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PREPARATORY WORKSHOP FOR DEVELOPING
CURRICULUM FOR FIELD EPIDEMIOLOGY
TRAINING IN AFGHANISTAN

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List of Abbreviations:

APHI	Afghan Public Health Institute
DNIP	Department of National Immunization Program
HMIS	Health Management Information System
IbnSina	Institute of Public Health and Management Sciences
IDU	Intravenous Drug Use/User
IDRC	International Development Research Centre
JHU	John Hopkins University
LSHTM	London School of Hygiene and Tropical Medicine
MHE	Ministry of Higher Education
MoPH	Ministry of Public Health for the Islamic Republic of Afghanistan
MSH	Management Sciences for Health
NACP	National HIV/AIDS Control Program
NGO	Nongovernmental Organization
RHO	Reproductive Health Officers
U of M	University of Manitoba

Synthesis:

The “Assessment of Public Health Epidemiology Training in Afghanistan” project was a November 2007 trip to Kabul, Afghanistan undertaken by the three-person University of Manitoba (UM) team with colleagues in Afghanistan’s Ministry of Public Health (MoPH) executive, funded by the International Development Research Centre (IDRC). The purpose of the trip was to find people interested in helping to establish a course to train field epidemiologists as well as to evaluate local capacity and resources for possible partnership and leadership in teaching. An additional goal was to determine the highest priority health problems in Afghanistan. Finally, the project team sought to develop a curriculum based on local needs and problems and to establish selection criteria for trainees and instructors. Afghanistan’s population health and national health system has undergone extensive expansion of health facilities and investment in public health information systems for surveillance and evaluation. The first step for the team was to research the current activities and key players in capacity building.

We consulted with more than 25 senior experts, heads of programs and organizations, field staff and technical consultants knowledgeable about current public health training resources and needs, to explore the opportunity and potential to design and deliver a public health epidemiology course specific to the needs of Afghanistan. The goal is to strengthen Afghanistan MoPH’s capacity to achieve its policy target of evidence based public health practice and evaluation. The team concluded that there is a specific unmet need for training of MoPH personnel at provincial levels and no allocated funding. New health facilities with state of the art health information systems and surveillance have already undergone dramatic expansion across all regions and 34 provinces. This is a MoPH priority, which urgently requires a curriculum and training package for an estimated 400 health officers across the 34 provinces. Longer-term goals to strengthen Afghanistan’s universities’ health professional and graduate training were also considered.

A principal activity of the mission was a landmark multi-sectoral workshop for Afghan leaders in MoPH, health facility NGOs, universities and international agencies involved in public health. Participants engaged in a consensus building process to develop a curriculum based on local needs and priorities, and recommended important features of course structure and, criteria for instructors and students. Project documents detail the consensus recommendations for an applied public health epidemiology training curriculum for provincial MoPH and NGO health personnel. The course is structured on a six-month full-time instruction and practicum’s led and supervised by a combined team of Canadian and Afghan faculty.

Upon return to Canada, the capacity at University of Manitoba has been more fully explored with preliminary discussions with interested staff at other Canadian universities, provincial and national public health agencies. In response to the official request of MoPH Afghanistan, the final report outlines the framework and elements of a medium term (5 year) capacity building project using distance education platform and a consortium approach to assemble the Canadian/International faculty and resources best suited to the task. The MoPH has subsequently expressed both a strong and immediate sense of urgency for this course and they have high expectations for the proposed project.

Research Problem:

By the end of Taliban's rule in 2001, most of Afghanistan's health infrastructure was ruined by three decades of conflict, neglect and international isolation. Afghanistan sustained in excess of 1.5 million war casualties, with an estimated 200,000 widows and two million orphans. Afghanistan registered some of the worst health statistics in the world with a maternal mortality rate of 1,600 per 100,000 births. One child in four did not survive to the age of 5. Tuberculosis and polio epidemics went unchecked in large regions of the country from absent or grossly deficient health infrastructure such as immunization programs, laboratories, maternal care and functioning communicable disease control programs.

Since 2002 when the government of Afghanistan has tackled the challenges of health care service delivery with the financial and technical assistance of international agencies and donor groups, substantial progress has been achieved. The Ministry of Public Health is among the best functioning government sectors. They have succeeded in their main thrust to construct, equip and staff new health facilities to deliver the Basic Package of Health Services (BPHS) across all 34 provinces. Health indicators are improving as a consequence of concerted efforts opening up and developing health facilities' technical capacity and training human resources to deliver health services.

Nevertheless, Afghanistan continues to have the worst health status among Asian nations. Barriers to building Afghanistan's public health system are multiple: the drain of skilled health professionals over decades, little capacity in Afghanistan's universities to train public health specialists, and major unfunded portions Among the 18 Strategies of the 2005 National Health Policy framework¹. Strategy #12 re. Human Resources Development commits as top priority a comprehensive approach to produce, deploy and retain a trained health workforce with the variety of skills needed for health care, particularly more women health workers. "Recognizing the detrimental effects of more than twenty years of conflict on health professional education, the MoPH will assess the capacity and training needs of existing staff to raise quality performance."

There is a wide consensus that Afghanistan is a country where most sectors of its infrastructure have been partially or completely destroyed. Health care is one of these sectors, damaged almost 80%. Afghanistan, with an estimated population of 30 million people, has the highest child and maternal mortality in the world, and is exposed to the threats of endemic infections such as TB, malaria, viral hepatitis, brucellosis, leishmaniasis and HIV. The Soviet invasion and subsequent civil war left one million disabled people, more than 50,000 IDUs (intravenous drug users), 200,000 widows and two million orphans. These populations raise serious social and health concerns for the Afghan's government. MoPH lacks the appropriate infrastructure and professional manpower to tackle these problems in terms of administration, planning and organization. There is also a lack of a surveillance system to provide vital data for the analysis, planning, and management of health care issues in the country. Therefore, there is an urgent need for training of field epidemiologists, who are an important cornerstone for public health infrastructure. Attaining adequate infrastructure for both the present and future is one of the goals of the MoPH.

¹ National Health Policy 2005-2009 and National Health Strategy, Ministry of Public Health, Government of Afghanistan April 2005

The first step to the establishment of regional field epidemiology in Afghanistan is to work with local stakeholders in Afghanistan to develop recommendations for the goals, content and participant criteria of the first course. In order to obtain information about the current situation of public health in Afghanistan and its major and impending health issues, and to make plans for rebuilding the infrastructure of the public health, we sought funding to conduct a workshop in Afghanistan involving all interested parties associated with public health issues, including government (MoPH), NGOs and other critical Afghan stakeholders, as an essential step before starting our main project of training Field Epidemiologists. Once recommendations for these are decided upon, the next step of establishing international financing for the course itself as well as finalizing the details of the course content, instructors, and local venue can be undertaken in a partnership between the MoPH and the University of Manitoba. The purpose of the IDRC funded travel to Afghanistan and the workshop conducted there was to gather the necessary information to complete this essential first step.

Research Findings:

There are presently no regional epidemiologists. This would be a major contribution to rebuilding Afghanistan. Regional epidemiologists would serve as a nucleus for training additional people, maintaining sustainability and acting as the public health infrastructure cornerstone. In a country like Afghanistan, the training of regional epidemiologists is vital for immediate and future relief and for developing and planning a health care system in this country. Our long-term goal is to create and establish regional epidemiology in Afghanistan and to position it on a firm footing. Another goal is to train Afghans in all aspects of infectious disease epidemics and non-infectious diseases, including accepted proven and validated methods ranging from mathematical and genetic epidemiology to clinical care, immunization strategies and other interventions, with an emphasis on public health perspective. The most important long-term objective of our work is to form and train a nucleus of a self-sustainable cadre of Afghan professionals who will run this and related projects in the future.

Trained regional epidemiologists may allow the Afghanistan Ministry of Public Health to gain effective control over the many epidemics through multi-sectorial and innovative programs that target risk behavior and use validated methods of risk avoidance. With the help of this trained force, the Ministry and NGOs will be able to constantly validate and update various epidemiological models based on streaming updated epidemiological data. The proposed program is such that it could be adapted to other low-income countries, particularly in Moslem Asia.

The Strategy for Health Planning, Information, Monitoring and Evaluation (#13) commits MoPH to “enhance evidence-based, bottom-up and participatory strategic planning in all levels of the health care system”, and to ensure that “recommendations from research and practical experiences are incorporated into policy formulation and health planning. MoPH will “ensure the availability, coordination, distribution and use of accurate, reliable, user-friendly health information” to monitor and evaluate health services and activities at national and provincial levels.

With international technical assistance the MoPH now has an impressive health management information system (HMIS), expanded laboratory capacity, and platforms for disease surveillance. In addition to HMIS data from health facilities, effective public health

systems measure population health, but Afghanistan has no birth and death registration as a means of tracking trends. The training dimension of this ambitious agenda for building the health sector in the provinces has yet to be addressed and funded. Cognizant of the major unmet goal and most interested in prospects for Canadian-Afghan collaboration, senior MoPH officials requested as urgent the visit of the IDRC UM fact-finding mission to tackle the training gap, particularly in the provinces. Most MoPH personnel and their NGO health facility counterparts function without the basic principles and practical skills of epidemiology, the discipline behind evidence-based modern public health sciences.

There are many factors besides medical diseases that contribute to the poor health status of the population in Afghanistan.

“Post-conflict societies require a different approach to public health service delivery because political conditions also have a profound effect on health. ...from a prevention perspective, taking action to prevent the resumption of armed conflict in Afghanistan (and to reduce the level of conflict currently occurring) may be as important, in the long-term, as figuring out how to deliver health services in areas where insecurity contributes to the under-utilization of health services.”²

For the 80% of Afghanistan that is 'post-conflict' it is imperative that the Afghanistan government succeeds in demonstrating its capability as an effective state by providing essential health and education services. Providing a functioning post-conflict health system improves the public respect and confidence in the fragile government, contributing to its legitimization.

From the Canadian perspective, the capacity to deliver public health training for strategic post-conflict development assistance has not been organized like other sectoral contributions in Canada's post-conflict development assistance such as election systems and police training. In its final report to the IDRC the project team proposes a framework of a public health capacity training consortium from Canadian universities, public health agencies and internationally.

The population health of Afghanistan under the direction of MoPH³ has made significant achievements. Population access to health services has tremendously from 9% (2003) to 82% (2007). Trained midwives attended 190,000 deliveries of newborns in 2006, four times more than in 2002. Under 5 child mortality rate in Afghanistan has declined 24% to 191 per 1,000 in 2006, according to national household survey research by Johns Hopkins University (JHU). This means 89,000 deaths among children under 5 are averted each year among the total population of 30 million people⁴. Life expectancy at birth remains low at 42 years for both men and women, comparable to rates in sub-Saharan African nations.

One organization that played a key role in Afghanistan's health reconstruction is Management Sciences for Health (MSH), a private, non-profit educational and scientific organization based in Boston MA with a large worldwide staff providing technical

²²² Waldman R et al, 2006 “Afghanistan’s Health System Since 2001:Condition Improved, Prognosis Cautiously Optimistic” AREU Briefing Paper Series December 2006

³ Information about MoPH and links to resources are available at the MoPH website:
<http://www.moph.gov.af/>

⁴ Substantial Improvements Achieved in Afghanistan’s Health Sector, Johns Hopkins School of Public Health Public Health News Center, posted: July 5, 2007 accessed February 11, 2008 from website:
http://www.jhsph.edu/publichealthnews/press_releases/2007/Burnham_afghanistan.html

assistance and training in Afghanistan's public health sector since the 1970s. Launched in 2003 MSH's \$US 138 million Rural Expansion of Afghanistan's Community Based Health Care REACH / USAID Program trained 6,300 community health workers and 800 midwives, published health education materials, expanded health facilities into the provinces and help build the Health Management Information System HMIS which MoPH assumed operational control in 2006 (below). MoPH Overview and capacities

There is the general agreement in technical assistance circles that the health sector is performing better than other Ministries responsible for the provision of social services. And when compared to other post-conflict countries at similar phases of reconstruction, Afghanistan's health sector is characterized by a strong policy framework, clear guidelines for service providers, a formal evaluation plan, and reasonable access.

The Basic Package of Health Services (BPHS) defined in 2002 is the technical foundation of MOPH. Expansion and management of the infrastructure are contracted to non governmental organizations NGOs with public stewardship by the MoPH; the approach that NGOs implement the BPHS is based on the relative success in recent post-conflict settings such as Cambodia. BPHS and the Extended Package of Hospital Services EPHS is contracted to non-profit non-governmental organizations under health sector financing whereby donor contracting schemes designate provinces to come under the major health sector donors: USAID, World Bank, European Commission (EC), or Asian Development Bank (ADB). The facilities operate under e.g. 18 to 24 month contracts setting out terms of delivery and performance. The portfolio of contracts worth USD 125 million per year to deliver health services is managed by the Grants and Contract Management Unit GCMU which oversees allocation of resources and monitors outputs accomplishments and performance of NGOs. While generally successful, this relatively new scheme results in lack of uniformity and misunderstandings between MoPH and health NGOs. NGOs evaluation is more geared towards the requirements of funders than contributing to national surveillance systems and evaluation.

The Afghan Public Health Institute (APHI) within the MOPH leads efforts to collect and process much of the data necessary for the fulfillment of the stewardship functions of the ministry. The APHI is responsible for monitoring and evaluation, strategic planning, standards settings and regulation. The APHI has six departments: Research and Informatics, Information, Education and Communication (IEC) and Publication, Surveillance and Detection of Early Warning System (DEWS), Food and Drug Quality Control, Training Management and Public Laboratories. The Health Management Information System HMIS Department also part of the APHI.

Provincial Public Health Directorates

The health system at the provincial level plays an important role in collecting, processing and analyzing data on health system performance and human health status. The General Directorate for Provincial Public Health oversees 34 Provincial Public Health Directorates (PPHD), each with Coordination Committee to support monitoring and evaluation activities. There remains an urgent need to build the capacity of the PPHCC at the provincial level to fulfill MoPH's stewardship responsibilities vis-à-vis implementing NGOs at the provincial level.⁵

⁵ "National Strategic Plan for the Monitoring and Evaluation Department 1386-1390", Islamic Republic of Afghanistan Ministry of Public Health, provided by Dr. Joe Ritmann NACP/MOPH

Population Health Challenges

Despite recent improvements, the challenges for public health in Afghanistan are considerable. We learned that in the provinces, less than one fifth of people have safe water, and much pathology is linked to no water treatment or sewage systems. Three preventable diseases are the cause of more than 10,000 children under 5 dying each year: acute respiratory infections (mostly pneumonia), diarrheal diseases and measles.

Basic access to health services is still a big problem; 18% of population remains without basic access to health services, five million Afghans, in remote and marginalized areas. Additionally, 15-20% are affected by Taliban insecurity in the South and Southeast where health services have been destroyed or are not functioning. BPHS coverage needs to increase to reduce maternal, infant and child mortality. Every day, 60 mothers die due to pregnancy-related, preventable problems; more than 400 infants die from vaccine-preventable diseases or simple cost-effective interventions.

Women have extraordinarily limited access to adequate maternal health services due to a variety of reasons that include the physical lack of facilities and qualified female staff, cultural and traditional constraints, and low levels of education awareness. Health worker training plans aim for 80% of attendees / nursing school trainees are to be female but currently health personnel are mostly male 85-90%.

As consequence of year of conflict Afghanistan has a large number of disabled and mentally ill people for whom treatment and rehabilitation services need to be developed, but limitations in resources are dire; there is no budget whatsoever for mental health.

Current Training Resources

-**Johns Hopkins University JHU**, 2004 and 2006 national household study; a national household survey is undertaken every two years evaluation research focused training in provinces. JHU provided technical assistance to the General Directorate of Human Resources (GDHR) MOPH for a 2006 assessment of MoPH's Capacity Building and Learning Needs.

-**LSHTM** 2 years (EC funded) year long part-time course

-**WHO: DEWS** funding field epidemiology for outbreaks polio, TB, cholera, to be integrated into MoPH as yet unfunded. WHO is training its own staff only.

At present teaching and resource building includes: London School of Hygiene and Tropical Medicine, These course were not designed specifically for Afghanistan so issues concerning relevance and importance of course content as well as cultural

appropriateness. WHO, JHU and USAID, IbnSina courses are generally short term and limited in scope (10-15 days) or only available to those in Kabul and not available for regional/provincial personnel. LSHTM and JHU were asked by the central MoPH to increase capacity building. However, these efforts only partially meet current public health training needs in the country.

LSHTM and Johns Hopkins University (JHU) were asked by the central MoPH to increase capacity building. However, these efforts only partially meet current public health training needs in the country.

.Public health training by international providers at present focuses on Kabul, not directed at capacity building in the provinces. For the surveillance system and HMIS to function responsively requires trained personnel to collect and interpret data at provincial

or district levels, analyze disease outbreak situations, and to inform decisions about program planning. The provinces' very limited capacity to tackle their many challenges and problems is MoPH's responsibility to expand training into the provinces.

Health Management Information System:

The HMIS Department and is responsible for collecting routine information on: BPHS services and facilities and Community Health Worker (CHW) activities. 85% of BPHS facilities now report into the HMIS and a routine reporting system for the hospital sector EPHS has been added.

The Access / Excel data management system of HMIS is impressive, capable of robust analysis and superior to similar systems used by provincial health departments in Canada. Experience with systematic and strategic analysis is only recent; the major barrier is lack of capacity at the provincial level to analyze and interpret in evidence based decision making. 162 national HMIS trainers were trained jointly by REACH and MOPH. More than 460 health facility managers were trained to analyze and use the data they collect through HMIS and other sources to improve health outcomes in their respective catchment areas. Two provincial health offices (out of 34) have full capacity to enter and retrieve data⁶.

MoPH Programs and Activities in Provinces:

Improving the health care system in the provinces directly influences the security situation in the provinces. For the government to gain support of the people the people themselves need to feel the government's support in form of food, shelter, health care, etc. "If we support people, the people will support the regime" we repeatedly heard from MoPH officials. We learned that epidemiology is well perceived by provincial government people and there is no resistance to practice epidemiology in the provinces.

Immunization Communicable disease:

The Department of National Immunization Program (DNIP) has some remarkable achievements in the eradication of polio and implementation of six vaccines (OPV-Oral Polio Vaccine), BCG, (tuberculosis vaccine), measles, tetanus, diphtheria and pertussis). Now the DNIP is working to introduce, in addition, Hib (Haemophiles influenzae type b vaccine) funded by UNICEF and WHO. DNIP set up national policy and a surveillance system for immunization in Afghanistan. The department's present surveillance system needs to be strengthened and field epidemiology training and control methods.

The Reproductive Health Department of the MoPH is in all 34 provinces as RHOs (reproductive health officers). They work closely with local HMIS officers on reproductive health information. But are professionally inadequately qualified. They have problems with data collection and transmission, and the surveillance systems.

⁶ "The Capacity Building and Learning Needs Assessment", The General Directorate of Human Resources MoPH, Afghanistan with The Johns Hopkins University & The Indian Institute of Health Management Research, December 2006 [available by request]

NGOs

There are 133 NGOs delivering BPHS coverage (1- >150 BPHS/NGO)

IbnSina is one of them, the largest Afghan health NGO (providing 143 BPHS) with contracts with numerous International NGOs. Website details can be found at: www.ibnsina.org.af The **IbnSina Institute** was one of the highlights of our visit in Kabul. The Institute is in a suburb of Kabul, a new 5 story building with several (5) teaching classrooms with up to date A-V equipment, a computer laboratory with 11 computers with internet capability, a library with Iranian and English books, translated books from English and internet material. There are several offices and a dining facility. IbnSina residence facility accommodates 25persons. Currently ~15 MPHs that have recently graduated from a Pakistani Institute for Health Management. Most of the MPH are MD's as well and all speak good English. The Institute Head Dr. Anwer-ulhaq Jabarkhil, offered the Institute facility for the courses as well as the staff of the Institute.

Afghanistan's Universities:

At the university level, until recently, there has been no dedicated research centre in country to conduct operational research; furthermore that there is an insufficient knowledge of epidemiological measurement and statistical expertise in the universities to be able to conduct research. Teaching curriculum for medical students only covered sanitation, some parts of hygiene, and prevention of communicable disease. Nothing was taught in the field of epidemiology and public health. The last course taught in epidemiology in Kabul University was in 1990. (The Kabul Medical Institute was administratively separated from Kabul University in 1979, and is now called Kabul Medical University.) There was no standard for teaching Epidemiology in the universities in Afghanistan and there is a lack of epidemiology instructors. In the last 30 years, there were no M.D.'s who went into Public Health.

The University curriculum was revised in 2004 and now they are teaching epidemiology, statistics, health management, etc. They have also begun teaching the policies of the MoPH. Their main topics are family planning, health management, prevention, sanitation and nutrition. Public Health is taught to all medical faculties: nursing, pediatrics, etc. However, this improved teaching is still inadequate. A medical student in Kabul University, he said, takes 16 credits (4 lectures and 1h exercise), or 16h/semester. The topics taught include epidemiology of communicable diseases, statistics, and terms of epidemiology. The textbook used is Park (Indian book: "Preventive Social Medicine"). Next year the Department hopes to introduce post-graduate training. Practical work is currently limited to house call training: students are being sent to rural areas or to hospital to collect data. There are some relations between Kabul Medical University and Tokyo University, mainly case-based learning courses. The Kabul Medical University sends 50 instructors to Tokyo every year. The Afghan students like these methods of case-based learning. With Nebraska University and Johns Hopkins University a workshop for the Kabul Medical University faculty was given that was dedicated to teaching methods.

The main problem is that Kabul Medical University does not belong to the MoPH but to the Ministry of Higher Education (MHE). The present government and the MoPH focuses mostly on Kabul, and there is no public health training aimed at increasing capacity building in the provinces, resulting in a misbalance in terms of health care

provision between the centre and provinces. Despite the MoPH efforts to establish a surveillance system and the presence of the HMIS in the provinces, there is still a challenge in terms of collecting data, analyzing disease outbreak situations, transmitting data and managing health care in the provinces. The provinces have very limited capacity to tackle their many challenges and problems. They blame the MoPH for not expanding training courses to provinces.

Fulfillment of Objectives:

Results of the Workshop:

The goal of the IDRC project was to assess the need for public health training capacity and develop the framework for a suitable proposal for implementation.

Project objectives were:

1. To gain an accurate understanding of Afghanistan's health system and current progress in reconstruction and public health planning
2. To generate mutual understanding and consensus of the priority needs and practical elements for a public health epidemiology training program for provincial health workers
3. To assess the feasibility, opportunity, and organizational environment for a Canadian led initiative to build public health training capacity in Afghanistan

Project Design and Implementation:

A three-person public health and infectious disease team from the University Manitoba undertook a fact-finding mission to Kabul, Afghanistan November 18-26 of training needs of the MoPH. The project was funded by IDRC and culminated in a consultation workshop November 24-25, 2007.

Preliminary Consultations:

Dr Niazi went to Kabul November 3-30, 2007 in order to:

1. find people interested in helping establish a course to train field epidemiologists for Afghanistan;
2. evaluate local capacity and resources for possible partnership and leadership in teaching a field epidemiology course;
3. determine the highest priority health problems in the country;
4. develop a curriculum based on local needs and problems;
5. establish selection criteria for trainees and instructors
6. arrange for meetings with the other members of the team (Drs. Chase & Rubinstein) and stake holders in Public Health

Dr Niazi's mission to Afghanistan started Nov. 1 when he departed Winnipeg and arrived in Kabul on Nov. 3 at 9.30am. (Afghanistan time is 10.5 hours later than Winnipeg.) He immediately contacted MoPH leadership and set up appointment to meet with them on the next day. Dr Niazi met Dr. Faizullah Kakar, Deputy Minister of Public Health both on arrival and immediately prior to the workshop. Dr. Niazi also met with Bashir Noormal, General Director of Afghan Public Health Institute (APHI). In these meetings, Dr Niazi briefed them on the team mission to Afghanistan and the objectives that the team was set to accomplish during their limited stay in Kabul. Drs. Kakar and Noormal subsequently issued an ordinance to all departments in the MoPH/APHI to

provide full cooperation and all necessary information that Dr Niazi and his team might need during their subsequent meetings.

Dr Niazi made a presentation to this group with the aim of introducing the objectives and goals of this project. Based on the information that Dr Niazi conveyed in his presentation, the working group set up plans for further meetings. Several additional meetings took place, during which he shared information particularly regarding objectives of a proposed workshop, HMIS activities within the MoPH.

In addition, this working group determined specific people in the MoPH/APHI who could be used as instructors/facilitators/trainers or translators for the Training Course in Field Epidemiology. These are people who obtained Masters and/or a Ph.D. in Public Health from India, Japan, Pakistan, England, USA or Iran. Furthermore, the working group determined the number of participants, facilitators and venue for the workshop.

1. Dr. Bashir Noormal, General Director of APHI
2. Dr. A. Wahab Zaheer, Master of Public Health and APHI/Consultant
3. Dr. Sayeed Islam, Master of Public Health And Trainer Manager/APHI
4. Dr. Mohamadullah Alishangi, HMC Consultant and Local Coordinator
5. Dr. Hafez Rassoly, Master of Public Health and Technical Advisor to APHI
6. Dr. Asfrac Mushkor, HMIS Manager in APHI

Discussions with the following Afghan based representatives were undertaken:

7. Dr. Azam Dadfer, Minister of High Education
8. Dr. Hushmat, Head, Department of Public Health and Preventive Medicine
9. Dr. Saif-ur-Rehman, Director, National HIV/AIDS Control Program (NACP)
10. Dr. Mukamil Safi, Senior Consultant to the MoPH and founder of the Department of Public Health and Preventive Medicine in Kabul Medical University
11. Dr. Aqa Mohmad Dost, Director DNIP
12. Dr. Hamida Abadi, Director of the Reproductive Health Department of MoPH
13. Dr. Ahmadshah Shukohmand, Director General of Provincial Health for MoPH
14. Staff of the Department of Occupational Health and Environment staff
15. Dr. Hushmat, Head of the Department of Public Health and Preventive Medicine
16. Prof. Safi, Senior Consultant to the MoP
17. Dr. Annemarie ter Veen, LSHTM, Kabul
18. Dr. Ahmad Fahim seconded from the IbnSina (HMIS)
19. Drs. A. Wahab Zaheer, Ashraf Mushkor, HMIS, and Alishungi (HMN, APHI)
20. NGO representatives of USAID, Shuhada, Massud Foundation, CHA, RHD
21. Dr. Hushmatullah, Public Health Chief, MoPH, Kabul Medical University
22. Dr. Mubarak, Chief of the MSH (USAID), supporter UM/IDRC initiative
23. Dr. Hamida Abadi, Director, Reproductive Health Department of the MoPH

Project Management

Canadian members:

Dr. Wassay Niazi (IDRC Grant PI), Adjunct Lecturer, Department of Medical Microbiology and Infectious Diseases, University of Manitoba

Dr. Ethan Rubinstein (IDRC Grant Co -PI) Sellers Professor of Research In Medicine and Head of the Section of Infectious Disease, Department of Medical Microbiology and Infectious Diseases, University of Manitoba

Dr. Rob Chase, Assistant Professor and Public Health Consultant, Department of Community Health Sciences, Faculty of Medicine, University of Manitoba

Afghan Member:

Dr. Faizullah Kakar Deputy Minister and Director General for Technical Affairs, Ministry of Public Health, Afghanistan

One of the items in the initial meetings with the Afghan MoPH was to set up working group in APhi for better coordination and organization with the team's mission and workshop. This working group consisted of:

1. Dr. A. Wassay Niazi, PI for this project
2. Dr. Bashir Noormal, General Director of APhi
3. Dr. A. Wahab Zaheer, Master of Public Health and APhi/Consultant
4. Dr. Sayeed Islam ,Master of Public Health And Trainer Manager/APhi
5. Dr. Mohamadullah Alishangi, HMC Consultant and Local Coordinator
6. Dr. Hafez Rassoly, Master of Public Health and Technical Advisor to APhi
7. Dr. Asfrac Mushkor, HMIS Manager in APhi

Project Outputs and Dissemination:

The major project output of the project was the design of a curriculum specific to Afghanistan's needs with consultation with local stakeholders. This objective was achieved and is outline in Appendices. Further the Government of Afghanistan's MoPh has confirmed the importance of the project and urged it go ahead immediately and they have further confirmed they will provide the services of Dr sahib Kakar and Dr sahib Noormal for the project.

Capacity building:

This project was both preliminary and exploratory and therefore of limited expected capacity building. The major capacity building aspect of the project was opportunity for all participants to meet and exchange concerns and to develop the proposed curriculum. Capacity building in general epidemiology is already underway through in Afghanistan through the effort of the MHE. However this work is longer term and currently unable to provide the immediate practical support and relief required by the MoPH. This workshop allowed the MoPH to engage stakeholders and to outline the immediate needs and weaknesses of the current system in a manner that may not have happened otherwise. Therefore, if nothing else, the workshop itself brought issues and concerns into sharp focus and may assist in better bridging the activities of the MHE and the MoPH.

Overall assessment

Challenges: Public Health Training and Capacity Building

Shortage of health manpower -- brain drain. Due to three decades of war, many qualified and highly skilled health personnel, including physicians and specialists, have left or been killed.

MOPH competing demands; public health sector training needs dedicated program, funding. The MoPH issues projects to the NGOs. Due to lack of MoPH capacity, these projects are financed by donors and the studies of the effectiveness are actually conducted to satisfy to donor's request. Because of this constraint, project funding is short term without supporting longer-term capacity building. Generally the MOPH officer receives a salary of \$50 a month. This contrasts with the higher incomes of NGO personnel around \$300 a month. Central resources for BPHS delivery and technical set up but inadequate resources for central coordination of training performance standards and quality assurance and health planning

Disease Surveillance: There is a lack of a surveillance system to provide vital data for the analysis, planning, and management of health care issues in the country. Basic Population Data is lacking no census since 1990, and no Birth and Death registration system; bi-annual national household surveys by JHU.

Limitations: HMIS is based on data limited to the public sector and none from the private sector are available. Problems include: self reporting by hospitals, lack of a statistically robust reporting system, reporting, questionable quality of the data, and the possibility of manipulation or misuse of the data.

We were urged that only long term and lasting Field Epidemiology training may meet the above challenges and problems. Furthermore, we were told that the MoPH recently introduced an HIMS (Health Management Information System) in the country. Despite this important step: only limited data from the public sector and none from the private sector are available, self-reporting is common, there is a lack of objective criteria and statistically robust reporting systems, there is no quality assurance process for data entry and if it is to be used for planning concerns about misuse exist.

Conclusion:

An Approach for Public Health Epidemiology Training in Afghanistan

According to the MoPH, there is urgent need to train 400 field epidemiologists in the provinces to provide the necessary health care, increase HIMS quality and deal with outbreak situations. MoPH would provide paid leave of absence to trainees who would sign commitments to return to their previous positions for at least one year.

The proposed course in field epidemiology is both needed and would be welcomed in Afghanistan and would potentially have both immediate and long-term benefits for the nation.

Course curriculum should be national and specific for Afghanistan, based on MoPH national policies, it should be developed in cooperation with stakeholders and should generally conform to the specifications determined during the workshop.

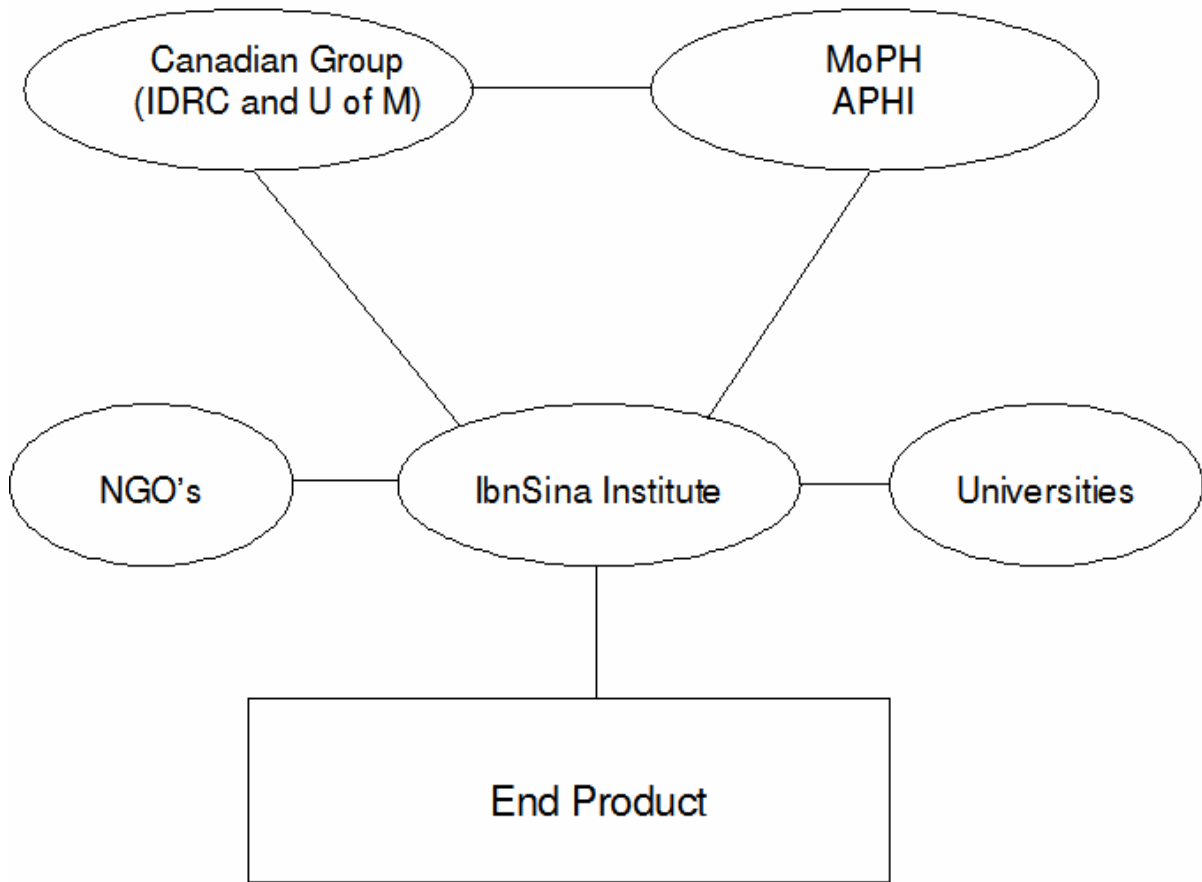


Figure 1: Diagrammatic representation of the interaction of the various stakeholders in the final course design and implementations.

General Description of Training Framework:

- Six month course including theoretical and practical lectures and training sessions
- 40-50 people's participants per course (in two streams according to qualifications)
- A total number of 400 persons to be trained over 5-year period.

Recommendations:

- 1) The proposed course in field epidemiology is both needed and would be welcomed in Afghanistan and would potentially have both immediate and long-term benefits for the nation. Seeking of larger scale funding to allow the course to be undertaken and recruitment of appropriate resources within the University of Manitoba for such an endeavor should begin immediately.
- 2) The epidemiology course should be directed primarily at supplying the rural provinces with advanced training because this is the greatest need.
- 3) Course curriculum should be national and specific for Afghanistan, including MoPH national policies, as well as developed in cooperation with stakeholders and should generally conform to the specifications determined during the workshop.

- 4) The course should provide a specific degree recognized in Afghanistan and preferably should also have some form of international recognition for graduates.
- 5) According to the MoPH plan, there is urgent need for training of 400 field epidemiologists in the provinces to provide the necessary health care, increase HIMS quality and deal with outbreak situations. This should be the enrollment goal for the program.
- 6) Trainees should be selected mostly from the provinces in need to increase the likelihood that graduates will return to areas in need.
- 7) The program should include provision for local experts with degrees (Masters and/or a Ph.D.) in Public Health from India, Japan, Pakistan, England, USA or Iran to act as instructors/facilitators/translators for the course.
- 8) Provision of training so that graduates of the program can eventually take over and run the program in future should be developed with a 10-15 year minimum sustainability goal.
- 9) The course content should include the use of computers and provide access to the internet to students and staff as well as provisions for access to the internet for graduates on completion of the courses.
- 10) Instructors' salaries should be paid according to MoPH policy and guideline, which is usually paid per session taught. An appropriate pay scale should be provided by MoPH.

Selection for instructors: Afghans working with supervising Canadian instruction faculty, with gradual handover of teaching functions over 3-5 years. Eligibility criteria includes qualification (MPH or equivalent, MSc, Masters Degree in Health Information or Epidemiology); Experience of Public Health; experience teaching, supervision and monitoring; communication skills, language fluency in Pashto, Dari and English;

Consensus on Curriculum:

1. Communicable diseases (Acute Respiratory Infections, Diarrhea, Malaria, Tuberculosis, childhood communicable diseases and HIV/AIDS)
2. Non communicable diseases, diabetes mellitus, cardiovascular disease (CVD), mental problems, addiction
3. Maternity and reproductive health problems
4. Land mines, war trauma and physical disability, road traffic accidents

Appendices: 1 -Workshop

Summary of Workshop:

As we planned to conduct workshop aims to develop curriculum; therefore we had two days workshop. During these two days we discussed outcomes of our meetings, Developed selection criteria for trainees and instructors and determined common health problems in the country.

- In order to develop a reasonable curriculum and selection criteria for the trainees and instructors for a six month Field Epidemiology course for Afghan health professionals, a two days workshop was conducted with technical and financial support of the University of Manitoba and IDRC/Canada,. In total, 36 participants attended. The workshop was opened by Dr. Faizullah Kakar, Deputy Minister for technical affairs of the MoPH. The agenda of the meeting is attached in Appendix. The main objective of the meeting were presentations regarding; the objectives, needs for the course, how the course needs to be conducted, its finance, criteria for choice of trainees and instructors, ect. This meeting was composed of some frontal presentations after which the conveners were divided into working groups that discussed the issues mentioned earlier.
- epidemiologic studies,
- results of the meetings,
- conclusion of the first day of the workshop,
- Suggestions of the stake holders and role of epidemiology in post/in conflict countries as well as in Canada

Some groups worked to develop selection criteria and design terms of reference (TOR) for trainees and instructors of the course. In addition, the groups also worked on current common health problems, in Afghanistan, quality of health information. A draft of the curriculum for field epidemiology had been provided and was discussed with entire group. Each group was asked to arrange the sections, remove unnecessary topics, and add more topics to be taught in the future course. The working groups were asked to suggest the number of the sessions for each section/topics. The results were presented by a representative of each working group and discussed by all the participants and by the facilitators as well, and a consensus was arrived at regarding the curriculum.

The six-month course will be conducted as soon as possible. The total number of the participants would be 40-50 persons (in two classes according to their qualifications) per course. A total number of 400 persons would be trained in subsequent courses. Course participants must be selected according specific criteria. Accommodation would be available for the Course participants and for the Course instructors. Most participants would be selected from provincial health directorates, staff of NGOs, Medical Universities and the UN according to predefined selection criteria. The salary will be paid by their employers and their posts positions reserved. The course candidates from **the MoPH**, will be obliged to continue in the same position as before the course for at least one year .The NGOs would be encouraged to follow the same rules. A steering committee will be responsible for the monitoring and supervision of the course.

An evaluation questionnaire was filled in by the participants at the end of this workshop and they assessed the facilities and the content of the workshop. The general comments were that the workshop was very well done. The workshop was closed by with thanks and appreciation of the facilitators and participants

Selection criteria of the trainees:

1. Nationality: Afghan
2. Appropriate qualification (MD, Diploma, Institute of Health Science (IHS), Veterinary graduate, Pharmacist)
3. Working in Public Health or relevant job
4. Balance between regional and provincial candidates
5. Encouraging female candidates
6. Core competence (Basic English communication skills, analytical skills basic knowledge of computer and mathematics)
7. Pre course inductor class and pre-entry test and post course final exam
8. Strong professional commitment during and after the course
9. Expectation that comes graduates will work in underprivileged geographic areas of Afghanistan from the graduate.
10. Nomination by authorized head of departments or organizations

Selection criteria for the instructors:

1. Qualification (MPH or equivalent, MSc, Masters Degree in Health Information or Epidemiology)
2. Experience of Public Health; experience teaching and mentoring
3. Good communication skills, fluent in Pashto, Dari and English
4. Awareness of course contents, course materials and teaching method
5. Experience with supervision and monitoring

Consensus on the Common health problems of Afghanistan that need to be addressed in the Course:

1. Communicable diseases (Acute Respiratory Infections, Diarrhea, Malaria, Tuberculosis, childhood communicable diseases and HIV/AIDS)
2. Non-communicable diseases
 - Diabetes mellitus
 - Mental problems
 - Addiction
 - Cardiovascular disease (CVD)
3. Maternity and reproductive health problems
4. Land mines
5. Trauma
6. road traffic accidents
7. war casualties (disability, rehabilitation)

Workshop Outcomes

The general comments from the workshop participants were that the workshop was very well prepared and executed. The workshop was closed by with thanks and appreciation of the facilitators and participants

In summary, the workshop achieved consensus about elements for the training field epidemiology course, generally adopted by all participants. Workshop evaluation: 95% found the workshop valuable or a very valuable experience, the epidemiology training project was found to be very important by 78% or important by 20%. 53% found the presentations of the workshop very satisfactory, 44% satisfactory, 3% not-satisfactory. All found the organization and facilities of the workshop to be satisfactory.

Agreed upon requirements (highlights) from course candidates:

- competency entrance assessment
- communication skills
- practical applications,
- analytical skills
- Course participants to be : MOPH & NGOs provinces personnel
- MoPH will secure the job and salary for trainees during the course itself.
- Regional and gender balance

Remaining problems:

- costs for course (estimated at about \$600.000 per each of the 8 courses)
- Setting standards

Implications for Canadian contributions

The proposed consortium delivery approach could be adapted to other low income countries with complex humanitarian settings.

Once recommendations are decided upon, establishing international financing scheme for the project

Report of preparatory workshop for developing curriculum of field epidemiology



Afghan Public Health Institute and Manitoba University/Canada



Report of preparatory workshop for developing curriculum of field epidemiology

Date and time: 24-25 November 2007 from 8:30am-4:00pm.

Venue: Setara Hotel, Kabul, Afghanistan

Participants: (List attached)

Facilitators: Dr. B. Noormal DG-APHI/MoPH; Dr. Wassay Niazi, Dr. Ethan Rubinstein, Dr. Robert M Chase, from University of Manitoba; Professor A. G. Mukamel Safi, Senior Advisor of MoPH, Dr. A. Wahab Zaheer APHI/MoPH Consultant and Dr Mohammadullah Alishungi, HMN Consultant APHI/MoPH

Attachments:

- workshop appendices
- invitation letter for the workshop
- detailed agenda
- participants list
- evaluation form of the workshop
- draft of the curriculum,
- the presentations (the objectives of the project by Dr. W. Niazi
- An example of epidemiology by Dr. E. Rubinstein
- Outcomes of the meetings by Dr. M. Alishungi and Epidemiology in post and in conflicts countries as well as in Canada by Dr. R. Chase)

Thirty-six national and international senior health professionals, who represent the Ministry of Public Health, Provincial Public Health departments, Kabul Medical University, Khost University, Nangarhar University UN, and the national and international NGOs, took active part in the workshop.

Appendices:

Detailed Workshop Agenda

Morning session:

Opening remarks:

After the registration and reading a verse from the Holy Quran Dr. Faizullah Kakar launched the workshop with a welcome speech and appreciation of the University of Manitoba for planning such an important course. Dr. Bashir Normal, Dr. Ethan Rubinstein and Professor A.G Mukamel Safi were the other speakers. All speakers endorsed the following points or statements:

1. There is an urgent need for a Field Epidemiology training course.
2. Qualified epidemiologists can play important role in identifying, prioritizing and controlling common health problems in Afghanistan.
3. Open discussion and working groups need to work on vital issues such as objectives learning needs, selection criteria of the trainees and instructors of the course, curriculum and structure of the course.
4. There' is a need for a long-term commitment (about 5 to 6 years) and partnership between the MoPH and the University of Manitoba, Canada for the planning and completion of training of 400 field epidemiologists in |Afghanistan.
5. There is a need for formal affiliation with the University of Manitoba Canada, further postgraduate education.

Afternoon session:

The participants were divided into 4 working groups.

The working groups discussed the following issues:

1. Selection criteria of Course trainees and Course instructors
2. Common health problems in Afghanistan
3. Quality of health information and the ways it can be improved

Subsequently they came up with the following conclusion:

A: Selection criteria of the trainees:

1. Nationality: Afghan
2. Appropriate qualification (MD, Diploma, Institute of Health Science (IHS), Veterinary graduate, Pharmacist)
3. Working in Public Health or relevant job
4. Balance between regional and provincial candidates.
5. Encouraging female candidates
6. Core competence (Basic English communication skills, analytical skills basic knowledge of computer and mathematics)
7. Pre course inductor class and pre-entry test and post course final exam.
8. Strong professional commitment during and after the course
9. Expectation that comes graduates will work in underprivileged geographic areas of Afghanistan from the graduate.
10. Nomination by authorized head of departments or organizations

B: Selection criteria for the instructors:

1. Qualification (MPH or equivalent, MSc, Masters and PhD Degree in Health Information or Epidemiology)
2. Experience of Public Health; experience teaching and mentoring
3. Good communication skills, fluent in Pashto, Dari and English
4. Awareness of course contents, course materials and teaching method
5. Experience with supervision and monitoring

C: Consensus on the Common health problems of Afghanistan that need to be addressed in the Course:

1. Communicable diseases (Acute Respiratory Infections, Diarrhea, Malaria, Tuberculosis, childhood communicable diseases HIV/AIDS)
2. Non-communicable diseases (Diabetes, Mental illness, Addiction Cardiovascular disease (CVD))
3. Maternity and reproductive health problems
4. Land mines
5. Trauma, road traffic accidents, and war casualties

D: Health information about common health problems:

- A: Passive surveillance (HMIS and NGOs)
B: Active surveillance (MoPH, WHO and UNICEF)

E: Limitations of the current health information system:

1. Only limited data from the public sector and not from the private sector are available
2. Self-reporting, needing objective criteria and statically robust
3. Not timely (every 3 months)
4. Quality of data questionable
5. Possibility of manipulation or misuse of the data?

F: Measures for improvement of HIS:

1. Postgraduate and workplace training (epidemiologic and public health training)
2. Efficient system of surveillance
3. Sufficient funding
4. Cross examination
5. Double checking
6. Supervision and monitoring
7. Feedback
8. Updating demographic information
9. Logistical supply (stationery and computers)
10. Peace and stability
11. Coordination between MoPH, UN, NGO's and private sector
12. Quality assurance
13. National Electronic Health Information network

Conclusion of the second day of the workshop (25 November 2007):

Review of the previous day agenda: The previous day’s agenda was achieved and presented and there was a long and interesting discussion regarding the TOR for the participants and instructor.

Epidemiology in post / and during conflict and epidemiology in Canada was presented

The participants were divided in to four working groups, and worked on developing the curriculum. A draft of the curriculum for the Field Epidemiology Course has been provided and discussed in the working groups. Each group was asked to arrange the sections, remove unnecessary topics, and add more topics, the number of the sessions for each section/topic. The results were presented by the representatives of the working groups and discussed by the facilitators. The results are as follows:

Group #1

Section and topics	# of hours (1+1 means: tutorial + practice)
1. Principles of Basic epidemiology	
History and definition	2
Applications of Epidemiology.....	1 + 1
Measurement in Epidemiology	1 + 1
Prevalence and Incidence.....	1 + 1
Measure of Mortality	1 + 1
Total	10 Lectures of 90 minutes
2, Natural History of Disease	
History and definition	1
Risk Factors vs. Protective factors.....	1 + 1
Classification of disease.....	1
Herd immunity / Mass Immunization	1
Total	5 Lectures of 90 minutes
3. Outbreak investigation	
What is an outbreak History	1
Infectious Disease (communicable Disease) and Outbreak.....	1 + 1
Steps for Outbreak Investigation.....	2 + 2
Operational Aspects of outbreak/ Coordination.....	1
Communication	
Total	8 Lectures of 90 minutes
4. Epidemiologic Surveillance	
Definition and Purpose.....	1
Type of surveillance	1 + 1
How to establish a surveillance system.....	2 + 1
Data source.....	1
Data collection methods	1 + 1
Quality of data	1
Analysis and interpretation	1 + 1
Reporting and Dissemination.....	1
DEWS (diseases early warning system the Current System)...	1 + 1
HMIS.....	2 + 2
Total	19 Lectures of 90 minutes

5. Study Design

Definition and classification	1
Defining exposure and outcome.....	1
Bias / chance/ confounding.....	2 + 1
Case series / cross sectional.....	3 + 2
Case control.....	.2 + 1
Cohort2 + 1
Experimental studies.....	2 + 1
Comparison of Epidemiological studies.....	1 + 1

Total 21 Lectures of 90 minutes

6. Introduction to Biostatistics

Definition and purpose.....	1
Type of data.....	2 + 1
Measure of central tendencies.....	1 + 1
Measure of variation.....	1 + 1
Organization and displaying of data	1 + 2
Tests of significance.....	7 + 7

Total 21 Lectures of 90 minutes

7. Measure of association

Absolute risk	1 + 1
Attributable risk.....	1 + 1
Population at risk	1 + 1
Risk Ratio / Odds Ratio.....	1 + 1

Total 8 Lectures of 90 minutes

8. Protocol development

Problem development
Research question
Goal / objectives
Literature review
Methodology Analysis
Interpretation
Reporting

Total 16 Lectures of 90 minutes

Group #2

Section 6: Developing intervention

- Reason to initiate
- Field investigation
- Actual implementation and determinant for investigation

Section 7: Communicating epidemiological findings

- Writing an epidemiological paper and an abstract
- Presenting a scientific paper
- Literature review using internet skills
- Oral presentation skills

Sections 8 and 9: Survey and Sampling Surveys

- Questionnaire design
- Developing training manual
- Procedure of ethics review board
- Pre-test and site selection
- Budget management

Sampling

- Random sampling methods
- Simple random sampling
- Stratified sampling
- Systematic sampling
- Cluster sampling

Non-random sampling

- Convenience sampling
- Snow-ball sampling

Total 12 theory sessions 8 practice

Section 10: Epidemiologic investigation in international settings

WHO and International Health Regulations

Priority communicable diseases at international level- SARS, Dengue fever....

Section 11: Field investigation of occupational disease and injuries

- Problem faced at home, on roads, at work place
- Rapid epidemiological assessment
- Summary of the medical and public health effect for major disease
- Surveillance after disaster and outbreak
- Introduction to early warning system

Total 15 Lectures of 90 minutes

Group # 3

Section 12: Computer Use in Epidemiological Work

	Pre-requisite	Classroom	Practicum
Word	xx	O	x
PowerPoint	X		X
Excel	X	1-2	X
Access			
Epi Info		3	4
ArcView /GPS		1	?
Internet/PubMed			
Google Earth			

Consider STAT instead of Epi INFO ?

Section 13 / 14: Dealing with the Public and Media

- Legal considerations in a field investigation
- Classroom Problem Scenario and Role Play? Field Work

Section 15: Natural disaster – Floods, Drought, Earthquake, Landslides, harsh winter, dust storm

Man made- conflict, violence?

Contents

Health Impacts	Tools	Training methods
Early Warning Systems	Sphere Project	Reading assignments
Water / Sanitation	Standards	Classroom
Communication	Health kits	Field visits
Coordination between agencies/ ministries		
Nutrition		

Section 16: Mathematics- (pre-requisite only)

Section 17: Statistics

- Normal distribution curve z-score
- Means, standard deviation, probability
- T-test, confidence interval
- Chi-square
- Multiple regression

Total 10 session theory 10 Lab 5 practicum

Section 18:

Disease	Epidemiological	Diagnostic Tests	Outbreak	Control measure	Special topics
ARI / AI / PI	x	X	X	X	
AWD/ Cholera	x	X	X	X	
Measles	x		X	X	
Pertussis	x		X	X	
Diphtheria	x		X	X	
Polio	x	X	X	X	
TB	x	X			X
HIV AIDS	x	X			x
Hepatitis	x	X	X		X
Meningitis	x	X	X	X	
Typhoid	x	X	X	X	
Leishmaniasis	x	X			
Malaria	x	X	X	X	
Parasitosis	x	X			

Section 19: Epidemiology of Non-Communicable Disease:

Mental Health: community Based Programs; disabled; violence-affected communities;
socioeconomic issues

Diabetes, CVD, War Victims

Reproductive Health

Group # 4

Section #	Topic to add	Training Methods	Time	Remarks
20 Behaviors affecting health	Violence/ suicide / homicides	Theory and practice	OK	Epidemiological approach to study behavior
21 Health systems and Policies in Afghanistan	Structure of public health unit of medical universities	practical	OK	
22 Applications of epidemiology methods to the planning and evaluation of health services	Design projects by participants	practical	20 hours	
23 Islamic bioethics	OK	Theory / practice	OK	
24 Management	Management functions Planning Leading Organizing Controlling	theory	OK	
25 Genetic epidemiology	OK	Theory / practice	5 hours	

**Appendices:
Final Proposed Curriculum:**

No.	Section	Topics	Training method	No. of sessions	Remarks
	Section I- A brief review of the basic principles of epidemiology	<ul style="list-style-type: none"> • History • Definitions • Applications of epidemiology • Core epidemiologic functions • Concepts of disease occurrence • Measurement in Epidemiology 			
	Section II- Natural History of Disease	<ul style="list-style-type: none"> • History and definition • Risk factor vs. protective factors • Classification of Diseases • Herd immunity / mass immunization 			
	Section III- Epidemiological surveillance	<ul style="list-style-type: none"> • Definition • Purpose • How to establish a surveillance system • Data sources • Data collection • Analysis and dissemination of surveillance data • Data reporting • DEWS • HIMS 			
	Section IV- The field investigation	<ul style="list-style-type: none"> • Operational aspect of epidemiologic field investigation • Conducting a field investigation • Outbreak investigation • Steps for outbreak investigation • Communication 			
	Section V - Study design	<ul style="list-style-type: none"> • Definition and classification • Defining exposure group • Bias/chance/confounding • Cohort studies • Comparison of epidemiologic studies • Case controlled studies • Experimental studies 			
	Section VI - Introduction to Biostatistics	<ul style="list-style-type: none"> • Definition and purpose • Type of data • Measure of association • Measure of variation • Organization and display of data • Test of statistical significance 			

	Section VII - Protocol development	<ul style="list-style-type: none"> • Problem development • Research questions • Goals/Objectives • Literature review • Methodology analysis • Interpretation • Reporting 			
	Section VIII - Developing interventions	<ul style="list-style-type: none"> • Reason to initiating • Field investigation • Actual implementation and determinant for investigation 			
	Section IX - Communicating epidemiological findings	<ul style="list-style-type: none"> • Writing an epidemiologic paper and abstract • presenting a scientific paper • Literature review using internet skills • Oral presentation 			
	Section X - Surveys and sampling	<ul style="list-style-type: none"> • Questionnaire design • Steps in carrying out a survey • Developing training manual • Procedure of ethics review board • Pre-test and site selection • Budget management Random sampling • Stratified sampling • Systematic sampling • Cluster sampling • Non-random sampling 			
	Section XI - Epidemiological investigation in international setting	<ul style="list-style-type: none"> • WHO international Health regulations 			
	Section XI - Field investigations of occupational disease and injury	<ul style="list-style-type: none"> • Problems you will be face in the field • The rapid epidemiological assessment • Surveillance after disasters • Summary of the medical and public health effects for major disasters (flood, earthquake) • Introduction to early warning system 			

	Section XI - Using computer for field investigations	<ul style="list-style-type: none"> • Word • PowerPoint • Excel • Access • Epi Info • Internet/Pubmed • Google earth 			
	Section XII- Dealing with the public and media	<ul style="list-style-type: none"> • Legal considerations in a field investigation • Classroom problem Scenario and role play 			
	Section XIV- Field investigation of natural disasters	<ul style="list-style-type: none"> • Early warning system • Coordination between agencies • Floods, Drought, Earthquake, dust storm, man made conflict 			
	Section XV- Introduction to Statistics and Statistical Software	<ul style="list-style-type: none"> • Normal distribution curve z-score, Means, Standard deviation, probability, T-test, confidence interval, Chi-score 			
	Section XVI- Epidemiology of communicable disease	<ul style="list-style-type: none"> • ARI • AWD/cholera • Measles • Pertussis • Diphtheria • Polio • TB • HIV/AIDS • Hepatitis • Typhoid • Leishmaniasis • Malaria • Parasitoids 			
	Section XVII- Epidemiology of non-communicable disease	<ul style="list-style-type: none"> • Mental health • Disabled • Violence • Diabetes • CVD • War victims • Reproductive health 			
	Section XVIII- Behavior factors affecting health	<ul style="list-style-type: none"> • Social determinants of disease • Health behavior and health promotion • Smoking • Prevention and management of drug abuse • Prevention and health education 			

	Section XIX- Administrative Bodies and Agencies	<ul style="list-style-type: none"> • Afghan laws and regulations pertaining to Public Health (MoPH Health strategy, BPHS and EPHS as well Malaria , TB and HIV/AIDS Strategies) • Structure and function of the Ministry of Public Health and reporting Protocols • Structure and function of WHO and other NGOs dealing with Public Health in Afghanistan 			
	Section XX - Application of epidemiological method to the planning and Evaluation of health services	<ul style="list-style-type: none"> • Design projects by participants 			
	Sections XXI - Islamic bioethics				
	Section XXIV - Management	<ul style="list-style-type: none"> • Management functions • Planning • Leading • Organizing • Controlling • Proposal and report writing 			
	Section XXV- Genetic epidemiology				
	Total				

Appendices:

2) Table: Consultations Contacts and Organization re. Public Health Capacity in Afghanistan

Individual	Organisation	Scope of activity	Contact Information
#1 UM/IDRC project team :			
Wassay Niazi (IDRC Grant PI)	Adjunct Lecturer, Department of Medical Microbiology and Infectious Diseases, University of Manitoba	Infectious disease project coordination	Niazi_afghan@hotmail.com Phone:1-204-256-5079 1-204-232-4682
Ethan Rubinstein MD (IDRC Grant Co - PI)	Sellers Professor of Research In Medicine and Head of the Section of Infectious Disease, Department of Medical Microbiology and Infectious Diseases, University of Manitoba	Infectious disease	rubinste@cc.umanitoba.ca phone: 1-204-9775680
Rob Chase MD	Assistant Professor, Dept. Community Health Sciences, Faculty of Medicine, University of Manitoba	Post-conflict health, surveys, vulnerable populations	chaser@cc.umanitoba.ca phone: 204-789-3885
Dr. Faizullah Kakar Deputy Minister and Director General for Technical Affairs	Deputy Minister and Director General for Technical Affairs Ministry of Public Health, Afghanistan	Epidemiologist	moph.tdd@gmail.com 0799458716
Dr. Noormal	DG of APHI	Professor of KMU	Noormalb@yahoo.com Phone:0700281134
Advisory Team:			
Myrna Dyck	CDC Epidemiologist Public Health	Manitoba Health	Myrna.Dyck@gov.mb.ca tell: (204) - 788-6786 cell: (204) - 797-3004
Laura Thompson	Field Surveillance Officer for HIV/AIDS & STI	Public Health Agency of Canada	Laura.Thompson@gov.mb.ca Phone: (204) 945-6135
Natalie Bjorklund	Silver Bog Research Inc. Winnipeg Manitoba	Report Preparation	Directorsbr@mts.net
#2 Afghan MoPH / APHI working group members			
Dr. A. Wassay Niazi	PI for the project	Lecturer in UM	Niazi_afghan@hotmail.com 1-204-256 5079
Dr. Bashir Noormal, General Director APHI	Director General of APHI	Professor of KMU	Noormalb@yahoo.com 0700281134
Dr. A. Wahab Zaheer, MPH APHI/Consultant	Consultant for APMI/MoPH	Master of Public Health	wahabzaheer@hotmail.com phone: 0798239966
Dr. Sayeed Islam MPH, Trainer Manager/APHI	Training Manger/APHI	Master of public Health	Km-islam2001@yahoo.com Phone: 0700290955

Individual	Organisation	Scope of activity	Contact Information
Dr. Mohamadullah Alishangi, HMC Consultant	HMC-Consultant and Local Coordinator		Dralishani@yahoo.com Phone: 0799445721
Dr. Hafez Rassoly, Master of Public Health and Technical Advisor to APHI	Technical advisor to APHI	Master of public health	dochafez@yahoo.com phone: 0798036038
Dr. Asraf Mushkor, HMIS Manager, APHI	HMIS consultant/APHI	Master of public health	
#3 November 24-25 2007 Kabul Workshop Participants			
MOPH- central / provinces			
Dr.Mushahal	PhD in Public Health	MoPH	mtmashal@yahoo.com phone: 0796033445
Dr.Kakar	Deputy Minister MoPH	MoPH	moph.tdd@gmail.com phone: 0799458716
Dr.Najibullah Safi	NMLCP-Director	MoPH	Safinajibullah2000@yahoo.com phone: 0777890855
Dr.Mustafa Rahim	HMIS consultant	MoPH	mustafarahimhmis@yahoo.com phone: 0700225578
Dr.Haseebullah	Director Mrt	MoPH	YOURNIAYESHY@yahoo.com phone: 0799381892
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Appendices
3) Photographs



Working group meeting: From left to right Drs. Zaheer, Alishangi, Sayed Islam, Niazi and Rassoli



Dr. Kakar, Deputy Minister on Technical affairs, Dr. Niazi, Dr. Rubinstein and Dr. Chase



View of IPHMS(Institute of Public Health and Management science) from outside



Classroom at the IPHMS



Classroom at the IPHMS



Conference hall at the IPHMS



Dr. Kakar, Deputy Minister on Technical affairs addressed workshop participants



Group work on health problems in Afghanistan and selection criteria for trainees





Group work on curriculum

