, the rapidly expanding economies of southeast Asia make the type of large government investments that will be required much more feasible given the anticipated expansion of government revenue. Governments will cross these ODA bridges to invest in these health improvement programs of their own accord, as Vietnam is exploring in the implementation of their universal health coverage program. Throughout, the private sector also must be engaged in this change effort, as markets will typically also shift to both drive government action on health targets and align with national regulations.

To date, these actions have occurred almost entirely at a country-specific level. It is our hope that strategic investment in similar programs, primarily on a regional basis, will catalyze the process through:

- more direct engagement with and creation of primary care champions both within and outside of government
- development of functioning and tangible models of system change in health care
- establishment of a regional infrastructure for ongoing collaboration between partners in the region
- attraction of additional financial support from bilateral and multilateral ODA organizations for a more horizontally-oriented and integrated approach to health care
- alignment of government interests, policy and internal investment for system transformation towards primary care