Attachment I Bio of Participants

Molly Cooke, M.D.
Director of Education, Global Health Sciences
Professor of Medicine, University of California, San Francisco

Molly Cooke, M.D. FACP, Professor of Medicine, is the inaugural Director of Education for Global Health Sciences across the five schools (Medicine, Dentistry, Pharmacy, Nursing and the Graduate Division) at UCSF. Appointed in July 2012, her charge is to develop a portfolio of high impact educational programs for UCSF students, residents, fellows, post-docs and faculty members and to devise innovative and high value ways to share UCSF's expertise in discovery science, health care delivery, professional education and basic science with international partners.

Dr. Cooke has been active in medical education program development and educational research throughout her career. A distinguished teacher, Dr. Cooke has twice received the Kaiser Family Foundation Teaching Award as well as a UCSF Academic Senate Award for Distinction in Teaching. In 2006, she was awarded the AOA/Robert J. Glaser Distinguished Teacher Award by the Association of American Medical Colleges (AAMC); in 2010, she received the Career Achievement Award in Education from the Society for General Internal Medicine.As a Senior Scholar of the Carnegie Foundation for the Advancement of Teaching, she co-directed a national study of medical education. This work culminated in the text, Educating Physicians: A Call for Reform of Medical School and Residency, by Molly Cooke, David M. Irby and Bridget C. O'Brien, published in June2010 by Jossey-Bass/Wiley.

Dr. Cooke has worked on using education and faculty development to address the health problems of underserved populations. A founding faculty members of the internal medicine residency at San Francisco General Hospital – UCSF, she developed GME curricula focused on the care of the urban under-served, including community health and advocacy. She is the School of Medicine's liaison to UCSF's regional campus in Fresno and in that capacity and as a member of the San Joaquin Valley PRIME advisory board is addressing health inequities in California's Central Valley. She provided the educational expertise for IDCAP, Infectious Disease Capacity Building Evaluation, a three-year project exploring cost-effective ways to build capacity among mid-level providers in sub-Saharan Africa funded by the Bill and Melinda Gates Foundation. She serves on the Training Advisory Committee of he University of Zimbabwe Medical Education

Partnership Initiative (MEPI); the US partner institutions are the University of Colorado and Stanford University.

Dr. Cooke is a practicing internist with a special interest in HIV and other complex chronic illnesses. She has advised the AMA, the American College of Physicians (ACP), and the AAMC on clinical care and ethical and policy issues in the HIV epidemic, and was a founding co-director of the AIDS Task Force of the Society for General Internal Medicine. She testified before both National Commissions on AIDS (1988 and 1990). She was a Department of Health and Human Services Primary Care Health Policy Fellow in 2004 and has been repeatedly selected by her peers as one of "America's Best Doctors." Governor of the Northern California chapter of the American College of Physicians from 2004 to 2009, she currently serves as a Regent and President-elect of the College. She will become President in April 2013.

Dr. Cooke is a graduate of Stanford University. She received her medical degree from Stanford University School of Medicine. She did her residency training at the University of California, San Francisco where she also served as chief resident in medicine and did a Henry J. Kaiser Family Foundation Fellowship focusing on ethics.

Judith N. Wasserheit, MD, MPH
Vice Chair, Dept. of Global Health
Professor of Global Health & Medicine
Adjunct Professor of Epidemiology, University of Washington

Judith N. Wasserheit, MD, MPH has worked extensively at the interface of STI and HIV clinical-epidemiological research, programs and policy in the U.S. and globally. Currently Vice Chair and Professor of Global Health, Professor of Medicine and Adjunct Professor of Epidemiology at the University of Washington, she was the founding chief of the U.S. NIH's STD Research Branch; Director of the U.S. CDC's STD Prevention Program, and Director of the HIV Vaccine Trials Network, the largest global clinical trials platform evaluating preventive HIV vaccines. Her research has included one of the first laparoscopic studies of pelvic inflammatory disease etiology conducted in the US, the first population-based study of the prevalence and etiologic spectrum of STDs among rural women in the Indian Subcontinent, and research on the interrelationships between STDs and contraceptive practices in other parts of the developing world, including Indonesia, and Egypt. She has also worked in Columbia, Thailand and Zambia. Her development of the concept of epidemiological synergy between HIV infection and other STDs has had a major influence on HIV prevention policy and programs around the

world. Current areas of interest include implementation science and the impact of climate change on human health.

Dr. Wasserheit has extensive experience working successfully with national and international agencies, governments, and colleagues on STD and HIV research, policy and programmatic issues. She has led or served on numerous World Health Organization and UNAIDS committees and advisory groups. Her many honors include the U.S. DHHS Presidential Meritorious Rank Award, the Infectious Diseases Society of America's Edward E. Kass Award, and the American Social Health Association's Presidential Award. In 2006, she was elected to the Institute of Medicine of the National Academies of Science, in 2007 she was selected as a Paul Rogers Society Global Health Research Ambassador, and in 2009 was honored as the London School of Hygiene and Tropical Medicine's Heath Clark Endowed Lecturer. In 2012, she assumed the Chair of the Board of Directors of the Consortium of Universities for Global Health.

Stephen S. Gloyd
Professor & Associate Chair
Department of Global Health, University of Washington
Executive Director, Health Alliance International

Stephen Gloyd, MD, MPH, is a family practice physician who has been a University of Washington faculty member since 1986. He has worked for over 30 years in Africa, Latin America, and Asia as a clinician, manager, researcher, teacher, and policy advocate. His work has focused on improving primary health care, including health systems research, maternal-child health care, STD/AIDS, malaria, and tuberculosis control. He has written and spoken extensively on the political economy of global health and the connection between neoliberal policies and health.

Professor Gloyd is Associate Chair for Education and Curriculum in the UW Department of Global Health where he directs efforts to expand curricular options to address global workforce needs. He directs the MPH and PhD programs in the Department. His work with Health Alliance International is designed to strengthen primary health care with the Ministries of Health of Mozambique, Cote d'Ivoire, Sudan, and Timor-Leste and to improve approaches to global health assistance.

Dr. Gloyd received his BA and MPH from Harvard, his MD from the University of Chicago Pritzker School of Medicine, and his family medicine residency at the University of Washington.

UNIVERSITY of WASHINGTON
DEPARTMENT OF GLOBAL HEALTH

UCSF GLOBAL HEALTH SCIENCES
To improve health and reduce disease worldwide

CHINA MEDICAL BOARD
An Independent American Foundation for Advancing Health in China and Asia

Opportunities for Collaboration among American and Chinese Universities:

University of Washington, Department of Global Health, &
University of California, San Francisco, Global Health Sciences
With the support of the China Medical Board

The China Medical Board (CMB) proposes to encourage the collaboration (possibly 'twinning') of selected universities in the west with appropriate partners in China to strengthen the capacity of Chinese academics, health professionals, and health systems leaders to expand their role in global health and to perform innovative health systems research. The Department of Global Health at the University of Washington (UW) and the program in Global Health Sciences at the University of California, San Francisco (UCSF), are highly respected institutions that are active in global health and health systems research. By working in concert, they can provide opportunities for Chinese scholars equal to any in the world. Both institutions are distinguished by extensive research, teaching, and health program experience in countries throughout the world, and with the diverse North American populations in the west coast of the USA. This document provides a starting point for discussion about what might be productive educational programs and other opportunities for collaboration in global health.

CMB is committed to strengthening the global health teaching and research capacity of junior and senior faculty among selected universities in China. This includes developing strong collaborative, sustainable relationships with faculty of Universities in North America and Europe. These relationships would be designed to strengthen capacity of Chinese faculty to improve research skills for health systems improvement, health policy analysis, clinical and epidemiologic research, implementation science and related public health skills. Examples of research areas include assessing delivery of care, health insurance, universal coverage, health of women', adolescents and children, infectious disease prevention & control, global environmental change & human health, traffic accidents, and cost-effectiveness of service delivery within China. The collaborative relationships should help Chinese faculty obtain international research grants (including open competition CMB grants) and publish findings in international journals. CMB also supports strengthening capacity for activities in global health outside of China, including global health diplomacy. Options for capacity building include long-term training (Masters and doctoral level) and short term activities for senior faculty.

Global health activities at the host universities

The University of Washington (UW) The Department of Global Health (DGH) is a pre-eminent academic center in global health, bridging the schools of Medicine and Public Health and harnessing the expertise and interdisciplinary power of all 16 UW schools and colleges, including the health sciences schools of nursing, pharmacy, dentistry, social work; as well as integrated activities with business, engineering, law, public affairs, economics, anthropology, and built environment. The DGH has over 300 graduate students in its degree, certificate, and fellowship programs. The department includes 31 centers, programs, and initiatives, including the Institute for Health Metrics and Evaluation, the International Clinical Research Center, the Center for AIDS Research, International Training and Education Center for Health (ITECH), Global Medicines Program, Global Injury and Violence Control Initiative, Center for Integrated Health of Global Women, Adolescents and Children, Health Alliance International, and the Climate Change and Global Health & Environment Program. Over 250 faculty and 1,200 staff work on projects in over 50 countries around the world. Current focus areas include: health metrics and evaluation, infectious diseases, workforce development, health system strengthening, leadership and management, implementation science, climate change, global trauma and violence, global medicines safety, and a strong cross-cutting focus on social justice and equity.

In Seattle, students have access to some of the most influential global health organizations in the world such as the Bill and Melinda Gates Foundation,PATH, the Fred Hutchinson Cancer Research Center, and many Biotech firms, many of whose staff serve as faculty, instructors, and mentors in the DGH.In addition, Washington State University faculty with their outstanding expertise in agriculture and animal health, work closely with DGH faculty in several areas of mutual interest.

DGH academic programs span the continuum from global health undergraduate education toglobal health masters, MD, PhD degrees, and medical residencies. Global health masters programs of note include the MPH in Health Metrics and Evaluation, MPH in leadership, policy, and management, and MPH in epidemiology or environmental health.The PhD programs focus on Metrics and Implementation Science or Epidemiology. The DGH also has special degree programs and certificates in metrics/surveillance, leadership/management, health/hospital administration, implementation science and clinical trials. Several of our graduate programs offer particular training that is likely to be particularly beneficial to Chinese scholars – both academics and health care leaders.

The University of California, San Francisco: The program in Global Health Sciences (GHS) is a cross-campus initiative established as the Institute for Global Health in 1999. UCSF is distinct among the University of a California campuses and contrasts with the University of Washington in that it is a health sciences campus, with schools of medicine, dentistry, pharmacy and nursing. The Graduate Division, functionally a fifth school, awards PhD degrees in the basic sciences as well as in social and population sciences particularly relevant to health and disease. GHS itself comprise 230 faculty members and staff working in 50 countries around the world. Beyond these core personnel, GHS interacts with, supports, and is enriched by the activities of faculty, staff and students engaged in research, education and service-learning globally throughout the university. Locally, UCSF is developing collaborations in global health with the University of California Berkeley and the Hasting School of Law, an UC affiliate located in San Francisco. Furthermore, the scope of GHS's work is extended through lead participation in the University of California Global Health Institute, or UCGHI. This University of California system-wide initiative encompasses three Centers of Expertise in global health, Women's Health and Empowerment (UCSF and UC Los Angeles), Migration and Global Health (UC San Diego and UC Davis), and One Health: Water, Animals, Food and Society (UC Davis and UC Riverside). Areas of focus on the UCSF campus include: public health infrastructure and monitoring and evaluation; infectious diseases, particularly HIV, tuberculosis and malaria; trauma and surgery in resource-poor settings; global ophthalmology; global mental health; and women's health and reproductive rights. As is well known, the Bay Area also is also the home of truly revolutionary private sector organizations, particularly in the areas of biotech and information technology/Web 2.0.

All of UCSF's programs in global health are at the graduate level and include short courses, certificate programs and the United States' first masters degree program in Global Health Sciences. A doctoral program is planned. Most students pursuing PhD's in epidemiology emphasize global health; the same is true of doctoral candidates in medical anthropology. The student body at UCSF is relatively small, affording a unique opportunity for students seeking to address global health challenges to bring together distinct and complementary disciplinary perspectives, from the basic sciences, to the social and population sciences to the applied clinical fields. This integrative approach may be novel and stimulating for Chinese health care leaders and scholars.

Opportunities for partnership

Both the UW and UCSF look forward to co-developing programs with one or more Chinese counterparts that both address the interests of academics and health care leaders in China in global health and enrichesthe educational experience of our current global health learners. The options we describe below have not had the benefit of input from potential Chinese partners and are offered in the spirit of advancing the conversation by describing some possibilities with a modicum of specificity. We would expect that these ideas would undergo significant modification and improvement as a result of dialogue with our partners.

As UW and UCSF are in relatively close proximity (two hour flight between Seattle and San Francisco), we are open to ideas that would allow Chinese participants to be based at one or the other of the universities, and able to experience the other university, as appropriate. One option to accomplish this is through a 10- to 12-week certificate program specifically designed for our Chinese colleagues, with 8 to 10 weeks of academic work or

mentoring at either one of the US universities and a two-week visit to the other. Chinese participants would select their "home university" based on their needs and interests. This option and several others are described below.

1. **"Senior Faculty Fellowship"in Global Health** (based at either UW or UCSF with an option for time at the other institution)

   UW and UCSF would each design an 8- to 10-week academic course specifically for this program. While the areas emphasized in the two courses would reflect to a substantial degree the input of the Chinese partner universities, each course would reflect the strengths of its host institution. The basic teaching model would be the graduate-level seminar, with assigned readings, faculty mentoring and facilitation, small group discussion, and independent study. Chinese scholars would be able to take 2-3 elective courses depending on the fellow's interest and timing of courses.Fellows would participate with other global health students in special lectures and social events; possibly some coursework could be shared with global health learners enrolled in courses at the "home university". The Fellowship would afford frequent opportunities for Chinese scholars to meet with leading faculty members in global health at the "home" US university. A mentoring relationship would be established for each scholar with a faculty member at the "home" institution, based on the interest of the scholar. Likewise, the two-week visit to the other US institution would be individualized, with its centerpiece being the opportunity for a second mentoring relationship with a faculty member in the scholar's area of interest, as well as other observations, consultations and professional development opportunities arranged for the Chinese scholar.

   This opportunity offers a balance across a variety of important considerations: 1) a substantive educational experience; 2) face-to-face interactions among Chinese scholars and UW and/or UCSF global health experts; 3) ability to experience both UW and UCSF; 4) number of scholars accommodated; and 5) feasibility, particularly with respect to cost and time away from other responsibilities.

2. **Masters degree at either UCSF or UW**(12-18 months)

   This option would be for qualified Chinese scholars (junior to mid-career) to enroll in one of the masters programs offered by UW and UCSF. The UW offers a Masters of Public Health (MPH) (12-18 months including research time in China); UCSF awards in a Masters in Global Health Sciences(12 months). Both programs cover the social determinants of health, health problems of importance globally and the history and context of global health aid. The core curricula emphasize skill developmentand cover epidemiology, biostatistics, global health systems, environmental health, and relevant social andbehavioral sciences. Courses in research methods are also required in both programs and students are required to complete a practicum that provides hands-on experience with local or international agencies engaged in global health activities; and academic coursework culminates with independent scholarship leading to a capstone project or research or practice thesis. Both UW's and UCSF's programs rely on case studies; applied learning are common approaches and contributions by students provide a major component of the learning environment.

   UW Global Health MPH programsall develop competencies in the basic tools of public health and each track addresses specific additional competencies. The General Track is designed for students with substantial global health experience who envision careers requiring an array of competencies. Students can focus on areas such as policy development; program design, implementation, scale-up and management; health education promotion; program evaluation; research; tropical medicine; and others.The Health Metrics and Evaluation Track is designed for individuals with demonstrated quantitative skills who intend to pursue careers in quantitative research, methods and modeling development, survey design and analysis, health system and program evaluation, policy analysis, or academia. The Global Health Leadership Track trains creative and effective leaders, managers, and policy advocates who will translate knowledge into action to transform health systems and advance health equity. Leadership includes building, nurturing, and motivating teams toward a common goal based on a strong knowledge of self, a sense of personal mission and vision, and shared values, and communicating effectively with individuals and groups who have different cultural, technical, and social backgrounds. All tracks require a minimum of 4 quarters of academic work including a thesis, to complete. Thesis work is typically conducted in the student's home country.

UCSF Masters in Global Health Sciences; this program matriculated its fifth class in September 2012. The decision to establish this Masters program separate and distinct from the MPH was intentional and reflects a more in-depth interdisciplinary approach to the course work, involving economics, anthropology, sociology, political science, and development sciences, and less focus on particular vertical disease-oriented programs. The UCSF MS is designed to provide future leaders in the health sciences with learning broadly germane to global health; students with a prior advanced degree (RN or MD) are prepared to work in international settings on completion of the Masters program. In addition to the content described above, students in the UCSF program take Global Health Economics and Global Health: Translating Evidence into Policy as part of the required curriculum. They are offered a choice of electives, including Cost-effectiveness Analysis; Women's Health and Empowerment;and Strategic Information in Global Health as electives.

3. **PhD degree at either UW or UCSF** (2 years in USA, 2 years in China)

   UW PhD in Global Health: Metrics and Implementation Science. As an interdisciplinary program, students develop skills through a combination of didactic courses, seminars, and research activities including primary data collection and analysis. The PhD program is comprised of a core curriculum in advanced quantitative methods, epidemiology, population health measurement, impact evaluations, and implementation science methods. The PhD program specializes in two areas of emphasis, metrics and implementation science. Metrics is dedicated to providing students with advanced training in independent, rigorous, and timely scientific measurements to accelerate progress on global health by identifying the world's major health problems, assessing how well society addresses these problems, and guiding resource allocation to maximize health improvements. Implementation science focuses on the systematic application of scientific approaches to ask and answer questions regarding evidence of intervention efficacy in the context of implementation. This science addresses how interventions can be scaled-up with greater speed, fidelity, efficiency, quality, and coverage. The UW also provides PhD training in other areas, including epidemiology, health services, environmental health, nursing, pharmacy, public affairs, social work, anthropology, geography.After completing the core curriculum (typically two years), students in the global health PhD program will spend substantial periods in China working on their dissertation project.

   Future PhD program at UCSF. A doctoral program, building on the success of the Masters program and awarding a PhD in Global Health Sciences is planned. Currently, students seeking doctoral level training in global health at UCSF pursue PhD's in epidemiology, health policy, medical anthropology or medical sociology, depending upon their interests and methodological bent. The Department of Epidemiology has a close relationship with Global Health Sciences and currently awards the largest number of PhD's with a global health focus. These students may concentrate on such areas as implementation science, monitoring and evaluation, or biostatistics. We anticipate thatwe will matriculate our first group of doctoral candidates in Global Health Sciences in the fall of 2015.

4. **Other options – short or individual programs**
   Both universities offer a variety of shorter educational programs and trainings that range from one day to two weeks with content directly relevant to global health and potentially to our Chinese partners. Many of these use distance technologies of varying degrees of complexity and bandwidth demand; courses can be delivered entirely on-line and asynchronous, online with a synchronous distance element such as chat, or using hybrid designs with a distance component and a face-to-face component.

Notes:
As discussed above, these ideas are only provisional and await the contributions of the China Medical Board and our Chinese partners.

Expenses of the Chinese scholars, including tuition and fees, transportation, living expenses and incidentals, are to be covered by the China Medical Board. In addition, all of these programs, including short courses, are associated with consequential costs to the host institutions. These costs include, but are not limited to, course administration, logistical support and coordination for scholar housing, student affairs activities (well-being, academic counseling etc.), social and activities. Special academic programs would likely require support for faculty leadership as well.

Attachment III Itinerary of Global Health Delegation

Dec 11 Tue Beijing
Steve and Judy arrive at 23:40 via DL129

Dec 12 Wed Beijing
Round table discussion with Chinese leaders in Global Health
- hosted by MoH and PUHSC on PUHSC campus

Molly Cooke arrive at 16:25 via UA889

Dec 13 Thur Guangzhou
Beijing-Guangzhou, 09:00-12:10 via CA1321

Dec 14, Fri Guangzhou
Sun Yetsan Univ, Guangzhou

Dec 15, Sat Changsha
Guangzhou - Changsha by Bullet train, 08:50-11:30 via G1116

Dec 16, Sun Changsha
Central South Univ Xiangya School of Medicine, Changsha

Dec 17, Mon Shanghai
Changsha – Shanghai, 08:30-10:15 via CZ3965
Fudan Univ, Shanghai

Dec 18, Tue Shanghai
Bullet train to Hangzhou, 08:23-09:25 via G7361
Zhejiang Univ School of Medicine
Back to Shanghai by bullet train, 18:30-19:39 via G7352

Dec 19, Wed Shanghai
Steve and Judy departure at 08:40 via DL296

Dec 20, Thur Shanghai
Molly Cooke departure at 13:45 via UA858

Towards a common definition of global health

*Jeffrey P Koplan, T Christopher Bond, Michael H Merson, K Srinath Reddy, Mario Henry Rodriguez, Nelson K Sewankambo, Judith N Wasserheit, for the Consortium of Universities for Global Health Executive Board**

Global health is fashionable. It provokes a great deal of media, student, and faculty interest, has driven the establishment or restructuring of several academic programmes, is supported by governments as a crucial component of foreign policy,[1] and has become a major philanthropic target. Global health is derived from public health and international health, which, in turn, evolved from hygiene and tropical medicine. However, although frequently referenced, global health is rarely defined. When it is, the definition varies greatly and is often little more than a rephrasing of a common definition of public health or a politically correct updating of international health. Therefore, how should global health be defined?

Global health can be thought of as a notion (the current state of global health), an objective (a world of healthy people, a condition of global health), or a mix of scholarship, research, and practice (with many questions, issues, skills, and competencies). The need for a commonly used and accepted definition extends beyond semantics. Without an established definition, a shorthand term such as global health might obscure important differences in philosophy, strategies, and priorities for action between physicians, researchers, funders, the media, and the general public. Perhaps most importantly, if we do not clearly define what we mean by global health, we cannot possibly reach agreement about what we are trying to achieve, the approaches we must take, the skills that are needed, and the ways that we should use resources. In this Viewpoint, we present the reasoning behind the definition of global health, as agreed by a panel of multidisciplinary and international colleagues.

Public health in the modern sense emerged in the mid-19th century in several countries (England, continental Europe, and the USA) as part of both social reform movements and the growth of biological and medical knowledge (especially causation and management of infectious disease).[2] Farr, Chadwick, Virchow, Koch, Pasteur, and Shattuck helped to establish the discipline on the basis of four factors: (1) decision making based on data and evidence (vital statistics, surveillance and outbreak investigations, laboratory science); (2) a focus on populations rather than individuals; (3) a goal of social justice and equity; and (4) an emphasis on prevention rather than curative care. All these elements are embedded in most definitions of public health.

The definition of public health that has perhaps best stood the test of time is that suggested by Winslow almost 90 years ago:[3]

> "Public health is the science and art of preventing disease, prolonging life and promoting physical health and efficacy through organized community efforts for the sanitation of the environment, the control of communicable infections, the education of the individual in personal hygiene, the organization of medical and nursing services for the early diagnosis and preventive treatment of disease, and the development of social machinery which will ensure every individual in the community a standard of living adequate for the maintenance of health; so organizing these benefits in such a fashion as to enable every citizen to realize his birthright and longevity."

The US Institute of Medicine (IOM), in its 1988 *Future of public health* report,[4] described public health in terms of its mission, substance, and organisational framework, which, in turn, address prevention, a community approach, health as a public good, and the contributions of various partners. The IOM report defined the mission of public health as "fulfilling society's interest in assuring conditions in which people can be healthy".[4] In the *Dictionary of epidemiology* (2001), Last[5] defined public health as "one of the efforts to protect, promote and restore the people's health. It is the combination of sciences, skills and beliefs that is directed to the maintenance and improvement of the health of all the people through collective or social actions".

International health has a more straightforward history. For decades, it was the term used for health work abroad, with a geographic focus on developing countries and often with a content of infectious and tropical diseases, water and sanitation, malnutrition, and maternal and child health.[6] Many academic departments and organisations still use this term, but include a broader range of subjects such as chronic diseases, injuries, and health systems. The Global Health Education Consortium defines international health as a subspecialty that "relates more to health practices, policies and systems...and stresses more the differences between countries than their commonalities".[7] Other research groups define international health as limited exclusively to the diseases of the developing world.[8] But many find international health a perfectly usable term and have adapted it to coincide with the philosophy and content of today's globalised health practice.[7,8] International health is defined by Merson, Black, and Mills[9] as "the application of the principles of public health to problems and challenges that affect low and middle-income countries and to the complex array of global and local forces that influence them".

Global health has areas of overlap with the more established disciplines of public health and international health (table). All three entities share the following characteristics: priority on a population-based and preventive focus; concentration on poorer, vulnerable, and underserved populations; multidisciplinary and

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*Members listed at end of paper

Emory Global Health Institute (Prof J P Koplan MD), **and Department of Epidemiology, Rollins School of Public Health** (T C Bond PhD), **Emory University, Atlanta, GA, USA; Duke Global Health Institute, Duke University, Durham, NC, USA** (Prof M H Merson MD); **Public Health Foundation of India, Delhi, India** (Prof K S Reddy MD); **Instituto Nacional de Salud Publica, Cuernavaca, Mexico** (Prof M H Rodriguez MD); **School of Medicine, Makerere University College of Health Sciences, Kampala, Uganda** (Prof N K Sewankambo FRCP); **and Department of Global Health, University of Washington, Seattle, WA, USA** (Prof J N Wasserheit MD)

Correspondence to: Prof Jeffrey P Koplan, Robert W Woodruff Health Sciences Center, Emory University, 1440 Clifton Road Suite 410, Atlanta, GA 30322, USA
jkoplan@emory.edu

	Global health	International health	Public health
Geographical reach	Focuses on issues that directly or indirectly affect health but that can transcend national boundaries	Focuses on health issues of countries other than one's own, especially those of low-income and middle-income	Focuses on issues that affect the health of the population of a particular community or country
Level of cooperation	Development and implementation of solutions often requires global cooperation	Development and implementation of solutions usually requires binational cooperation	Development and implementation of solutions does not usually require global cooperation
Individuals or populations	Embraces both prevention in populations and clinical care of individuals	Embraces both prevention in populations and clinical care of individuals	Mainly focused on prevention programmes for populations
Access to health	Health equity among nations and for all people is a major objective	Seeks to help people of other nations	Health equity within a nation or community is a major objective
Range of disciplines	Highly interdisciplinary and multidisciplinary within and beyond health sciences	Embraces a few disciplines but has not emphasised multidisciplinarity	Encourages multidisciplinary approaches, particularly within health sciences and with social sciences

Table: **Comparison of global, international, and public health**

interdisciplinary approaches; emphasis on health as a public good and the importance of systems and structures; and the participation of several stakeholders. In view of these commonalities, we are left with key questions that need to be resolved to arrive at a useful and distinctive definition for global health. We address some of these questions here.

What is global? Must a health crisis cross national borders to be deemed a global health issue? We should not restrict global health to health-related issues that literally cross international borders. Rather, in this context, global refers to any health issue that concerns many countries or is affected by transnational determinants, such as climate change or urbanisation, or solutions, such as polio eradication. Epidemic infectious diseases such as dengue, influenza A (H5N1), and HIV infection are clearly global. But global health should also address tobacco control, micronutrient deficiencies, obesity, injury prevention, migrant-worker health, and migration of health workers. The global in global health refers to the scope of problems, not their location. Thus—like public health but unlike international health—global health can focus on domestic health disparities as well as cross-border issues. Global health also incorporates the training and distribution of the health-care workforce in a manner that goes beyond the capacity-building interest of public health.

Is global health mainly directed to infectious disease and maternal and child health issues or does it also address issues such as chronic diseases, injuries, mental health, and the environment? Infectious diseases and maternal and child health have dominated international health and continue to receive the most attention and interest in global health. However, global health has to embrace the full breadth of important health threats. This broad set of priorities might mean accepting that, for many countries, the epidemiological transition is a continuing process. Simultaneous effort needs to be expended on undernutrition and overnutrition, HIV/AIDS and tobacco, malaria and mental health, tuberculosis and deaths due to motor vehicle accidents. Infectious agents are communicable and so are parts of the western lifestyle (ie, dietary changes, lack of physical activity, reliance on automobile transport, smoking, stress, urbanisation). Burden of illness should be used as a criterion for global-health priority setting.

How does global health relate to globalisation? The spread of health risks and diseases across the world, often linked with trade or attempted conquest, is not new to public health or international health. Plague spread across Europe and Asia in the middle ages; quarantine was developed in 14th-century Venice; smallpox and measles were introduced to the New World by European invaders in the 16th century; the same explorers took tobacco from the Americas to Europe and beyond, leading to premature disease and death; and opium was sold to China in the 18th and 19th centuries as a product of trade and subjugation by imperial western powers. Nevertheless, the rapid increase in speed of travel and communication, as well as the economic interdependency of all nations, has led to a new level and speed of global interconnectedness or globalisation, which is a force in shaping the health of populations around the world.

Must global health operate only within a context of a goal of social/economic equity? The quest for equity is a fundamental philosophical value for public health. The promotion of social and economic equity, and reduction of health disparities has been a key theme in domestic public health, international health, and global health. Up to now, most health initiatives in countries without sufficient resources to deal with their own health problems have come about through the assistance of wealthier countries, organisations, and foundations. Although this assistance is understandable, it does not help us to distinguish global health as a specialty of study and practice.

Global health has come to encompass more complex transactions between societies. Such societies recognise that the developed world does not have a monopoly on good ideas and search across cultures for better approaches to the prevention and treatment of common diseases, healthy environments, and more efficient food production and distribution. The preference for use of the term global health where international health might previously have been used runs parallel to a shift in philosophy and attitude that emphasises the mutuality of

real partnership, a pooling of experience and knowledge, and a two-way flow between developed and developing countries. Global health thus uses the resources, knowledge, and experience of diverse societies to address health challenges throughout the world.

What is the interdisciplinary scope of global health? Professionals from many diverse disciplines wish to contribute to improving global health. Although global health places greater priority on prevention, it also embraces curative, rehabilitative, and other aspects of clinical medicine and the study of basic sciences. But these latter areas are less central to the core elements of public health than are its population-based and preventive orientations. Clearly, many disciplines, such as the social and behavioural sciences, law, economics, history, engineering, biomedical and environmental sciences, and public policy can make great contributions to global health. Thus, global health encompasses prevention, treatment, and care; it is truly an interdisciplinary sphere.

A steady evolution of philosophy, attitude, and practice has led to the increased use of the term global health. Thus, on the basis of this analysis, we offer the following definition: global health is an area for study, research, and practice that places a priority on improving health and achieving equity in health for all people worldwide. Global health emphasises transnational health issues, determinants, and solutions; involves many disciplines within and beyond the health sciences and promotes interdisciplinary collaboration; and is a synthesis of population-based prevention with individual-level clinical care.

We call for the adoption of a common definition of global health. We will all be best served (and best serve the health of others around the world) if we share a common definition of the specialty in which we work and to which we encourage others to lend their efforts.

Contributors

All authors contributed to the writing and editing of the manuscript. The Consortium of Universities for Global Health (CUGH) Executive Board developed the definition and reviewed and edited the manuscript.

CUGH Executive Board

Haile Debas (University of California, San Francisco, CA, USA); King Holmes (University of Washington, Seattle, WA, USA); Gerald Keusch (Boston University, Boston, MA, USA); Jeffrey Koplan (Emory University, Atlanta, GA, USA); Michael Merson (Duke University, Durham, NC, USA); Thomas Quinn (Johns Hopkins University, Baltimore, MD, USA); Judith N Wasserheit (University of Washington, Seattle, WA, USA).

Conflicts of interest

We declare that we have no conflicts of interest.

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