



# **Continuous Quality Improvement Handbook**

**Version 1.0  
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## Foreword

Dear TEPHINET members, friends and colleagues:

As you know, the mission of TEPHINET is “to strengthen international public health capacity through initiating, supporting and networking field-based training programs that enhance competencies in applied epidemiology and public health,” and this **Continuous Quality Improvement (CQI) Handbook** has been developed to further this mission. This Handbook will help TEPHINET programs to achieve the highest possible quality of training and service which are essential for our programs to have the greatest impact on health. Program credibility, impact and sustainability are built on quality: quality training, quality science, quality communication, and quality service.

In this age of globalization and the emergence of new communicable diseases (e.g., SARS), the increasing global impact of known diseases (e.g., dengue fever), and the growing concern about a possible influenza pandemic, qualified field epidemiologists are needed more than ever. This is on top of the increasing importance of good science in all countries to support prevention and control programs for non-communicable diseases, injuries, and environmental hazards.

In December 2000, the Board of Directors established the TEPHINET Quality Assurance (QA) working group, and initiated the process that would lead to the publication of this Handbook. The first meeting of the Working Group was held in June 2001; initially the committee focused on defining a field-based training program in epidemiology and public health, the core competencies expected of graduates of these programs, and the core learning activities needed to achieve those competencies. The Working Group then built on this foundation to develop a framework for program evaluation and Continuous Quality Improvement.

I'd specifically like to thank the following former and current members of the TEPHINET CQI (formerly QA) Working Group for their contributions: Nasser Al-Hamdan, Robert Beaglehole, Mary Beers-Deeble, Kow-Tong Chen, Roberto Flores, Dionisio Herrera, Douglas Klaucke, Ethel Palacios, George Pariyo, Mahomed Patel, Augusto Pinto, Conchy Roces, Fred Wabwire, Denise Werker and Mark White. I'd also like to acknowledge the two TEPHINET Executive Directors, Victor Cardenas and John Orr, and their staff who have been supporting this activity, and I'd like to extend our appreciation to the World Health Organization, the United States Centers for Disease Control and Prevention, and the United States Agency for International Development for both their technical and financial support of this process.

It is a pleasure for me to present to you in the name of the Board of TEPHINET the first version of the CQI Handbook. We hope that all TEPHINET programs will find this Handbook useful, and we welcome your comments so that we can make the next version even better.

Prof. Dionisio Herrera  
Chairman of the Board, 2002-2005

## **Background**

Epidemiologic information is an essential component for decision making in all aspects of formulating, implementing, monitoring and evaluating health policies and programs. Every country needs at least a minimum capacity in epidemiology to evaluate their health promotion and disease control programs and to monitor progress towards achieving program goals.

In response to the need to develop their public health capabilities and infrastructure, several countries developed, independently or in consultation with other agencies, national or regional field-based training programs in applied epidemiology and public health. The primary goal of these training programs is to foster the development of field-trained epidemiologists who are competent in the practical application of epidemiologic methods to a wide range of public health problems in their respective areas.

Various models of field-based training programs exist, e.g. the Epidemic Intelligence Service of the U.S. Centers for Disease Control and Prevention, Field Epidemiology Training Programs (FETPs), Public Health Schools Without Walls (PHSWOWs), and the European Programme for Intervention Epidemiology Training (EPIET). Regardless of the model, all subscribe to the maxim of “training through service.” Each program is adapted to meet the health needs of the country or region in which it functions.

During the 1990s, several directors of these field-based training programs that had gained credibility by making an impact in their respective countries or regions began an initiative to organize themselves into a global network. With the support of the World Health Organization (WHO), the U.S. Centers for Disease Control and Prevention and the Fondation Merieux, the network was formalized as the Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET).

TEPHINET, a non-profit organization, was established in June 1997 with the mission of strengthening international public health capacity through initiating, supporting and networking field-based training programs that enhance competencies in applied epidemiology and public health. More than 25 field-based training programs in all six WHO regions (the Americas, Africa, Eastern Mediterranean, Europe, South-East Asia, and the Western Pacific) now participate in TEPHINET.

## **Vision**

Improvements in people’s health through a global network dedicated to quality training in applied epidemiology and public health

## **Goals of TEPHINET**

1. Support and strengthen existing field-based training programs in applied epidemiology and public health.
2. Link public health professionals participating in the network to organizations responding to public health situations that require competencies in field epidemiology.
3. Support the development of new field-based training programs in applied epidemiology and public health.
4. Enhance applied public health research activities of field-based training programs in response to public health problems and threats.

## **Purpose of the Document**

Building and maintaining the highest possible quality of a field-based training program is essential to the credibility of a program and ensuring that it is responsive to the needs of the host country or region and is able to make the greatest contribution to public health. Continuous quality improvement (CQI) is a systematic reiterative review of inputs, processes, outputs and outcomes of training programs to improve their performance with a goal of protecting and improving the health of a population.

Adopting a common framework for quality assessment and continuous improvement is useful for the network and individual programs. Program staff can use the information on the quality of their training program in deciding on issues pertaining to their program's inputs, process and outputs, responding to the needs of stakeholders and advocating for the necessary resources to run and maintain a quality field-based training program. On the other hand, TEPHINET will use information on the quality of the various training programs in deciding which activities to undertake and what type of support to give various programs. The CQI process also provides a forum for exchange of best practices among member programs.

The main purpose of this document is to provide an instrument for the program to use as a tool for self-evaluation or interval evaluation; it should help programs to assess the extent to which they meet standards of performance as defined by the general TEPHINET membership. However, if conditions require an external evaluator to validate this process or to conduct the evaluation process, TEPHINET is prepared to conduct this external evaluation. External evaluations of a program conducted by TEPHINET will use the criteria and standards described in this handbook.

This handbook describes the defining characteristics of a field-based training program in applied epidemiology and public health and provides a common framework for quality assessment and continuous improvement. Indicators, standards and tools for data collection and a description of the process are also provided.

## Defining Characteristics of Field-based Training Programs in Epidemiology and Public Health

Field-based training programs in applied epidemiology and public health are characterized by all the following:

- Training takes place in the host country or region
- Duration of training is at least two years
- At least 60 percent of the training is comprised of an apprenticeship or practicum during which epidemiologic methods are applied to problems of public health importance
- Must aim for trainees to acquire a defined set of competencies which include those listed below.

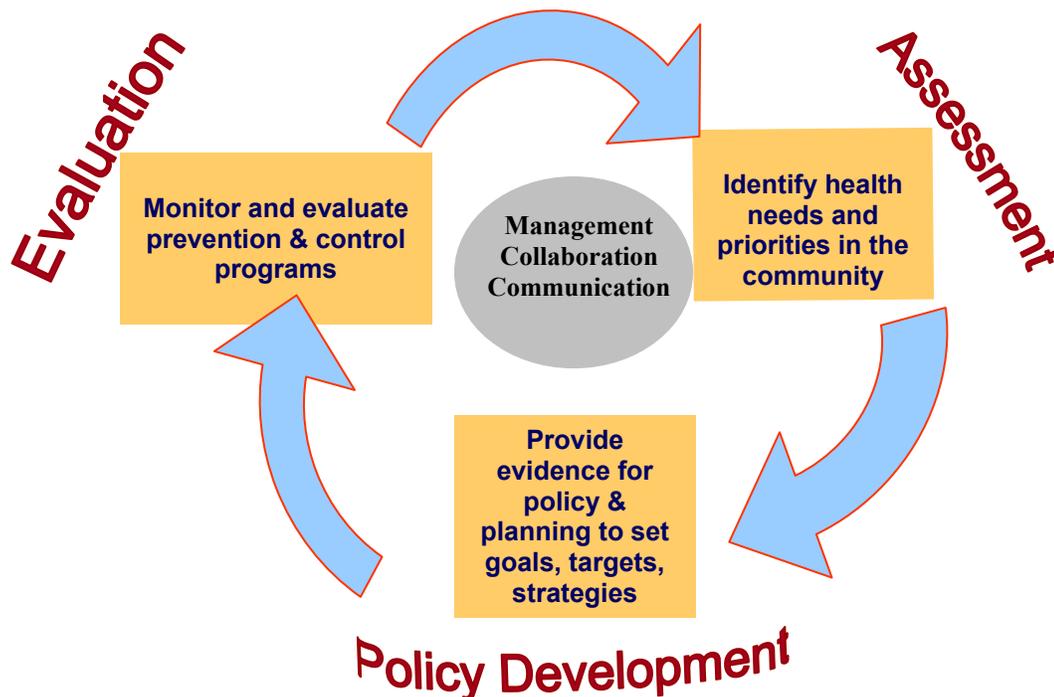
“Training through service” is a hallmark of these programs. Trainees develop their skills through the supervised practical application of epidemiology to real public health issues.

Field-based training programs in epidemiology and public health also provide valuable services, such as the routine analysis of surveillance data and the publication of a disease control bulletin, to national health systems. Although this document focuses on the training aspects of the program, these other services are documented and recognized as important aspects of program quality and value, and can contribute to the program’s sustainability.

### Public Health

Public health focuses on the health of populations and communities. The principle components of public health practice include assessment of all aspects of community health, development and implementation of policy and practices to improve health, and evaluation of these measures and other changes over time (figure 1).

Figure 1: The three major functions of public health, and the systems and activities for each



Each of these three functions of public health is composed of defined systems, procedures and activities for which public health practitioners need relevant knowledge, skills and competencies. The activities central to each of these functions include management, inter-disciplinary and inter-sectoral collaborations and networking, as well as effective written and oral communications with the community, decision makers, health bureaucrats, health care providers and peers.

The epidemiologist plays an important role in the assessment of community health, including needs assessments, prevalence and analytic studies and surveillance and monitoring. Implementation of meaningful practice and policy depends on evidence from assessments of community health issues, and it is the epidemiologist's role to provide this evidence. The epidemiologist needs to interface effectively with other practitioners and communities who are key to implementing interventions. Evaluation of interventions is also a task for the epidemiologist who focuses on a quantitative approach to evaluation.

The areas of public health covered by training programs are focused towards meeting the skills needed by an epidemiologist to function as one member of the public health team. The emphasis of the training programs is on the role of the epidemiologist.

The four domains in which these training programs build critical competencies are: epidemiology, communication, professionalism and public health management. The acquisition and improvement of competencies in each domain are facilitated through learning activities that should be integrated into the placement and field experiences of the trainee. The needs of the country or region in which the program functions should determine the full range of competencies and learning activities that are incorporated into the training plan of any specific program.

## **Core Competencies and Core Learning Activities**

Core Competencies (CCs) and Core Learning Activities (CLAs) are presented in the following three sections. First, the CCs are listed; second, the CLAs are listed; and finally, the CLAs are matched up with the corresponding CCs and presented as both text and a table (Table 1).

### **Core Competencies (16)**

The competencies in each domain are the minimum requirements for each trainee.

#### Epidemiology

1. Design, implement and evaluate surveillance for a health event.
2. Identify and assess an actual or potential public health problem.
3. Formulate a hypothesis and then design and conduct a scientific investigation to test this hypothesis.
4. Analyze and interpret data from a scientific investigation.
5. Recommend logical and practical public health actions from the analysis and interpretation of data from a scientific investigation.

6. Collaborate with laboratory professionals to ensure the appropriate use of lab tests and accurate interpretation of results of laboratory investigations.
7. Critically appraise study proposals, reports, and peer-reviewed scientific articles.

#### Communications

8. Prepare written study proposals.
9. Prepare written materials for a variety of audiences.
10. Communicate verbally to a variety of audiences, including the communication of risk to policy makers and senior politicians.

#### Professionalism

11. Work effectively as a member of a multidisciplinary team.
12. Assume a leadership role when appropriate.
13. Develop own personal learning objectives and evaluate progress to achieving these objectives.

#### Management

14. Manage the human, material and financial resources available for the development of activities and implementation of public health policies and recommendations.

#### Information Technology

15. Use computer software for data management, epidemiologic analysis, word processing, and preparing presentations.
16. Use the internet to communicate, to perform literature searches, and to access databases.

In addition to these core competencies, programs may want their trainees to develop competencies in other areas such as health economic analyses, program evaluation and behavioral sciences.

### **Core Learning Activities (21)**

These Core Learning Activities, supported by the classroom work, help each of the trainees achieve the Core Competencies.

1. Implement a new surveillance activity for a health event; evaluate existing surveillance activities for a health event; or be primarily responsible for running existing surveillance activities for a health event.
2. Analyze and interpret surveillance data.
3. Conduct or participate in a survey or community assessment using appropriate methods.
4. Conduct or participate substantively in a field investigation of a potentially serious public health problem that requires a rapid public health response.
5. Plan, conduct, and interpret an epidemiologic analysis of a new or pre-existing data set.
6. Formulate evidence-based public health recommendations from the analysis and interpretation of data from a scientific investigation.

7. Participate in the appropriate collection and transportation of laboratory specimens and in the interpretation of the results of their testing.
8. Prepare a critical appraisal of literature relevant to a specific health problem.
9. Write a study proposal.
10. Write a report that is published in a public health bulletin or other similar type of publication.
11. Write and submit an abstract for oral or poster presentation at a peer-reviewed scientific conference.
12. Prepare a manuscript for publication in a peer-reviewed scientific journal.
13. Submit a report that addresses a public health problem to stakeholders or policy makers.
14. Give an oral presentation to stakeholders or policy makers.
15. Give a scientific presentation at a national or international conference.
16. Respond to inquiries from public, media, or health professionals as appropriate.
17. Participate in a defined role as member of a public health team.
18. Lead a public health team to accomplish a specific task.
19. Participate in the planning and implementation, or evaluation of a program, project, or urgent response that addresses a public health problem.
20. Develop personal learning objectives at entry to program.
21. Periodically assess progress in attaining personal learning objectives and in achieving the competencies.

### **Core Competencies with Associated Core Learning Activities**

The following list provides a rough mapping of the Core Learning Activities (in italics) into each of the Core Competencies. A cross-tabulation of the CCs and the CLAs is also provided in the table on the following page.

- 2 Design, implement and evaluate surveillance for a health event.
  1. *Implement a new surveillance activity for a health event; evaluate existing surveillance activities for a health event; or be primarily responsible for running existing surveillance activities for a health event.*
  2. *Analyze and interpret surveillance data.*
  
- 3 Identify and assess an actual or potential public health problem.
  3. *Conduct or participate in a survey or community assessment using appropriate methods.*
  6. *Formulate evidence-based public health recommendations from the analysis and interpretation of data from a scientific investigation.*
  9. *Write a study proposal.*
  
- 4 Formulate a hypothesis and then design and conduct a scientific investigation to test this hypothesis.
  3. *Conduct or participate in a survey or community assessment using appropriate methods.*
  4. *Conduct or participate substantively in a field investigation of a potentially serious public health problem that requires a rapid public health response.*

6. *Formulate evidence-based public health recommendations from the analysis and interpretation of data from a scientific investigation.*
  7. *Participate in the appropriate collection and transportation of laboratory specimens and in the interpretation of the results of their testing.*
  9. *Write a study proposal.*
- 5 Analyze and interpret data from a scientific investigation.
2. *Analyze and interpret surveillance data.*
  5. *Plan, conduct, and interpret an epidemiologic analysis of a new or pre-existing data set.*
  6. *Formulate evidence-based public health recommendations from the analysis and interpretation of data from a scientific investigation.*
  7. *Participate in the appropriate collection and transportation of laboratory specimens and in the interpretation of the results of their testing.*
- 6 Recommend logical and practical public health actions from the analysis and interpretation of data from a scientific investigation.
2. *Analyze and interpret surveillance data.*
  5. *Plan, conduct, and interpret an epidemiologic analysis of a new or pre-existing data set.*
  6. *Formulate evidence-based public health recommendations from the analysis and interpretation of data from a scientific investigation.*
- 7 Collaborate with laboratory professionals to ensure the appropriate use of lab tests and accurate interpretation of results of laboratory investigations
4. *Conduct or participate substantively in a field investigation of a potentially serious public health problem that requires a rapid public health response.*
  7. *Participate in the appropriate collection and transportation of laboratory specimens and in the interpretation of the results of their testing.*
- 8 Critically appraise study proposals, reports, and peer-reviewed scientific articles.
8. *Prepare a critical appraisal of literature relevant to a specific health problem.*
- 9 Prepare written study proposals.
3. *Conduct or participate in a survey or community assessment using appropriate methods.*
  9. *Write a study proposal.*
- 10 Prepare written materials for a variety of audiences.
10. *Write a report that is published in a public health bulletin or other similar type of publication.*
  11. *Write and submit an abstract for oral or poster presentation at a peer-reviewed scientific conference.*
  12. *Prepare a manuscript for publication in a peer-reviewed scientific journal.*
  13. *Submit a report that addresses a public health problem to stakeholders or policy makers.*
  16. *Respond to inquiries from public, media, or health professionals as appropriate.*

- 11 Communicate verbally to a variety of audiences, including the communication of risk to policy makers and senior politicians.
- 11. *Write and submit an abstract for oral or poster presentation at a peer-reviewed scientific conference.*
  - 14. *Give an oral presentation to stakeholders or policy makers.*
  - 15. *Give a scientific presentation at a national or international conference.*
  - 16. *Respond to inquiries from public, media, or health professionals as appropriate.*
- 12 Work effectively as a member of a multidisciplinary team.
- 4. *Conduct or participate substantively in a field investigation of a potentially serious public health problem that requires a rapid public health response.*
  - 17. *Participate in a defined role as member of a public health team.*
  - 18. *Lead a public health team to accomplish a specific task.*
- 13 Assume a leadership role when appropriate.
- 1. *Implement a new surveillance activity for a health event; evaluate existing surveillance activities for a health event; or be primarily responsible for running existing surveillance activities for a health event.*
  - 17. *Participate in a defined role as member of a public health team.*
  - 18. *Lead a public health team to accomplish a specific task.*
- 14 Develop own personal learning objectives and evaluate progress to achieving these objectives.
- 20. *Develop personal learning objectives at entry to program.*
  - 21. *Periodically assess progress in attaining personal learning objectives and in achieving the competencies.*
- 15 Manage the human, material and financial resources available for the development of activities and implementation of public health policies and recommendations
- 18. *Lead a public health team to accomplish a specific task.*
  - 19. *Participate in the planning and implementation, or evaluation of a program, project, or urgent response that addresses a public health problem.*
- 16 Use computer software for data management, epidemiologic analysis, word processing, and preparing presentations.
- 2. *Analyze and interpret surveillance data.*
  - 3. *Conduct or participate in a survey or community assessment using appropriate methods.*
  - 5. *Plan, conduct and interpret an epidemiologic analysis of a new or pre-existing data set.*
  - 9. *Write a study proposal.*
  - 10. *Write a report that is published in a public health bulletin or other similar type of publication.*
  - 11. *Write and submit an abstract for oral or poster presentation at a peer-reviewed scientific conference.*
  - 12. *Prepare a manuscript for publication in a peer-reviewed scientific journal.*

13. *Submit a report that addresses a public health problem to stakeholders or policy makers.*
  14. *Give an oral presentation to stakeholders or policy makers.*
  15. *Give a scientific presentation at a national or international conference.*
  19. *Participate in the planning and implementation, or evaluation of a program, project, or urgent response that addresses a public health problem.*
- 17 Use the internet to communicate, to perform literature searches, and to access databases.
6. *Formulate evidence-based public health recommendations from the analysis and interpretation of data from a scientific investigation.*
  8. *Prepare a critical appraisal of literature relevant to a specific health problem.*
  12. *Prepare a manuscript for publication in a peer-reviewed scientific journal.*

**Table 1: A Cross-Tabulation of Core Competencies and Core Learning Activities**

		Core Competencies															
		1. Surveillance	2. Assess PH problem	3. Scientific investigation	4. Analyze and interpret data	5. Recommend actions from studies	6. Laboratory & Biosafety	7. Critical appraisal of literature	8. Written study proposal	9. Written materials for various audiences	10. Verbal communication	11. Team participation	12. Leadership	13. Self-assessment of learning needs and progress.	14. Management of resources	15. Computer software	16. Internet
Core Learning Activities	1	Implement, evaluate or run surveillance for an event.	X									X		X			
	2	Analyze and interpret surveillance data.	X		X	X										X	
	3	Conduct or participate in a survey or community assessment using appropriate methods.		X	X				X							X	
	4	Field investigation of a public health problem that requires a rapid public health response.			X		X					X					
	5	Plan, conduct, and interpret an epidemiologic analysis of a new or pre-existing data set.				X	X									X	
	6	Formulate evidence-based public health recommendations.		X	X	X	X										X
	7	Collect and transport laboratory specimens and interpretation of results of tests.			X	X	X										
	8	Prepare a critical appraisal of literature relevant to a specific health problem.						X									X
	9	Write a study proposal.		X	X				X							X	
	10	Write a report that is published in a public health bulletin or other similar type of publication.								X						X	
	11	Write and submit an abstract for oral or poster presentation at a scientific conference.								X	X					X	
	12	Prepare a manuscript for publication in a peer-reviewed scientific journal.								X						X	X
	13	Submit a report that addresses a public health problem to stakeholders or policy makers.								X						X	
	14	Give an oral presentation to stakeholders or policy makers.									X					X	
	15	Give a scientific presentation at a national or international conference.									X					X	
	16	Respond to inquiries from public, media, or health professionals as appropriate.								X	X						
	17	Participate in a defined role as member of a public health team.										X	X				
	18	Lead a public health team to accomplish a specific task.										X	X		X		
	19	Participate in the planning and implementation, or evaluation of a program.													X	X	
	20	Develop learning goals.												X			
	21	Self-assessment of educational progress												X			

# Framework for Quality Improvement

The systems model illustrated in Figure 1 provides the framework for quality assessment of a training program.

## Definition of Terms

Input, process, output, outcome and impact are defined as follows:

**Input** – human, material and financial resources and activities

**Process** – activities done in implementing a training course

**Output** – immediate, short term, tangible products

**Outcome** – changes in the health system as a result of the outputs

**Impact** – resulting changes in the health of a population

Class work includes lectures or other related activities where the activity is defined by the training staff working in collaboration with trainees.

Field work includes those activities carried out in a district or other field site and activities arising from the field.

## Areas for Assessment, Indicators and Recommendations

Table 2 shows the various areas to be assessed, suggested indicators and recommended standards.

To facilitate data collection during the time of assessment, programs are encouraged to establish and maintain databases on the following:

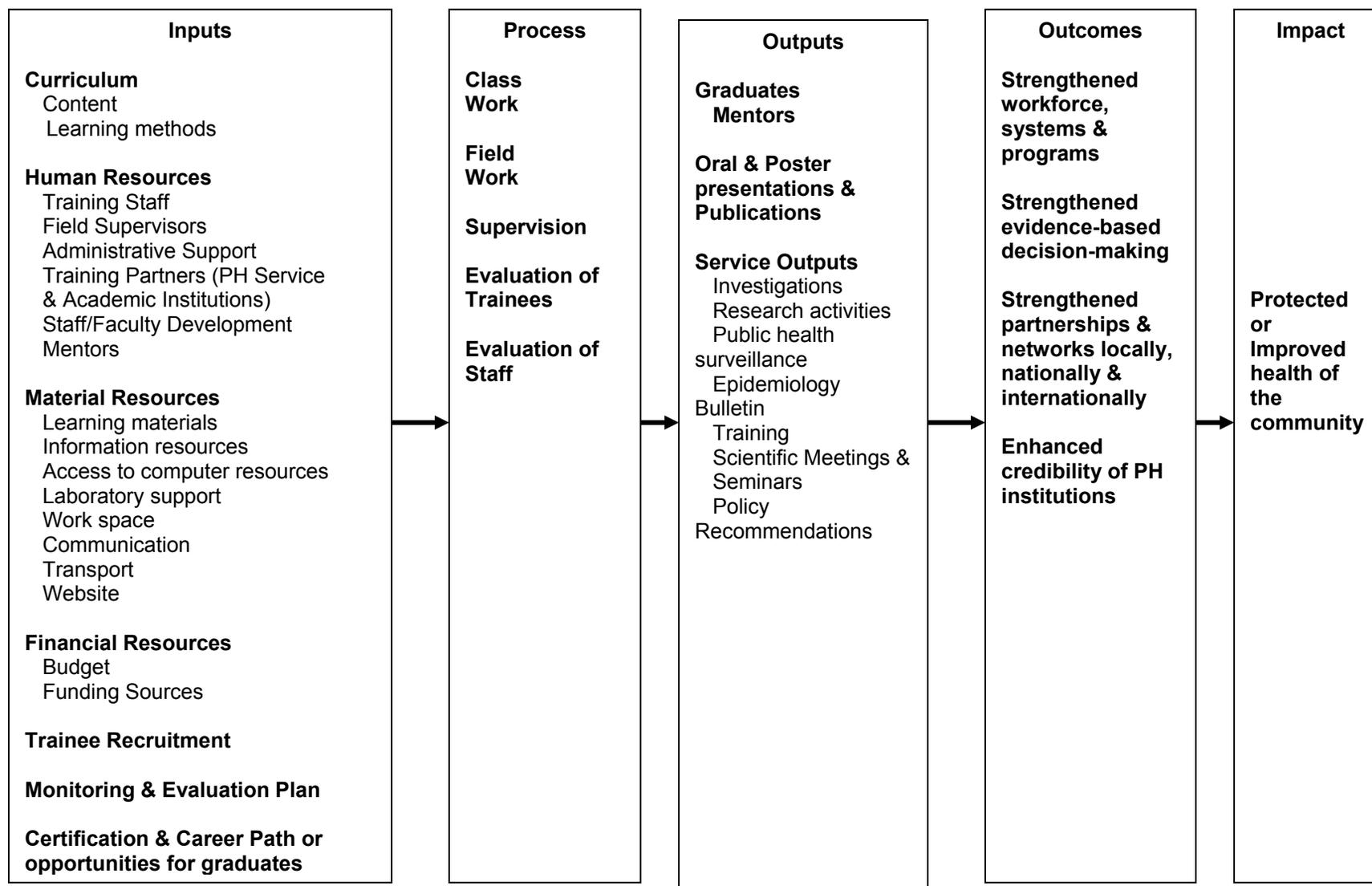
1. Applicants, trainees and graduates
2. Updated directory of graduates
3. Investigations and research studies done by trainees
4. Abstracts submitted to scientific meetings
5. Oral and poster presentations
6. Publications

Items 3 to 6 could be documented by individual trainee or by cohort.

Appendix A contains sample data collection forms that could be used by teams conducting an assessment of the quality of a training program.

**Figure 1. Framework for Continuous Quality Improvement of Member Programs**

**Contextual Factors:** Socio-economic and political context, National Health Policy and Plan, Health Equity, Sustainability (i.e. institutionalization of programs), Political & Health sector reforms



**Table 2. Areas, Indicators and TEPHINET Recommendations for Continuous Quality Improvement of field-based training programs in applied epidemiology and public health**

Area of Assessment	Indicator or Variable Type	TEPHINET Recommendations	
		Recommended	Comments
<b>1.0 Input</b>			
<b>1.1.0 Curriculum</b>			
1.1.1 Training Needs Assessment	Y/N	Yes	A written copy of each of these should be available
1.1.2 Overall course description	Y/N	Yes	
1.1.3 List of competencies	Y/N	Yes	
1.1.3.1 List includes core competencies	Y/N	Yes	
1.1.4 List of core learning activities	Y/N	Yes	
1.1.4.1 List includes core CLAs	Y/N	Yes	
1.1.5 Schedule for class work	Y/N	Yes	
1.1.6 Learning objectives for the class work	Y/N	Yes	
1.1.7 Learning methods for class work	Y/N	Yes	
1.1.8 Schedule for field work	Y/N	Yes	
1.1.9 Learning Objectives for field work	Y/N	Yes	
1.1.10 Learning methods for field work	Y/N	Yes	
<b>1.2.0 Human Resources</b>			
1.2.1 Training Program Staff			
1.2.1.1 Director	Y/N	Yes	
	Average hours per week devoted to program activities	Full-time	
	Written job description	Yes	

Area of Assessment		Indicator or Variable Type	TEPHINET Recommendations	
			Recommended	Comments
	1.2.1.2 Additional core technical staff	Number of full-time equivalents	Dependent on size of program	
		Written job descriptions	Yes	
	1.2.1 Supervisors (i.e. persons designated to supervise and mentor a trainee)	Y/N	Yes	This could be core technical staff May differ whether trainees are centrally-based or field-based.
		Written job description	Yes	
		Trainee to supervisor ratio	Not to exceed four trainees per supervisor	
		Supervisor-individual trainee contact time (per wk)	At least 4 hrs/wk	
	1.2.2 Administrative Staff	Y/N	Yes	Other persons from training staff
	1.2.3 Training Partners (institutions, agencies, individuals involved in training activities)	Which individuals or what agencies?	Ministry of health must be a participating agency	Universities are also important partners in many countries
	1.2.5 Staff/Faculty Development			
	1.2.5.1 Plan	Y/N	Yes	
	1.2.5.2 Available resources	Y/N	Yes	

Area of Assessment		Indicator or Variable Type	TEPHINET Recommendations	
			Recommended	Comments
	1.2.6 Mentors (if different from supervisors)	Y/N	Yes	Some programs using recent graduates as mentors
<b>1.3.0 Material Resources</b>				
	1.3.1 Readily Available Learning Materials			Materials should be readily available (accessible on demand) to program staff and trainees e.g. access through a web site
	1.3.1.1 Lectures	Y/N	Yes	
	1.3.1.2 Case studies	Y/N	Yes	
	1.3.1.2.1 Based on local experience	Y/N	Yes	
	1.3.1.3 Guidelines for field investigations	Y/N	Yes	
	1.3.1.4 Short exercises	Y/N	Yes	
	1.3.2 Information Resources			
	1.3.2.1 Library	Y/N	Yes	Should have a list of references in the library
	<i>available current reference materials on ...</i>	1.3.2.1.1 Epidemiology	Y/N	Yes
		1.3.2.1.2 Biostatistics	Y/N	Yes
		1.3.2.1.3 Communicable diseases	Y/N	Yes
		1.3.2.1.4 Laboratory procedures	Y/N	Yes

Area of Assessment			Indicator or Variable Type	TEPHINET Recommendations	
				Recommended	Comments
		1.3.2.2 Scientific journals	Y/N	Yes	
		1.3.2.3 Internet			
		<i>ready access to internet at ...</i>	1.3.2.3.1. Central level	Y/N	Yes
			1.3.2.3.2 Peripheral level	Y/N	Yes
		1.3.3 Teaching Equipment			
		1.3.3.1 Audiovisual equipment	Y/N	Yes	
		1.3.3.2 Copying equipment	Y/N	Yes	
		1.3.4 Computer Resources			
		1.3.4.1 Office computers & supplies	Number of trainees per computer	1:1	Including software such as <i>EPIINFO</i>
		1.3.4.2 Computers & supplies for use during field investigations	Y/N	Yes	Including software such as <i>EPIINFO</i>
		1.3.4.3 Office printer & supplies	Y/N	Yes	
		1.3.4.4 Printer & supplies for use during field investigation	Y/N	Yes	
		1.3.5 Laboratory Support			
		1.3.5.1 Collection equipment & supplies	Y/N	Yes	
		1.3.5.2 Transport equipment/supplies	Y/N	Yes	
		1.3.5.3 Access to reference laboratory	Y/N	Yes	
		1.3.5.4 Bio-safety equipment	Y/N	Yes	
		1.3.6 Work Space			
		1.3.6.1 Classroom space	Y/N	Yes	
		1.3.6.2 Office			
		1.3.6.2.1 Staff	Y/N	Yes	
		1.3.6.2.2 Trainees	Number of	1:1	

Area of Assessment				Indicator or Variable Type	TEPHINET Recommendations		
					Recommended	Comments	
				trainees/desk			
			1.3.7	Communication			
			1.3.7.1	Dedicated phone line	Y/N	Yes	
			1.3.7.2	Access of office staff to trainees in field	Y/N	Yes	
			1.3.7.3	Access of persons in the field to office staff	Y/N	Yes	
			1.3.7.4	Ability to make international calls	Y/N	Yes	
			1.3.7.5	Fax machine	Y/N	Yes	
			1.3.7.6	E-mail	Y/N	Yes	
			1.3.8	Transport for Field Work			
			1.3.8.1	Ready access to transport	Y/N	Yes	
			1.3.8.2	Funds available for public transportation	Y/N	Yes	
			1.3.9	Website	Y/N	Yes	
			<b>1.4.0 Financial Resources</b>				
			1.4.1	Budget	Y/N	Yes	Budget ought to include provision for international travel, allowing trainees to present their work at conferences; should include appropriate remuneration for trainees, e.g. stipend or salary
			1.4.2	Funding Sources			

Area of Assessment		Indicator or Variable Type	TEPHINET Recommendations	
			Recommended	Comments
	1.4.2.1 Ministry of Health	Y/N	Yes	Contribution could be in form of salaries for staff, field supervisors and trainees.
		Proportion of revenues derived from the Ministry of Health	Greater than 0	
	1.4.2.2 A specific line item in the MoH or university budget	Y/N	Yes	Issue is the continuity of funding for program sustainability.
	1.4.2.3 Other sources (e.g. university, foreign sources)	Y/N (if yes, specify)		Exclude cost of external resident advisor
		Percentage of total program budget		
<b>1.5.0 Trainee Recruitment</b>				
	1.5.1 Written eligibility and selection criteria for applicants	Y/N	Yes	
	1.5.2 Documented standard recruitment process	Y/N	Yes	
	1.5.3 Is there a plan for achieving epidemiological coverage, for example by geographic distribution, by gender, etc?	Y/N	Yes	The plan should be based on a regional/national assessment

Area of Assessment		Indicator or Variable Type	TEPHINET Recommendations	
			Recommended	Comments
1.5.4 Applicants	Total number/cohort	At least twice the size of the cohort	According to the plan	Pertaining to the period under assessment and depends on selection process for the program. In some programs trainees may be nominated by MoH.
	Distribution by specific characteristics such as gender, geographic area, etc.			
1.5.5 Trainees	Total number/cohort	According to the plan	According to the plan	Pertaining to the period under assessment
	Distribution by specific characteristics such as gender, geographic area, etc.			
<b>1.6.0 Monitoring &amp; Evaluation Plan</b>				
1.6.1 Trainees				
	1.6.1.1 Documentation of activities	Y/N	Yes	

Area of Assessment		Indicator or Variable Type	TEPHINET Recommendations		
			Recommended	Comments	
	1.6.1.2	File of trainees' written output	Y/N	Yes	
	1.6.1.3	Plan/procedure for periodic assessment & feedback	Y/N	Yes	
	1.6.2	Staff			
	1.6.2.1	Plan for assessment	Y/N	Yes	
	1.6.3	Program			
	1.6.3.1	Database of key program indicators	Y/N	Yes	
	1.6.3.2	Evaluation plan	Y/N	Yes	
<b>1.7.0 Certification of &amp; Career Path for Graduates</b>					
	1.7.1	Certification of graduates	Y/N	Yes	Usually by MoH, university or jointly
	1.7.2	Civil service or MoH recognition	Y/N	Yes	
	1.7.3	Professional societies/organizations/colleges recognition	Y/N	Yes	
	1.7.4	MoH placement plan	Y/N	Yes	
<b>2.0 Process</b>					
<b>2.1 Class Work</b>					
	2.1.1	Conducted as planned	Y/N	Yes	
	2.1.2	Duration	% of whole course or training program	Less than or equal to 40% of working time	Include only those requiring attendance by all trainees (do not include optional seminars)
	2.1.3	Topics covered			

Area of Assessment	Indicator or Variable Type	TEPHINET Recommendations	
		Recommended	Comments
2.1.3.1 Descriptive epidemiology	Y/N	Yes	
2.1.3.2 Analytic epidemiology	Y/N	Yes	
2.1.3.3 Biostatistics	Y/N	Yes	
2.1.3.4 Surveillance	Y/N	Yes	
2.1.3.5 Informatics	Y/N	Yes	
2.1.3.6 Guidelines for fieldwork	Y/N	Yes	
2.1.3.7 Communicable disease prevention & control	Y/N	Yes	
2.1.3.8 Non-communicable disease prevention & control	Y/N	Yes	
2.1.3.9 Laboratory and bio-safety procedures	Y/N	Yes	
2.1.3.10 Surveys & sampling	Y/N	Yes	
2.1.3.11 Communication	Y/N	Yes	
2.1.3.12 Management	Y/N	Yes	
2.1.3.13 Elective topics in support of achieving the core competencies of that particular program	Y/N	Yes – in support of program goals	
<b>2.1.4 Training Methods</b>			
2.1.4.1 Lectures and individual exercises	Percentage of class work time	Less than or equal to 50%	
2.1.4.2 Interactive sessions (e.g. case studies)	Percentage of class work time	Greater than or equal to 25%	
2.1.4.3 Field exercises	Y/N	Yes	
2.1.4.4 Other methods used	Y/N	Yes	If yes, specify

Area of Assessment		Indicator or Variable Type	TEPHINET Recommendations	
			Recommended	Comments
	2.1.5 Feedback			Feedback should be documented
	2.1.5.1 Feedback elicited from trainees	Y/N	Yes	
	2.1.5.2 Staff respond to feedback received	Y/N	Yes	
<b>2.2 Apprenticeship/Practicum (Field Work)</b>				
	2.2.1 Duration	% of whole course or training program	Greater than or equal to 60% (excluding vacation time)	
	2.2.2 Core Learning Activities			Documentation of each trainee's activity is necessary
	2.2.2.1 Core learning activities 1-19	% of trainees from last graduating class that completed <b>all</b> CLAs listed	100%	
	2.2.2.2 Implement a new surveillance activity or evaluate existing surveillance activity or be primarily responsible for running existing surveillance activity	% of trainees from last graduating class that completed this core learning activity	100%	
	2.2.2.3 Analyze &	% of trainees	100%	

Area of Assessment		Indicator or Variable Type	TEPHINET Recommendations	
			Recommended	Comments
		interpret surveillance data		
		2.2.2.4 Conduct or participate in a survey or community assessment	100%	
		2.2.2.5 Conduct or participate substantively in a field investigation of a public health problem that requires a rapid public health response	100%	
		2.2.2.6 Plan, conduct, interpret an epidemiologic analysis of a new or pre-existing data set	100%	

Area of Assessment		Indicator or Variable Type	TEPHINET Recommendations		
			Recommended	Comments	
	2.2.2.7	Formulate evidence-based public health recommendations from the analysis and interpretation of data from a scientific investigation	% of trainees from last graduating class that completed this core learning activity	100%	
	2.2.2.8	Participate in the appropriate collection & transportation of lab specimens & in the interpretation of the results of their testing	% of trainees from last graduating class that completed this core learning activity	100%	
	2.2.2.9	Prepare a critical appraisal of literature relevant to a specific health problem	% of trainees from last graduating class that completed this core learning activity	100%	
	2.2.2.10	Write a study proposal	% of trainees from last graduating class that completed this core learning activity	100%	

Area of Assessment		Indicator or Variable Type	TEPHINET Recommendations		
			Recommended	Comments	
		2.2.2.11 Write a report that is published in a public health bulletin or other similar type of publication	% of trainees from last graduating class that completed this core learning activity	100%	
		2.2.2.12 Write and submit an abstract for oral or poster presentation at a peer-reviewed scientific conference	% of trainees from last graduating class that completed this core learning activity	100%	
		2.2.2.13 Prepare a manuscript for publication in a peer-reviewed scientific journal	% of trainees from last graduating class that completed this core learning activity	100%	
		2.2.2.14 Submit a report that addresses a public health problem to stakeholders or policy makers	% of trainees from last graduating class that completed this core learning activity	100%	

Area of Assessment		Indicator or Variable Type	TEPHINET Recommendations		
			Recommended	Comments	
		2.2.2.15 Give an oral presentation to stakeholders or policy makers	% of trainees from last graduating class that completed this core learning activity	100%	
		2.2.2.16 Give a scientific presentation at a national or international conference	% of trainees from last graduating class that completed this core learning activity	100%	
		2.2.2.17 Respond to inquiries from public, media, or health professionals as appropriate	% of trainees from last graduating class that completed this core learning activity	100%	
		2.2.2.18 Participate in a defined role as member of a public health team	% of trainees from last graduating class that completed this core learning activity	100%	

Area of Assessment		Indicator or Variable Type	TEPHINET Recommendations		
			Recommended	Comments	
	2.2.2.19	Lead a public health team to accomplish a specific task	% of trainees from last graduating class that completed this core learning activity	100%	
	2.2.2.20	Participate in the planning and implementation or evaluation of a program, project, or urgent response that addresses a public health problem	% of trainees from last graduating class that completed this core learning activity	100%	
	2.2.2.21	Analyze a data set using a computer	% of trainees from last graduating class that completed this core learning activity	100%	
	2.2.2.22	Produce a report using a computer	% of trainees from last graduating class that completed this core learning activity	100%	

Area of Assessment		Indicator or Variable Type	TEPHINET Recommendations	
			Recommended	Comments
	2.2.2.23 Do literature searches and access on-line journals through the internet	% of trainees from last graduating class that completed this core learning activity	100%	
<b>2.3 Technical Supervision</b>				
	2.3.1 Assessment of supervisory and mentoring support	Y/N	Yes	On-going or at least annually. This should include both line supervision and technical mentoring.
	2.3.2 Trainee input into assessment of supervisors	Y/N	Yes	
	2.3.3 Training/orientation of supervisors	Y/N	Yes	
<b>2.4 Evaluation of Trainees</b>				
	2.4.1 Frequency	How often?	On-going or at least every 6 months	The evaluation should be documented
	2.4.2 Standard format	Y/N	Yes	

Area of Assessment	Indicator or Variable Type	TEPHINET Recommendations	
		Recommended	Comments
2.4.3 Feedback given to trainee	Y/N	Yes	
2.4.4 Accomplishment of CLAs tracked/documentated	Y/N	Yes	
<b>2.5 Evaluation of Staff</b>			
2.4.1 Frequency	How often?	On-going or at least every 6 months	The evaluation should be documented
2.4.2 Standard format	Y/N	Yes	
2.4.3 Feedback given to staff	Y/N	Yes	
2.4.4 Trainee input into assessment of staff	Y/N	Yes	
<b>3.0 Output</b>			
<b>3.1 Graduates</b>	Number of graduates per year		
	Number and % of cohort graduated		
<b>3.2 Presentations at Scientific Conferences</b>			
3.2.1 Abstracts submitted to peer-reviewed conference	Number per year	At least equal to one half the number of trainees for that year	
3.2.2 Abstracts accepted for presentation at one or more peer-reviewed conferences	Acceptance rate	At least 10%	
3.2.3 Oral presentations	Number per year		Ideally, the sum of oral presentations and poster

Area of Assessment	Indicator or Variable Type	TEPHINET Recommendations	
		Recommended	Comments
			presentations should at least be equal to the number of abstracts accepted
3.2.4 Poster presentations	Number per year		Ideally, the sum of oral presentations and poster presentations should at least be equal to the number of abstracts accepted
<b>3.3 Publications</b>			
3.3.1 Peer reviewed articles or letters accepted for publication	Number per year	At least one per program per year	
3.3.2 Articles accepted for publication in public health bulletins and other non-peer reviewed publications	Number per year	At least one per program per year	
<b>3.4 Service Outputs</b>			
3.4.1 Investigations, involving field work, of acute health events	Number per year		Carried out during training, with written documentation
3.4.2 Research studies (planned activities)	Number per year		

Area of Assessment	Indicator or Variable Type	TEPHINET Recommendations	
		Recommended	Comments
3.4.3 Surveillance			of each
3.4.3.1 New systems set-up	Number / year		
3.4.3.2 Systems evaluated	Number / year		
3.4.3.3 Surveillance reports (analysis of surveillance data)	Number / year		
3.4.4 Epidemiology Bulletin *	Y/N		
3.4.5 Training of other public health workers *			
3.4.5.1 Courses run by training program	Number / year		
3.4.5.2 Other courses participated in as faculty/trainers	Number / year		
3.4.6 Seminars sponsored by program *	Number / year		
3.4.7 National conference sponsored by program.	Number / year	Yes	
3.4.8 Technical consultations by training staff & trainees *	Number / year		
3.4.9 Policy Recommendations			
3.4.9.1 Short term (e.g. product withdrawal)	Number / year		
3.4.9.2 Long term (e.g. vaccination programs)	Number / year		
<b>4.0 Outcomes</b>			
<b>4.1 Strengthened Workforce</b>			
4.1.1 Graduates working in country	Number and % of total graduates working in country		

Area of Assessment	Indicator or Variable Type	TEPHINET Recommendations	
		Recommended	Comments
4.1.2 Graduates working in government public health service	Number and % of total graduates working in government public health service		
4.1.3 Sub-national administrative areas with graduates	Number of sub-national areas with graduates / total number of sub-national areas		
4.1.4 Directory of trainees and graduates	Y/N	Yes	
<b>4.2 New units related to epidemiology/surveillance created or improved</b>	Y/N; if yes specify		
<b>4.3 Surveillance Systems set up/improved by FETP staff/trainees</b>	Number currently existing		
<b>4.4 Programs/Projects created in response to recommendations of the Training Program</b>	Number		
<b>4.5 Laws/ordinances/regulations in response to recommendations of the training programs</b>	Number		
<b>4.6 Policy recommendations implemented</b>			

Area of Assessment	Indicator or Variable Type	TEPHINET Recommendations	
		Recommended	Comments
4.6.1 Short-term	Number per year		
4.6.2 Long-term	Number currently being implemented		
<b>4.7 Participation in international investigation &amp; response teams</b>	Number of trainees per year		
	Number of graduates per year		
	Number of events per year		
<b>4.8 Membership/Participation of the training program in International Networks</b>	Y/N If yes, specify	Yes	e.g. TEPHINET, IEA
<b>4.9 Membership/Participation of the MoH surveillance unit in regional or global surveillance systems</b>	Y/N If yes, specify		
<b>5.0 Impact</b>			
<b>5.1 Change in health status of a target population resulting from implementation of a recommendation from the training program</b>	e.g. Disease incidence or prevalence, mortality, case fatality ratio, cases prevented		Follow-up of outcomes & impact of studies is necessary to document impact

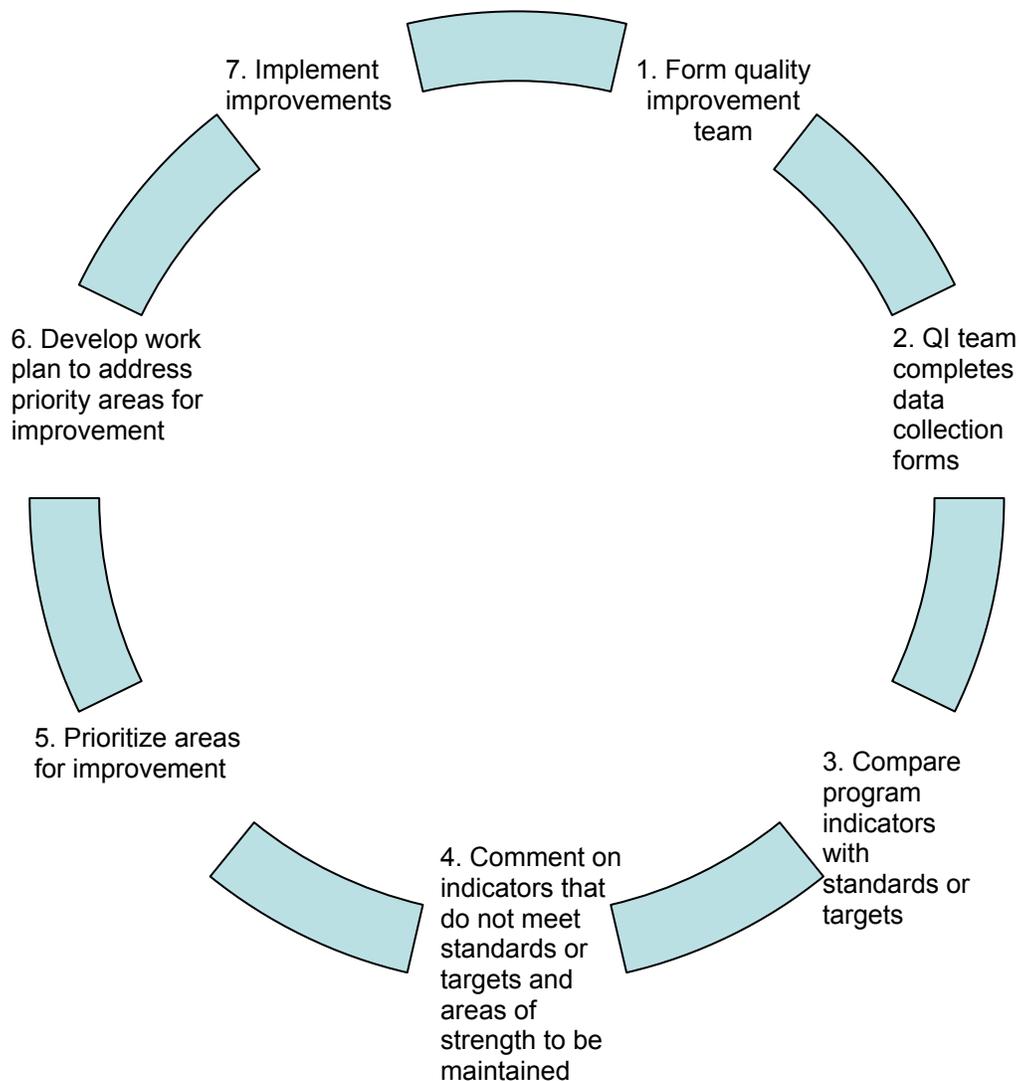
# Process for Continuous Quality Improvement

## Evaluation Process and Cycle

Program evaluations should be carried out according to each FETP's needs following the cycle as illustrated in Figure 2. The duration of the entire cycle can be adjusted to suit the needs and capacities of the training program, e.g. need to revise curriculum, process and schedule of training activities, resource availability and funding requirements. However, it is recommended that internal assessments be done every three to five years.

If requested, TEPHINET can assist individual programs with the evaluation process.

**Figure 2. Continuous Quality Improvement Cycle for Training Programs**



### STEP 1: *Form Quality Improvement Team*

**Actors:** Internal program team composed of management and staff (5 – 7 persons)

**Methods:** Team meetings to discuss program goals and objectives and to plan for periodic assessments and monitor implementation of action plans for quality improvement

**Timeframe:** As agreed upon by program management and team members (on-going activity)

### STEP 2: *QI Team completes data collection forms*

**Actors:** Program staff (QI team members)

**Methods:** Electronic database on applicants, trainees and graduates, lists of investigations and research studies done by trainees, abstracts submitted to scientific meetings, oral and poster presentations, and publications to be constantly updated. When assessment is to be conducted data collection forms (see appendix) are to be filled out. In order to complete the forms, aside from retrieving data from the electronic database, other activities like focus group discussions, key informant interviews, direct observations and review of available records may be carried out.

**Timeframe:** Database should be updated at least once a year and data collection forms filled-out when an assessment or program evaluation is conducted

### STEP 3: *Compare program indicators with standards or targets*

**Actors:** Aside from internal QI team members other partners may be invited to participate, e.g. other staff, alumni, representatives from Ministry of Health and university, donors

**Methods:** Review completed data collection forms and compare with program targets and TEPHINET recommendations; note down which areas do not meet standards or targets and which areas meet or exceed targets; if available, may compare individual program indicators with that of other field-based training programs in epidemiology and public health

**Timeframe:** Every three to five years as scheduled by QI team

### STEP 4: *Comment on indicators that do not meet standards or targets and areas of strength to be maintained*

**Actors:** Aside from internal QI team members other partners may be invited to participate, e.g. other staff, alumni, representatives from Ministry of Health and university, donors

**Methods:** Seminar or workshop can be held at national level to discuss results of the assessment; discussions should be documented and a summary report written

**Timeframe:** Every three to five years as scheduled by QI team

### STEP 5: *Prioritize areas for improvement*

**Actors:** Aside from internal QI team members other partners may be invited to participate, e.g. other staff, alumni, representatives from Ministry of Health and university, donors

**Methods:** After reviewing summary report of assessment, the QI team may engage in the following activities: discussions with MoH and other stakeholders about needs and possibilities for improvement, analysis of available resources, availability of donors to support the program and a consensus reached on priority areas for improvement; force field (or barriers and aids) analysis may be helpful in setting new targets for improvement

**Timeframe:** No later than six months after completing data collection and analysis

*STEP 6: Develop work plan to address priority areas for improvement*

**Actors:** QI team and other program staff

**Methods:** Team meets and develops written work plan that states what actions will be implemented, by whom, target dates for implementation, monitoring indicators and corresponding budget

**Timeframe:** No later than six months after completing data collection and analysis

*STEP 7: Implement improvements*

**Actors:** Program staff

**Methods:** As defined in work plan (step 6); periodic monitoring by QI team of implementation

**Timeframe:** No later than six months after approval of work plan

Note: It is recommended that the QI team periodically give feedback to stakeholders on the program's quality improvement efforts.

### **Terms of Reference for CQI Standing Committee**

TEPHINET shall maintain a Continuous Quality Improvement (CQI) Standing Committee to be chaired by a board member. The committee shall be composed of 5 to 7 persons selected from among the different member programs and partners (WHO, CDC) and have the following terms of reference:

- a. Periodically update TEPHINET's CQI Handbook and distribute copies to member programs and other interested parties
- b. Assist member programs in conducting program evaluations or quality assessments
- c. Develop and maintain database on member programs and make summary data readily available, e.g. by posting in website
- d. Make recommendations to the board regarding activities to support member programs in continuous quality improvement.



Training programs in **Epidemiology and Public Health Interventions NETWORK**

## Data Collection Forms

**Date of Assessment**

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**Name of Person(s) Doing the Assessment**

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## ***Data Collection Form - Background Data***

**Year program started** \_\_\_\_\_

**Date of last assessment** \_\_\_\_\_

**Training Cycle**

**Course duration excluding vacation period (in months)** \_\_\_\_\_

**Start date (month)** \_\_\_\_\_

**End date (month)** \_\_\_\_\_

**Number of classes graduated** \_\_\_\_\_

**Number of current trainees**

**First year** \_\_\_\_\_

**Second year** \_\_\_\_\_

**Third year** \_\_\_\_\_

## **Data Collection Form – 1.0 Input**

### **1.1 Curriculum**

Are written copies of the following available?

Training needs assessment                      Yes . No

Overall course description                      Yes . No

List of competencies                              Yes . No

Are minimum competencies as defined by TEPHINET included in the list?

Yes . No

List of core learning activities                      Yes . No

Are the minimum core learning activities as defined by TEPHINET included in the list?

Yes . No

Schedule of class-work                              Yes . No

Learning objectives for class-work                      Yes . No

Learning methods for class-work                      Yes . No

Schedule for field work                              Yes . No

Learning objectives for fieldwork                      Yes . No

Learning methods for field work                      Yes . No

Remarks

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**1.2 Human Resources**

**Training Program Staff**

**Director** Yes . No

**Name** \_\_\_\_\_

**Average hrs/wk devoted to training program** \_\_\_\_\_

**Does the director have other responsibilities in the MoH or university?** Yes . No .  
Specify \_\_\_\_\_

**Is there a written job description?** Yes . No

**Additional Core Technical Staff**

<b>Name</b>	<b>Avg Hrs/Wk</b>	<b>Written Job Description</b>
		Yes . No
	Total	

**Supervisors**

**Does each trainee have a designated supervisor?** Yes . No

**Trainee to supervisor ratio** \_\_\_\_\_

**Does each trainee receive supervision for at least four hours per week?** Yes . No

**Are there written job descriptions for supervisors?** Yes . No

**Administrative Staff**

**List of administrative staff by function and number of full-time equivalents**

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**List of training partners**

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**Staff/Faculty Development**

Is there a written plan? Yes . No

Is there a budget for staff development? Yes . No

**Remarks:**

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**1.3 Material Resources**

**Readily available leaning materials**

a) Do you have lectures available for program staff? Yes . No

b) Do you have case studies available for program staff? Yes . No

If your answer is "yes," specify if these case studies are based on local or other than local experience (check all that apply): Local . Non-local

c) Do you have guidelines for field investigations? Yes . No

d) Do you have short exercises for trainees? Yes . No

**Information Resources**

Do you maintain a library? Yes . No

Do you have a list of current references in the library? Yes . No

If your answer was "yes," specify the topics (check all that apply):

Epidemiology                      Biostatistics                      Communicable diseases

Laboratory procedures

Are published scientific articles available? Yes . No

Is Internet service available in your work place? Yes . No

If your answer was "yes," please specify (check all that apply):

Central level availability                      Peripheral level availability

### Teaching equipment

Do you have audiovisual equipment? Yes . No

Do you have copying equipment? Yes . No

### Computer resources

a) Do you have office computers and supplies to be used for trainees?  
Yes . No

If your answer is "yes," please specify the number of trainees per computer: \_\_\_\_

b) Is *EPIINFO* or similar software installed on office computers?  
Yes . No

c) Do you have computers and supplies for use during field investigations?  
Yes . No

d) Is *EPIINFO* or similar software installed on computers for use during field investigations?  
Yes . No

e) Do you have office printer supplies? Yes . No

f) Do you have printers and supplies for use during field investigations?  
Yes . No

**Laboratory support**

- a) Do you have available the necessary equipment and supplies to collect specimens? Yes . No
- b) Do you have available the necessary equipment and supplies to transport specimens? Yes . No
- c) Do you have access to a reference laboratory? Yes . No
- d) Do you have bio-safety equipment available? Yes . No

**Work space**

- Do you have a classroom space? Yes . No
- Do you have an office to be used by staff? Yes . No
- a) How many desks per trainee do you have? \_\_\_\_\_

**Communication and transport**

- Do you have a dedicated phone line? Yes . No
- Can office staff contact trainees in the field? Yes . No
- Can trainees in the field contact office staff? Yes . No
- Can you make international phone calls? Yes . No
- Do you have fax machine? Yes . No
- Can the program director send and receive e-mail? Yes . No
- Can trainees send and receive e-mail? Yes . No

Please specify the percentage of trainees who have access to email: \_\_\_\_\_

**Transport for field work**

- Do you have ready access to transport? Yes . No
- a) Do you have available funds to use public transportation if necessary? Yes . No



### **1.5 Trainee Recruitment**

Do you have written criteria for your applicants? Yes . No

a) Do you have a documented standard recruitment process? Yes . No

b) Is there a plan for achieving epidemiological coverage, for example by geographic distribution, by gender, etc? Yes . No

Please complete the following information related to your **applicants** during the last five years:

Year	Number of applicants	Geographical distribution of applicants	Conforms with Plan?		
			Yes	No	NA

Please complete the following information related to your **trainees** during the last five years:

Year	Number of trainees	Geographical distribution of trainees	Conforms with Plan?		
			Yes	No	NA

**Remarks:**

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Educational background of applicants and trainees for last 5 years

Year	Physician		Veterinarian							
	A	T	A	T	A	T	A	T	A	T

A = applicants; T = trainees; Blank columns are available for you to fill in other educational categories, such as nurse, pharmacist, microbiologist, social scientists etc as applies in your country.

**1.6 Monitoring and Evaluation Plan**

*For trainees:*

- a) Are activities documented? Yes . No
- b) Is there a file of written outputs? Yes . No
- c) Is there a plan for periodic assessment and feedback? Yes . No
- d) Is there a procedure for periodic assessment and feedback? Yes . No

*For members of the staff:*

Is there a plan for periodic assessment? Yes . No

*For the program:*

- a) Is there a database of key program indicators? Yes . No
- b) Is there an evaluation plan? Yes . No

**Remarks:**

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**1.7 Certification of and Career Opportunities for Graduates**

a) Are graduates awarded a certificate? Yes . No

If your answer is "yes," please specify what kind of certification?

Master  Diploma  Non-academic certificate

Other, specify: \_\_\_\_\_

b) Does the civil service formally recognize your epidemiology training program?

Yes . No

c) Do professional societies/organizations/colleges provide recognition for successful completion of the program? Yes . No

If your answer was "yes," please specify which one: \_\_\_\_\_

d) Is there a career placement plan in MoH for graduates? Yes . No

**Remarks:**

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## **Data Collection Form – 2.0 Process**

### **2.1 Class-Work**

Are trainees of the program required to complete a prescribed course of study which includes a class-work portion? (This includes scheduled, organized learning activities.)

Yes . . . No

What is the length of the class-work portion, in weeks? \_\_\_\_\_

What percentage of the entire program does the class-work portion represent? \_\_\_\_\_%

Does the class-work portion of the program cover the following topics?

Topic	Topic presented (Y/N)	Estimated % lecture	Estimated % interactive	Field exercise (Y/N)
Descriptive epidemiology				
Analytic epidemiology				
Biostatistics				
Surveillance				
Informatics				
Guidelines for fieldwork				
Communicable disease prevention & control				
Non-communicable disease prevention & control				
Laboratory & bio-safety procedures				
Surveys & sampling				
Communication				
Management				
Other:				
Other:				

Indicate the training methods that are employed:

The percentage of class-work time devoted to lectures \_\_\_\_\_%

The percentage of class-work time devoted to interactive sessions \_\_\_\_\_%

Whether field exercises are required Yes . No

Specify any other methods

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Is feedback sought from the trainees on any of the following?

The topics covered Yes . No

The length of the training Yes . No

The training/reference materials Yes . No

The training methods Yes . No

Whether the learning objectives are achieved Yes . No

Is there evidence that staff respond to the feedback received? Yes . No

**Remarks:**

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## **2.2 Apprenticeship/Practicum**

What percentage of the training course is devoted to the apprenticeship or practicum?  
\_\_\_\_\_%

Number of trainees in the last graduating class: \_\_\_\_\_

What percentage of the trainees from the last graduating class has done the following?

Core Learning Activity	Percentage of trainees who have completed the CLA (%)
Implement a new surveillance activity/evaluate existing surveillance activity/be primarily responsible for running existing surveillance activity <b>(CLA #1)</b>	
Analyze & interpret surveillance data <b>(CLA #2)</b>	
Conduct or participate in a survey or community assessment <b>(CLA #3)</b>	
Conduct or participate substantively in a field investigation of a public health problem that requires a rapid public health response <b>(CLA #4)</b>	
Plan, conduct, interpret an epidemiologic analysis of a new or pre-existing dataset <b>(CLA #5)</b>	
Formulate evidence-based public health recommendations from the analysis and interpretation of data from a scientific investigation <b>(CLA#6)</b>	
Participate in the appropriate collection & transportation of lab specimens & in the interpretation of the results of their testing <b>(CLA #7)</b>	
Prepare a critical appraisal of literature relevant to a specific health problem <b>(CLA #8)</b>	
Write a study proposal <b>(CLA #9)</b>	
Write a report that is published in a public health bulletin or other similar type of publication <b>(CLA #10)</b>	
Write and submit an abstract for oral or poster presentation at a peer-reviewed scientific conference <b>(CLA #11)</b>	
Prepare a manuscript for publication in a peer-reviewed scientific journal <b>(CLA #12)</b>	
Submit a report that addresses a public health problem to stakeholders or policy makers <b>(CLA #13)</b>	
Give an oral presentation to stakeholders or policy makers <b>(CLA #14)</b>	
Give a scientific presentation at a national or international conference <b>(CLA #15)</b>	
Respond to inquiries from public, media, or health professionals as appropriate <b>(CLA #16)</b>	
Participate in a defined role as member of a public health team <b>(CLA #17)</b>	
Lead a public health team to accomplish a specific task <b>(CLA #18)</b>	
Participate in the planning and implementation or evaluation of a program, project, or urgent response that addresses a public health problem <b>(CLA #19)</b>	

What percent of graduates from the last cohort have completed ALL the nineteen core learning activities? \_\_\_\_\_ %

**Remarks:**

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### **2.3 Technical Supervision**

Is a formal orientation/training session provided for the field supervisors? Yes . No

How often is an assessment of the field supervisors' performance carried out?

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Are trainees consulted as part of the assessment of field supervisors' performance?

Yes . No

**Remarks:**

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### **2.4 Evaluation of Trainees**

How frequently is the progress of trainees assessed? \_\_\_\_\_

Is there a standard format for evaluating a trainee's progress? Yes . No

Is the trainee made aware of the results of this assessment? Yes . No

Is there formal documentation of trainees' accomplishment of particular core learning activities? Yes . No

**Remarks:**

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## **2.5 Evaluation of Staff**

How frequently is the performance of staff assessed? \_\_\_\_\_

Is there a standard format for evaluating a staff member's performance? Yes . No

Is the staff member made aware of the results of this assessment? Yes . No

Is there trainee input into the assessment of staff? Yes . No

### **Remarks:**

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## **Data Collection Form – 3.0 Output**

### **3.1 Graduates (exclude cohorts currently in training program)**

Fill in data for past five cohorts starting with most recent cohort that graduated.

<b>Year cohort started training</b>	<b>Number of trainees in cohort</b>	<b>Year cohort graduated</b>	<b>Number that graduated</b>	<b>Percent of cohort that graduated</b>

**Remarks:**

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### **3.2 Presentations at Scientific Conferences (during past 3 years)**

<b>Year</b>	<b>Number of abstracts submitted for review*</b>	<b>Number of abstracts accepted for presentation**</b>	<b>Abstract acceptance rate (number submitted/ number accepted x 100)</b>	<b>Number of oral presentations ***</b>	<b>Number of poster presentations ***</b>	<b>% of trainees with at least 1 abstract submitted</b>

\* count number of studies submitted (if a study was submitted to more than one conference just count it once)

\*\* count number of studies accepted for oral or poster presentation (if a study was accepted for presentation in more than one conference, just count it once)

\*\*\* count the number of presentations; the number of oral and poster presentations may be more than the number of abstracts (studies) accepted, if one or more studies were presented more than once

**Remarks:**

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### **3.3 Publications (during past 3 years)**

Type	Number per year			Total
Peer reviewed articles or letters accepted for publication				
Non-peer reviewed articles				

**List complete citations (author, title, journal, issue, and page) on a separate sheet of paper.**

**Remarks:**

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### **3.4 Service Outputs (during past 3 years)**

Type		Number per year			Total
Investigations of acute health events					
Research studies (planned activities)					
Surveillance	New systems set-up				
	Systems evaluated				
	Surveillance reports				
Policy Recommendations*	Short term				
	Long term				

*\* short term – temporary measures (< 1 year duration) , e.g. product withdrawal, closure of food establishment*

*long term – policies to be implemented for more than a year, e.g. new vaccination schedule, screening programs*

**Please list major policy recommendations in a separate sheet of paper.**

**Other service outputs during past two years:**

During the past two years:

Did the program publish an epidemiology bulletin? Yes . No  
If yes, number of issues published during past two years: \_\_\_\_\_

Did the program sponsor any scientific seminars or conferences? Yes . No  
If yes, number per year: \_\_\_\_\_

Were there any technical consultations done by training staff or trainees for students and other professionals? Yes . No  
If yes, number per year: \_\_\_\_\_

Did training staff or trainees participate in training of other public health workers? Yes . No

If yes,  
Courses run by training program: Number of courses per year \_\_\_\_\_

Other courses participated in as faculty/trainers: Number of courses per year \_\_\_\_\_

**Remarks:**

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## **Data Collection Form – 4.0 Outcomes**

### **4.1 Strengthened Workforce**

Total number of graduates since beginning of the program: \_\_\_\_\_

Total number of graduates from last 5 graduating cohorts: \_\_\_\_\_

Number and percent of graduates from last 5 graduating cohorts currently working in the country:

Number \_\_\_\_\_ Percent \_\_\_\_\_%

Number and percent of graduates from last 5 graduating cohorts currently working in government public health service (national and sub-national health departments):

Number: \_\_\_\_\_ Percent \_\_\_\_\_%

Administrative level in country, such as central, provincial, and district (list all levels)	No. of graduates currently working in area

Percent of sub-national areas with at least one graduate currently working in the area: (No. of sub-national areas with at least 1 graduate / no. of sub-national areas x 100) = \_\_\_\_\_%

**Remarks:**

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### **4.2 Epidemiology or Surveillance Units**

Were new government units (e.g. center, division, bureau, branch, office) related to epidemiology or surveillance created? Yes . No If yes, specify:

**Remarks:**

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**4.3 Surveillance Systems Set-up or Improved**

List currently existing surveillance systems that were set-up or improved by training staff or trainees.

Number of systems currently existing: \_\_\_\_\_

**Remarks:**

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**4.4 Public Health Programs or Projects**

List currently existing programs or projects that were established or implemented in response to recommendations of the training program.

**Remarks:**

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**4.5 Laws, Ordinances, Regulations**

List existing national or local laws, ordinances, or regulations that were enacted, amended or repealed in response to recommendations from the training program.

**Remarks:**

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**4.6 Policy Recommendations Implemented**

List current long term policies being implemented in response to recommendations from the training program. (Review recommendations listed in output data collection forms.) Number currently being implemented: \_\_\_\_\_

Review short term recommendations from studies conducted during past 3 years and check whether recommendations have been implemented.

Year	Number of Short Term Recommendations Implemented

**Remarks:**

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**4.7 Participation in International Investigation and Response Teams (Past 3 Yrs)**

Year	Number of events participated in by graduate or trainee	Number of trainees that participated in $\geq 1$ event	Number of graduates that participated in $\geq 1$ event

**Remarks:**

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**4.8 Participation in International Networks**

Does the training program participate in international networks? Yes . No  
If yes, specify:

Name of international network	Year of beginning of participation in network	Specific activity in the network

**Remarks:**

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**4.9 Participation in Regional or Global Surveillance Systems**

Is a unit in the MoH currently participating in a regional or global surveillance system?

Yes . No    If yes, specify systems: \_\_\_\_\_

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## **Data Collection Form – 5.0 Impact**

Note: Impact of the training program is defined as changes in the health status of a target population resulting from implementation of one or more recommendations from the training program. Examples of indicators of health status are disease incidence or prevalence, mortality, case fatality ratio, cases prevented. Follow-up of output, outcomes and impacts of selected studies are necessary to document health impact.

Review selected studies conducted during the past 5 years and gather the following information for each study or related group of studies.

Title or Topic of study or series of studies: \_\_\_\_\_

Date(s) of Investigation or Research (Month/Year):

\_\_\_\_\_

Target Population (age/sex/area/occupation):

\_\_\_\_\_

Health Problem (disease, death, disability):

\_\_\_\_\_

Baseline Health Status (cite level of one or more indicator at a particular time period):

\_\_\_\_\_

Recommendations: \_\_\_\_\_

\_\_\_\_\_

Interventions done (list actions taken and dates implemented):

\_\_\_\_\_

\_\_\_\_\_

Follow-up Health Status (cite level of indicators at a particular time period after implementation of interventions): \_\_\_\_\_

**Remarks:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_