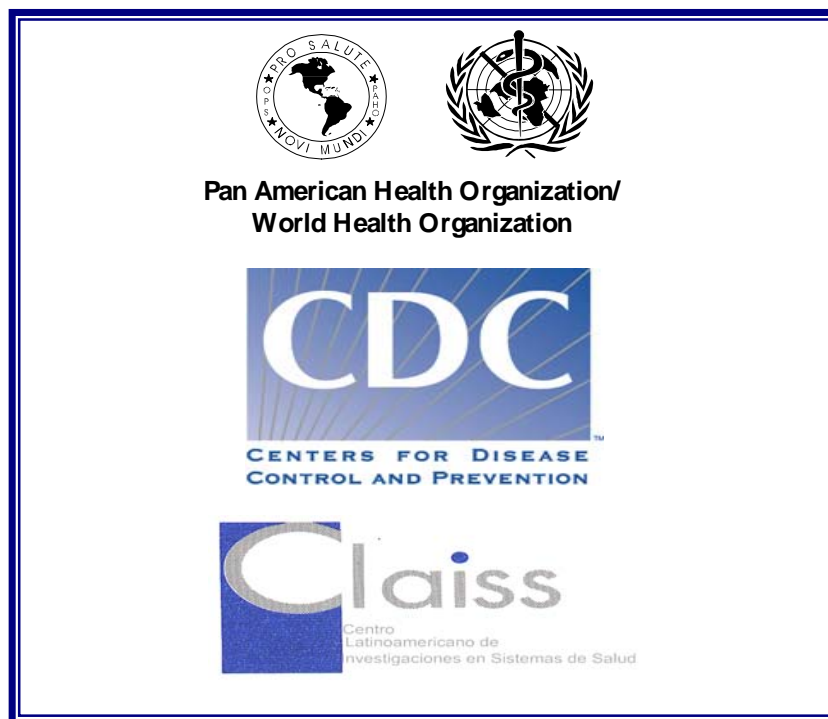

Performance Measurement of Essential Public Health Functions

Guidelines for Applying the Instrument for the Performance Measurement of EPHFs



Guidelines for Applying the Instrument for the Performance Measurement of EPHFs

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1. Brief Description of the "Public Health in the Americas" Initiative

The purpose of the "Public Health in the Americas" initiative is to help improve public health practice at the national and subnational levels. This is a prerequisite for strengthening the leadership of the health authorities throughout the health system. The project has the following objectives:

- To promote a shared vision of public health and essential public health functions (EPHFs) in the Americas;
- To develop a framework for evaluating the performance of EPHFs in the countries of the Hemisphere;
- To conduct an evaluation of public health practice in each country of the Americas, measuring the degree to which EPHFs are performed;
- To develop a hemispheric plan of action for strengthening the public health services infrastructure and improving public health practice; and
- To publish a book entitled "*The Public Health Situation in the Americas*," for release in late 2001, which will contain the principal outputs generated by the project and contribute to a regional evaluation of the degree to which EPHFs in the Americas are being performed.

This initiative is coordinated by the Division of Health Systems and Services Development (HSP) of the Pan American Health Organization and has involved all the technical units at PAHO Headquarters, as well as the Representative Offices in the countries. The project has benefited from the collaboration of Dr. Carlyle Guerra de Macedo, Director Emeritus of the Organization, who was responsible for developing the conceptual framework for the initiative. The Initiative is supported by the joint efforts of experts from PAHO, the U.S. Centers for Disease Control and Prevention (CDC) and Latin American Center for Health Systems Research (CLAISS). Throughout its development, the initiative consulted a broad array of health experts drawn from academia, scientific associations, and international organizations, who provide continual feedback to the project.

1.1 Conceptual Framework of the "Public Health in the Americas" Initiative

Definition of the EPHFs is based on the premise that public health is collective action by the State and civil society to protect and improve the health of individuals and communities. The concept goes beyond population- or community-based interventions to include the responsibility of ensuring access to quality health care. Public health is thus conceived not so much as an academic discipline but as an interdisciplinary social exercise. In keeping with this approach, public health is not conceived as a synonym for the State's responsibilities in health, since the effort required in this area extends beyond the ordinary work of the State, and it does not include everything that the State can and should do in the field of health.

The "Public Health in the Americas" initiative seeks to avoid the common confusion that arises between role of the State in health (normally discharged by the ministries of health) and the responsibility of the State to guarantee proper performance of the EPHFs. Although the State cannot delegate its responsibilities in direct performance or guarantee the EPHFs, these functions are only part of its responsibilities in health. They are, of course, a very

important part, and it is essential that they be properly discharged in order to raise the level of health and the quality of life of the population. They are also a significant part of the State's role in health, which includes management, regulation, mediation of sector financing, oversight of insurance, and the harmonization of service delivery.

The Initiative is based on the idea that the State's authority in health is more legitimate and better exercised to the extent that EPHFs are adequately performed.

1.2 Definition of Essential Public Health Functions

EPHF's have been defined as conditions that facilitate improvements in public health practice. One of the most important decisions made in crafting the "Public Health in the Americas" initiative had to do with defining the indicators and standards for measuring the performance of EPHFs in order to strengthen public health practice by strengthening the institutional capacities generally needed to perform them. This approach would appear to make more sense than a methodology that includes both the functions and the fields of action in public health. If functions are adequately defined to include all the capacities required for sound public health practice, proper functioning will be ensured in each field of action in public health, as illustrated in Figure 1.

Figure 1: EPHFs and Fields of Action in Public Health

Field of Action in Public Health EPHF	Environmental Health	Occupational Health	Maternal and child Health	Chronic Diseases	Etc.
Examples					
1. Monitoring of health status	Monitoring of environmental risks	Risk monitoring in the work environment	Monitoring of health risks to mothers and children	Monitoring of health risks in chronic diseases	
2. Regulation and enforcement in public health	Monitoring of compliance with environmental regulations	Monitoring of legislation in workers' health	Monitoring of compliance with laws of protection of mothers	Monitoring of compliance with regulations that promote healthy behaviors	
3. Etc.					

1.3 EPHFs and Health Service Delivery

It is difficult to make a clear distinction between public health responsibilities in the delivery of services for disease prevention and health promotion in specific population groups, and those involving the organization of services aimed at personal curative care.

Of course, each has a different emphasis. The *essential* domain of public health covers the first of the functions indicated above. With regard to the second, the *essential* responsibilities in public health are geared to ensuring equitable access to services, assuring quality, and adopting a public health perspective in personal health services. Hence, one EPHF, as

defined in the Initiative, involves strengthening the national health authority's capacity to ensure equitable access by the population to health services. However, the actual delivery of such services is not considered an essential public health function.

1.4 Background of the "Public Health in the Americas" Initiative

Great strides have recently been made in improving the definition of EPHFs and measuring their performance. Major advances in this area include the Delphi Study of the World Health Organization (WHO) and the National Public Health Performance Standards Program (NPHPSP) of the CDC.

In January 1997, the WHO Executive Board recommended the conceptual development of EPHFs to support renewal of the policy of Health for All in the Year 2000. To this end, it was decided that a Delphi study would be conducted to redefine the concept of EPHFs and build an international consensus on the core characteristics of these functions. For this study, 145 public health experts from different countries were consulted in three consecutive rounds. The panel ultimately identified and defined nine EPHFs: 1) *prevention, surveillance and control of communicable diseases*; 2) *monitoring of the health situation*; 3) *health promotion*; 4) *occupational health*; 5) *environmental protection*; 6) *legislation and regulation in public health*; 7) *management in public health*; 8) *specific public health services*; and 9) *health care for vulnerable groups and high-risk populations*.

In 1988, the U.S. Institute of Medicine (IM) published a report identifying three groups of functions for public health organizations (*evaluation; policy development; and guaranteeing health protection*). This capped over 60 years of efforts to define and measure the performance of essential public health functions and to evaluate the operation of the public health agencies. In 1994, a working group on public health pointed out the confusion generated by the existence of different versions of what is termed "public health functions." Based on the report of this committee a subgroup was organized, chaired by the Public Health Practice Program Office (PHPPO) of the CDC and the Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services which in that same year approved the document "Public Health in America."

This document identified a *vision* (Healthy People in Healthy Communities) and a *mission* (to promote physical and mental health while preventing disease and disability). The following public health objectives were also set forth: 1) *prevention of epidemics and the spread of disease*; 2) *protection against harmful environmental factors*; 3) *prevention of disability*; 4) *promotion of healthy behaviors*; 5) *disaster response and assistance to affected communities*; and 6) *quality assurance and access to health services*. The document defined ten "essential public health services"¹ that range from "monitoring health status to identify health problems in the community" to "research on innovative approaches and solutions to health problems."

The U.S. Government has implemented the National Public Health Performance Standards Program (NPHPSP) at the CDC, which has developed instruments for measuring the performance of EPHFs at the intermediate and local levels of the country's health authority.

¹ For purposes of the "Public Health in the Americas" initiative, the term "essential public health services," coined for the United States project, is equivalent to that of "essential public health functions" utilized in the project.

The instrument utilized by this project offers a significant reference model for constructing the measurement tool developed by the "Public Health in the Americas" initiative.

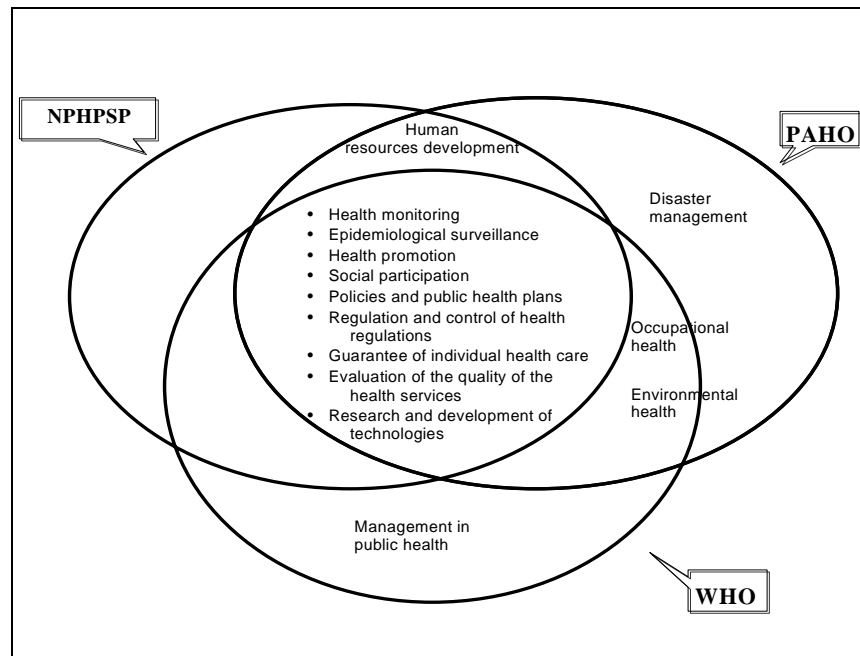
1.5 Definition of EPHFs for the Region of the Americas

The project initially focused on examining past progress in defining EPHFs, while seeking areas of convergence among the various approaches that had been developed. The results of this analysis are presented in Figure 2. As can be seen from the intersection of the three approaches, there are major areas of convergence in the progress made by the NPHPSP, the WHO study, and previous efforts by PAHO.

Two functions in the WHO study and in the initial reflections of PAHO represent major fields of action in public health. By using a functional rather than a "field of action" approach, these two functions (environmental health and occupational health) can be treated as areas of work in public health, in which all essential functions at the intersection of the three approaches should be applied to improve public health performance in these fields of action. Disaster preparedness implies highly specific actions and capacities that are not shared by the other essential functions and can thus be treated as a separate function.

The WHO study established a specific function for public health management, whose measurement is important to the Region; likewise for the issue of human resources development in public health. These are included as EPHFs in the NPHPSP and the previous work of PAHO.

Figure 2: EPHF Defined in the NPHPSP², the WHO Delphi Study, and Prior Advances by PAHO



² National Public Health Performance Standards Program, Centers for Disease Control and Prevention (CDC).

Based on this initial look at convergences, the working group in charge of the initiative put together the first draft of an instrument to measure the performance of EPHFs; moreover, it defined each essential function and provided indicators and standards for performance evaluation. The instrument was sent to different groups of experts and public health professionals as part of a process that culminated in a meeting of the network of institutions and experts convened by PAHO for this purpose³.

The instrument, now containing measures and submeasures for each indicator, was subsequently validated in four countries of the Region: Bolivia, Colombia, Jamaica, and Chile. The validation involved groups of key respondents, including senior managers at the various levels of the health authority (central, intermediate, and local), academics, and representatives of public health associations or other institutions connected with public health. This effort made it possible to improve the measurement instrument by factoring in the experience and viewpoints of the participants.

2. Purpose of the Instrument for Measuring the Performance of EPHFs

Measuring the performance of EPHFs at the level of the national health authorities (NHA) of the Region should allow the Ministries to identify critical factors that must be considered when crafting plans or strategies to strengthen the public health services infrastructure, understood as the complex of human resources, management techniques, and material resources required for the purpose.

This measurement has never been as relevant as it is today, given current efforts to reform health systems to meet contemporary health needs. Public health plays a key role in these processes, since it is here where more equitable access to better health conditions can be attained.

Since most countries in the Region are currently making decisions regarding the allocation of resources to support the reform processes, it is extremely valuable to obtain an accurate diagnosis of the areas with the greatest deficits in order to support investment decisions aimed at improving public health.

As noted earlier, strong public health is essential to the exercise of the health authority and is indispensable for defining health policies compatible with the guiding principles of the health systems (i.e., equity, efficiency, and responsiveness to citizens' expectations) and, of course, for ensuring that the policies are applied in a manner consistent with such principles. Thus, accurate measurement of present deficits is very important for both the governments and the technical and financial cooperation agencies working in health.

Finally, today's reform processes all emphasize the creation of a culture of accountability for outcomes derived from the huge and growing resources devoted to securing the health of the population. The measurement instrument proposed in the "Public Health in the Americas" initiative is geared basically toward measuring the performance of the health authorities in public health. Its application is expected to yield a diagnosis that provides not a static image

³ Expert consultation: Essential Public Health Functions and Measurement of its Performance in the Practice of Public health. Washington DC, 9 and 10 September 1999.

of the current situation, but a dynamic analysis of current results and the potential results from investments to close the gaps detected in resources, capacities, and procedures.

In short, the idea behind performance measurement is that it allows for the identification of strengths and weaknesses in public health practice to permit an operational diagnosis of the areas of work that require the most support. The objective, broadly speaking, is to strengthen the public health services infrastructure, including the human and material capacities needed for good performance.

To help achieve this objective, it is important that the decision to measure performance be followed by the development of instruments that can be continuously improved, so they can mature to the point where they are routinely used throughout the different levels responsible for public health in the Region. The development of instruments to measure EPHF performance implies an extended process to define the functions whose performance is to be measured, the performance indicators themselves, and the measures and submeasures that are to serve as benchmarks.

2.1 Defining Performance Standards for EPHFs

Information collected through measurement instruments of this type can help the NHA more effectively evaluate and define the role of public health in the health sector. This measurement will also make it possible for national health authorities to advance toward optimal standards for public health practice at the national and subnational levels. The information obtained is also important for ensuring the feedback needed to guarantee the best assignment of responsibilities and allocation of resources within the public health system. By taking all these capacities into account, performance measurement can help the NHA to improve public health practice in the country.

As with other performance measurement processes, a choice must be made between acceptable and optimal standards. Defining acceptable levels is quite difficult; it is necessarily arbitrary, since it implies either the choice of levels comparable to the hypothetical average of the situation in the Region or the definition of the minimum required to perform a given function, according to a group of experts. The choice of optimal standards is proper, obviously, whenever it is related to the general situation of the Region.

Given the heterogeneity of the context, the standards will be optimal for the best conditions that can be expected within a reasonable timeframe for all the countries of the Region; this implies the need to rely on “expert opinions” to determine those selfsame conditions. Notwithstanding, opting for reasonable optimal standards would appear to be most appropriate and consistent approach to upgrade the public health services infrastructure as quickly as possible.

2.2 Regional Agreements in Support of the "Public Health in the Americas" Initiative

Considering all of the above, the Ministers of Health present at the 42nd Directing Council of PAHO in September 2000 unanimously adopted a resolution that urges Member States to:⁴

- a) participate in a regional effort, sponsored by PAHO, to measure performance with regard to the essential public health functions to permit an analysis of the state of public health in the Americas;
- b) use performance measurement with regard to the essential public health functions to improve public health practice, develop the necessary infrastructure for this purpose, and strengthen the steering role of the health authority at all levels of the State.

In the same resolution, the Ministers urge the Director-General of PAHO to:

- a) disseminate widely in the countries of the Region the conceptual and methodological documentation on the definition and measurement of the essential public health functions;
- b) carry out, in close coordination with the national health authorities of each country, an exercise in performance measurement with respect to the essential public health functions, using the methodology designed;
- c) conduct a regional analysis of the state of public health in the Americas, based on a performance measurement exercise targeting the essential public health functions in each country;
- d) promote the reorientation of public health education in the Region in line with the development of the essential public health functions; and
- e) incorporate the line of work on the essential public health functions into cooperation activities linked with sectoral reform and the strengthening of the steering role of the health authority.

Defining and measuring the performance of EPHFs is considered a way of contributing to the institutional development of public health practice and of improving the dialogue between public health and other health-related disciplines. Furthermore, a better definition of the term "essential" should help to improve the quality of services and lead to a more precise definition of institutional responsibilities in the delivery of such interventions. The willingness of public health to be accountable to citizens for its performance should begin with the areas for which it is exclusively responsible (EPHFs). The legitimacy of public health and its capacity to bring together the other sectors working in health can only be enhanced by more accurate measurement of its essential work.

This measurement is in no way intended to be an "evaluation" of the performance of the Ministries or Ministers, nor are they a "ranking" of the countries in terms of their commitment to public health. That being said, in order to fulfill the mandate of the Directing Council, PAHO should facilitate application of the same instrument in all the countries of the Region. This will permit a diagnosis of the strengths and weaknesses in the countries.

This measurement represents a "self-evaluation" by the countries, within the frame of reference that this instrument provides for comparative analysis of the public health situation

⁴ Resolution CD42.R14. Essential Public Health Functions. 42nd Directing Council of PAHO. Washington, DC, 25 to 29 September 2000..

in the Americas. As noted by the Executive Committee of PAHO⁵, the goal pursued with this instrument will not be met unless the measurement is conducted periodically and the instrument is used continuously; thus, this exercise should involve close coordination between the countries and PAHO.

The instrument offers a common framework for measuring EPHF performance that is applicable to all the countries, respecting the organizational structure of the health system in each. In countries with a federal structure, for example, it will be necessary to gear the measurement to the decentralized levels.

Finally, in defining EPHFs and performance measurement in the Region, it is essential to strengthen public health education in the Americas. The current crisis in this area has much to do with the lack of a precise definition of what its work entails. This measurement effort is designed to help do just that, though not by defining the area of public health activity in terms of an academic discipline or “interdiscipline.” In this regard, recent agreements of the Latin American and Caribbean Association of Public Health Education (ALAES) support this initiative, which is expected to make a major contribution to the development of public health education and research.

3 Description of the Instrument for Measuring the Performance of EPHFs in the Region of the Americas

The performance measurement instrument for the EPHF in the Region is organized as follows:

- A brief introduction explaining the basics of the Initiative and describing the instrument;
- A description of the eleven *Essential Public Health Functions*, each with its corresponding *definition*, presented in a table containing the practices identifying the work associated with each EPHF;

Each function has 3-6 indicators, each of which contains the following:

- A *standard* that describes the “optimal level” of performance for the indicator
- A series of measurements that verify the performance of each indicator, expressed as a percentage of fulfillment, which is a function of
- A series of submeasures that permit “yes” or “no” responses.

The list of EPHFs in this instrument is not intended to represent all viewpoints on this subject in the world of public health. Having said that, efforts have been made to minimize bias and to obtain pertinent comments from experts and actors engaged in health policy decision-making whenever an opinion has been advanced. It should be noted that this instrument is the first attempt to measure the public health performance in the countries of the Region. There will no doubt be room for improvement, especially if the countries adopt the instrument, because it will help them to orient their efforts to improve public health practice.

⁵ 126th Session of the Executive Committee of PAHO, June 2000.

The list in Figure 3 includes the eleven EPHFs identified as critical in public health practice, contained in the measurement instrument developed by PAHO in collaboration with the CDC and CLAISS.

Figure 3: Essential Public Health Functions

Essential Public Health Functions	
EPHF 1	Monitoring, evaluation, and analysis of health status
EPHF 2	Public health surveillance, research, and control of risks and threats to public health
EPHF 3	Health promotion
EPHF 4	Social participation in health
EPHF 5	Development of policies and institutional capacity for planning and management in public health
EPHF 6	Strengthening of institutional capacity for regulation and enforcement in public health
EPHF 7	Evaluation and promotion of equitable access to necessary health services
EPHF 8	Human resources development and training in public health
EPHF 9	Quality assurance in personal and population-based health services
EPHF 10	Research in public health
EPHF 11	Reducing the impact of emergencies and disasters on health⁶

⁶ Mitigating the impact of emergencies and disasters on health includes prevention, mitigation, preparation, response, and rehabilitation.

3.1 Structure of the Instrument

As previously mentioned, the instrument is divided into eleven sections, one for each essential health public function. Every function is preceded by a definition of the capacities necessary for performing that function, which are used in constructing the indicators and their respective measurements.

Utilizing this definition, indicators for each function have been constructed and are used to measure the infrastructure, processes, and results associated with performance. Each function has an average of 4 to 5 indicators. All functions generally begin with **results** indicators, such as:

- ◆ EPHF 1: Indicator: “Guidelines for monitoring and evaluation of the health situation”
- ◆ EPHF 2: Indicator: “Surveillance system for identifying threats to public health”
- ◆ EPHF 3: Indicators “Building of sectoral and extrasectoral partnerships for health promotion” and “Reorientation of health services toward health promotion”
- ◆ EPHF 4: Indicator “Further empowering citizens for decision-making in public health” and “Strengthening social participation in health”

The next step is to incorporate indicators considered to be **processes** in the proper performance of each essential function, such as:

- ◆ EPHF 1: Indicator: “Evaluation of the quality of the information”
- ◆ EPHF 2: Indicator: “Capacity of public health laboratories”
- ◆ EPHF 3: Indicator: “Support for activities in promotion, development of norms and interventions designed to foster healthy behaviors and environments.”

All the functions include indicators that measure **institutional capacity** for performing the EPHF, as well as others for measuring **technical support to the subnational levels**; these indicators make it possible to evaluate efforts to strengthen decentralization, which are usually the last indicators for each function. Examples of indicators designed to evaluate institutional capacity are:

- ◆ EPHF 5: Indicators: “Development of institutional capacity for management in public health” and “Obtaining international cooperation in public health”
- ◆ EPHF 6: Indicator: “Knowledge, skills, and mechanisms for reviewing, improving, and enforcing the regulations”
- ◆ EPHF 7: Indicator: “Knowledge, skills, and mechanisms for making necessary health programs and services more accessible to the population.”

Each indicator has a standard model that describes in detail the capacities necessary for optimal performance of the function. As explained earlier, optimal standards have been defined to enable the countries, when measuring the performance of EPHF, to more easily identify the gaps between the actual state of EPHF in the country and the ideal.

Finally, for each of the indicators, measures have been designed that correspond to the “parent” questions of a group of submeasures. These are questions intended to elicit even greater details on the specific capacities described in the standard for each measure. These submeasures are what ultimately reveal the level of performance or the degree to which the optimum has been reached. For example:

7.2.2. Does the NHA have staff whose task it is to inform the citizens about access to health services?

In any case, do these personnel have the expertise and skills to:

7.2.2.1. Reduce linguistic and cultural barriers?

7.2.2.2. Target actions to remote populations?

7.2.2.3. Inform providers about prevention programs?

7.2.2.4. Bring services to high-risk populations?

7.2.2.5. Develop national early detection programs?

7.2.2.6. Help vulnerable or underserved populations obtain the services they need?

7.2.2.7. Introduce innovative methods of care to promote access to services (e.g., mobile clinics, health fairs, etc.)?

7.2.2.8. Cooperate with social security agencies to ensure monitoring that targets underserved populations?

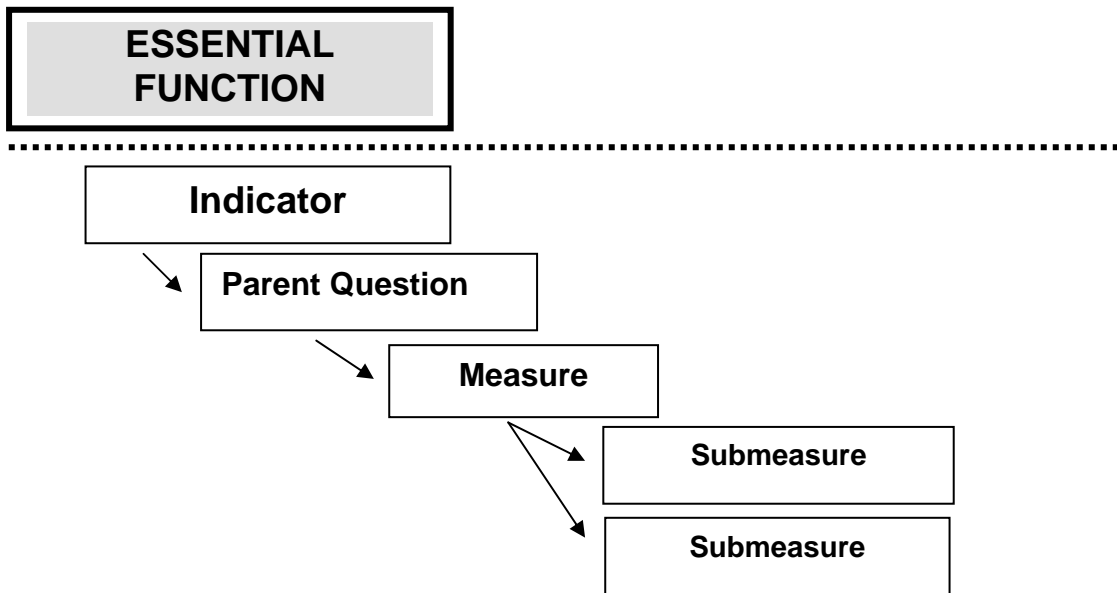
Identifying the indicators and their respective measures was one of the most complex and difficult steps in designing the instrument. The indicators are the most important component of the instrument and are what determines its quality and usefulness. In short, they are the heart of the measurement.

The objective is for the country's response to a variety of measures and submeasures to help obtain a fuller profile of the situation of public health practice from the national perspective, in terms of structure, processes, and specific outcomes. In evaluating the indicators and their measures it is important to take into account the source of the information on which the response is based. This information should come from easily available and accessible sources and consist of both quantitative and qualitative data.

In the final analysis, the key indicators are capable of linking specific results to key processes of the system. The validity of the indicators will make it possible to ensure the continued validity of the instruments and improve quality assurance in future public health practice.

3.2 Analysis of the Measurement Results

The scoring methodology employed in the measurement is described below. As described in the previous section, the format of the instrument is as follows:



The scoring for each indicator involved in measuring each function is based on the score obtained for the so-called “parent questions.” These questions provide a partial response since they are based on the average value of the “YES” responses to the measures and submeasures included in they contain.

The response to questions involving measures and submeasures can only be “YES” or “NO” and do not allow for partial responses. Thus, the manner in which the collective response to each measure and submeasure is drawn is relevant. If a group consensus cannot be obtained for the response, at least 60% of the respondents should answer “YES” to a question in order for the collective response to be positive.

The performance measurement instrument is accompanied by a computer program that directly tallies the final score for each parent question that is based on the average score of the responses to the measures and submeasures that comprise it. This calculation of the final score for each parent question is based on the average of “YES” responses to the measures and submeasures where a “YES” response carries a value of “1” and a “NO” response carries a value of “0”. This is demonstrated in the following manner:

Example No.1:

Parent question: Yes No Partial

Measures: the responses are “YES” to all questions
 Submeasures: the responses are “YES” to all questions

Score: 100% or 1.0

Example No. 2:

Parent question: Yes No Partial

Measures: the responses are "NO" to all questions
Submeasures: the responses are "NO" to all questions

Score: 0% or 0.0

Example No. 3:

Parent question: Yes No Partial

Measures: the response is "YES" for 1 of 2 measures
Submeasures: the responses to the submeasures within the first measure are all "YES". The responses to the submeasures within the second measure are all "NO".

Score: 50% or 0.5

Example No. 4: Below are two practical examples with actual questions from the instrument:

CASE 1

11.1.3 Does the NHA train its health workers at all levels in emergency preparedness and disaster management?

Is the NHA's personnel trained:

11.1.3.1 To develop guidelines that deal with emergencies and disasters within the health sector?	1
11.1.3.2 To coordinate activities within the health sector?	1
11.1.3.3 To coordinate activities with other sectors?	1
11.1.3.4 In the prevention and control of communicable and noncommunicable diseases resulting from an emergency or disaster?	1
11.1.3.5 In the protection against mental illness resulting from an emergency or disaster?	0
11.1.3.6 To ensure food safety following disasters?	1
11.1.3.7 In sanitation and environmental health following disasters?	1
11.1.3.8 To undertake vector control in emergencies?	0
11.1.3.9 To manage health services in emergencies?	1
11.1.3.10 To carry out emergency simulation exercises?	1
11.1.3.11 To conduct rapid risk and needs assessments?	1
11.1.3.12 To request, obtain and distribute critical equipment/ and health supplies for emergencies and disasters?	1

11.1.3.13 In the operation of communications systems and situation rooms in emergencies?	1
11.1.3.14 In the operation of emergency transport systems?	1
11.1.3.15 To disseminate health information through mass media and other means?	0
11.1.3.16 To ensure transparency and efficiency in the administration of post-disaster aid?	0
11.1.3.17 In the preparation of emergency rehabilitation projects for the health sector?	0

In this example there are 12 “YES” responses to the 17 measures contained in parent question 11.1.1. Therefore, the score given to this parent question is the following:

$12/17 = 0.71$

Case 2

1.1.1 Has the NHA developed guidelines for measuring and evaluating the population’s health status?

Have the guidelines or other instruments for monitoring health status:

1.1.1.1 Been developed for use by the health system at the national level?	1
1.1.1.2 Been developed for use by the health system at intermediate levels?	0
1.1.1.3 Been developed for use by the health system at local levels?	0
1.1.1.4 Described suitable methods for collecting data and selecting appropriate sources of information which provide that data?	1
1.1.1.5 Described the roles of the national and subnational levels in collecting data?	1
1.1.1.6 Provided access to information by civil society and organized community groups in a manner that protects the individual’s privacy?	0
1.1.1.7 Included a process that continuously improves information systems to better meet user needs at both national and subnational levels (decision-makers, program directors, etc.)?	1
If so, does the process:	
1.1.1.7.1 Include uniform standards at all levels (national and subnational) of the information system?	0
1.1.1.7.2 Include procedures that provide information to national and international agencies that form part of the health system?	1
1.1.1.7.3 Include a periodic review of standards and procedures that evaluate their relevance in view of the technological advances and changes in health policy?	0
1.1.1.8 Described procedures for communicating information to the mass media and general public?	1
1.1.1.9 Protected the confidentiality of information through the use of specific protocols for accessing data?	0

1.1.1.10 Described the procedures to organize a health status profile that contains information on national health objectives?

0

In this case, as was in the previous example, the scoring for the first question within indicator 1.1 (i.e. parent question 1.1.1) is actually the average score of each of the measures, in this case the average score of measures 1.1.1.1 through 1.1.1.10.

Measure 1.1.1.7, which was responded “YES” to, has three different submeasures of which one has a “YES” response (1.1.1.7.2) and two have “NO” responses (1.1.1.7.1 and 1.1.1.7.3). In order to give value to the positive response to the measures that contain submeasures despite the fact that not all of the responses to its submeasures were “YES”, the initial positive response to the measure is weighted. This way, the measure receives a weight of 20% of the total score for the measure and the corresponding submeasures account for the remaining 80% of the score for that particular measure that ultimately contributes to the final scoring of parent question 1.1.1.

Therefore, the score for measure 1.1.1.7 is calculated in the following way:

$$(1*0.2) + [(0+1+0)/3]*0.8 = 0.47$$

The score for parent question 1.1.1 would be the average scores of measures 1.1.1.1 through 1.1.1.10, this being:

$$(1+0+0+1+1+0+0.47+1+0+0)/10 = 0.45$$

For the purposes of this first performance measurement exercise in the countries of the Region, a scoring mechanism was selected in which all the functions, indicators and measures are assigned equal relative weight; however, this may change in the future. It is difficult to assign relative weights *a priori* for each function or indicator, which is logical to do based on the reality and context of each country.

The score for each indicator is the percentage of “YES” responses. The score is obtained for each indicator and is ultimately used to calculate the average level of performance for each essential public health function.

As was mentioned earlier, a computer program was designed and is provided to facilitate the calculation of the scores. This program automatically tabulates the score as the response to each measure and submeasure is entered into the program. The results of the exercise are analyzed using this computer program that generates graphs based on the responses given during the measurement exercise for each of the functions. The analysis of the results is performed by the responsible team assigned by the country and is supported by the instruments provided to help facilitate the synthesis of the results.

Although the scoring mechanism is still not perfect, it is nonetheless adequate to identify the strengths and weaknesses of the system and allow for a SWOT (Strengths, weaknesses, opportunities and threats) analysis of the public health system in the countries, particularly from the standpoint of a systemic, continuous process. As the exercise is repeated in

coming years and more countries evaluate themselves, the instrument will become more precise. Such successive applications of the instrument will allow for identifying consistencies between measurement and gaps in the public health infrastructure, and will ultimately allow for better directing interventions to strengthen institutional capacity.

A uniform scoring system has been selected for this first measurement in the countries of the Region; thus all the functions, indicators, and measures have been given equal relative weight. This egalitarian consideration of all the measurements will facilitate analysis and subsequent decision-making by the countries.

As a convention for overall interpretation, the following scale is proposed:

76 - 100% (0.76 to 1.0)	Quartile of optimal performance
51 - 75% (0.51 to 0.75)	Quartile of above average performance
26 - 50% (0.26 to 0.50)	Quartile of below average performance
0 - 25% (0.0 to 0.25)	Quartile of minimal performance

3.3 Identification of Priority Areas of Intervention for Institutional Development

In preparing a plan for developing the institutional capacity of the health authority to improve the performance of EPHFs, the immediate goal of this exercise in performance measurement, we start out with two basic premises:

- a) Development should be institutional in nature. This implies an integrated approach, rather than isolated interventions by actors and functional areas. To this end, all the functions have been integrated into three strategic intervention areas:
 - **Fulfillment of outcomes and processes**, which is the substantive component of the public health responsibilities of the health authority and, consequently, the main objective of interventions aimed at improving performance. It refers to the efficacy (outcomes) and efficiency (processes) with which functions are fulfilled that fall under the competency of the health authority in matters of public health.
 - **Development of capacity and infrastructure**, understood as the human, technological, knowledge, and resource conditions necessary for optimal performance of the public health functions for which the health authority is responsible.
 - **Development of decentralized competencies and capacities**, in terms of authority and capacities to support the subnational levels or to transfer competencies to them to strengthen the decentralized exercise of the health authority in public health, consistent with the demands of State and sector modernization.
- b) Institutional development interventions must seek to overcome *deficiencies* while taking advantage of *strengths*. To describe the performance in the different indicators as strengths or weaknesses, each country must have a *benchmark* for the different stages of the process, based on its performance level and development goals. The

basic criteria for establishing such benchmarks are: on the one hand, that the deficiencies that have been diagnosed not be accepted and consolidated and, on the other, that an attainable goal be established, with reasonable incentives for continued improvement.

- c) Nevertheless, for the purposes of these initial applications (and to help consolidate the results from the countries of the Region in order to formulate a regional plan of action), as a convention, the benchmark has been defined as the average of the global results of the eleven functions; thus, the majority of deficiencies are considered weaknesses to be overcome.

As the measurement exercise is repeated and more countries are evaluated, the instrument will become more precise. Its use in successive iterations will make it possible to identify the consistency between the measurement and gaps in the public health system infrastructure; it will also allow for better orientation of the interventions recommended for capacity building.

4 Process for Applying the Instrument in the Region

The instrument is designed for use in a collective survey to evaluate---from a systems perspective---the performance of EPHFs by the NHA⁷.

In the initial stage, the principal object of measurement is the NHA, which in most countries of the Region is the Secretariat or the Ministry of Health. The NHA plays an essential part in directing the country's health system, exercising the steering role, which has become even more important with the advent of the sectoral reform processes. It is the NHA's role and responsibility to lead and safeguard a system often comprised of public and private entities working together to improve the health of the population.

The NHA's work in public health entails collaboration with a wide range of governmental and nongovernmental institutions, universities, health research centers, public and private providers, and government sectors involved in critical areas of collaboration, such as education and the environment. The present instrument is used to survey a group of key actors that span the entire public health spectrum in each country.

4.1 Participants in the Measurement Exercise

With the facilitation and coordination of the PAHO/WHO Representative Offices, it is recommended that a representative set of the following public health officials participate in the application of the instrument, so that all eleven functions are covered. The list that follows is a specific recommendation that can be adapted to reflect the situation in each country, respecting the decisions of the national authorities.

⁷ For purposes of this instrument, the National Health Authority is understood to be synonymous with the Secretariat or Ministry of Health, in terms of its actions in the national territory as a whole. The central and subnational sections of the NHAs are included as a part of a single structure if they contribute to their performance at the national level. The subnational structures (Regional Directorates, for example) have specific territorial responsibilities, and should be measured by instruments constructed especially for that purpose.

- ◆ Representative (s) from the highest possible level of the national health authority
- ◆ National administrators of the NHA
- ◆ Principal advisers to the Minister
- ◆ Economists involved in health planning
- ◆ Links between the community and the NHA
- ◆ Epidemiologists responsible for public health under the NHA
- ◆ Officials responsible for sector financing
- ◆ Officials in charge of technology assessment
- ◆ Officials in charge of nursing
- ◆ Officials in charge of social security health services
- ◆ Representatives of the universities (School of Medicine or School of Public Health)
- ◆ Representatives of nongovernmental organizations working in public health
- ◆ Representatives of community organizations working in health and/or organizations that represent users of the health services
- ◆ Officials in charge of public health laboratories
- ◆ Officials in charge of emergencies and disasters
- ◆ Officials in charge of technology, resources, and computer information systems
- ◆ Officials in charge of policy-making and planning in health
- ◆ Specialists in health promotion

Representatives from the subnational levels of the NHAs (regional or departmental, district, and municipal) are also expected join the group as respondents, which will make it possible to undertake a comprehensive evaluation of NHA performance of the EPHFs.

The figure below is a matrix that relates the representativeness and/or specialization of potential participants with the content of each EPHF, so as to facilitate the selection of groups, by EPHF, who could best respond to the questions in the performance measurement instrument.

Potential Participants	FUNCTIONS										
	1	2	3	4	5	6	7	8	9	10	11
Health economics specialist					X		X				
Specialist in social participation in health			X	X			X				
Health financing specialist					X		X				
Specialist in health technology assessment									X	X	
Representative of public health nursing			X	X	X		X	X		X	X
Representatives from academic institutions (schools of medicine and public health)			X		X		X	X	X	X	
Representatives of national health insurance and social security					X		X				
Representatives of NHA at subnational levels	X	X	X	X	X	X	X	X	X	X	X
Epidemiologist	X	X								X	
Public health laboratory specialist		X				X			X	X	
Specialist in health in emergencies and disasters		X									X
Human resources specialist					X			X			
Health information specialist	X	X			X						X
Health policy and planning specialist					X	X	X	X	X	X	X
Health promotion specialist			X	X			X				
Health technology and health information systems specialist	X	X			X						X
Specialist in preparing the country health profile	X	X			X						
Environmental health specialist		X	X			X					X
Public information/public relations specialist	X		X	X							
Chief advisor(s) to the Minister	X	X	X	X	X	X	X	X	X	X	X
Sanitary engineering specialist			X			X					X
Legal specialist					X	X					
Representatives of other agencies and NGOs			X	X	X						X

In order to measure each function, a consistent core group should be established that would be responsible for responding, in general terms, to the instrument. Experts or relevant specialists who can provide important information to measure each function more precisely may also be added. Nevertheless, it is important to resist the temptation to turn the instrument into a tool geared to “experts” in each EPHF.

It is suggested that the core group responsible for the measurement consist of participants with the following profiles:

- ♦ Representatives of the Minister, should the Minister not participate in the entire measurement process
- ♦ Officials from the highest level of the NHA

- ◆ Chief adviser(s) of the Minister
- ◆ Officials in charge of defining health policies and planning
- ◆ Economists engaged in health planning
- ◆ Epidemiologists responsible for public health under the NHA
- ◆ Links between the community and the NHA
- ◆ Representatives of institutions not under the NHA that are relevant to public health, such universities, nongovernmental organizations working in public health, and (when they exist) representatives of community organizations or groups that use the health services.

The number of participants in the exercise will vary with the situation in each country. It is important to emphasize the need to respect the NHA's autonomy to choose the participants on the basis of the recommendation submitted--a choice that will be consistent with technical and political considerations that are its exclusive purview.

4.2 Preparation for Applying the Instrument

The first step to guarantee proper application of the instrument in the countries is to identify who will be responsible for the process and to agree on roles and responsibilities. What follows is a proposal for assigning roles and responsibilities for measuring the performance of EPHFs:

- The NHA is expected to name one or more persons to the coordinating team responsible for implementing the measurement exercise to adequately prepare for its events, select national facilitators who must be trained prior to the application of the instrument, choose the participants using the profiles suggested by PAHO, and adopt the proposed agenda for applying the instrument.
- The coordinating team for the national measurement exercise should carry out all the logistical tasks required for the effort and any others needed for its execution, relying on support from the PAHO/WHO Representative Office and a team entrusted with that responsibility by the Minister of Health.
- The PAHO/WHO Representative Offices in the countries of the Region should play a very active role in facilitating the activities (workshops or other meetings) required to apply the instrument in each country. This includes coordinating with the representative of the national health authority in the preparations for measuring the performance of EPHFs in each country, setting dates for the exercise, establishing the work agenda for the measurement, drawing up lists of participants, and other logistics.
- The responsibility of the Division of Health Systems and Services Development (HSP) at PAHO is to promote the application of the instrument in all the countries of the Region, in close coordination with the national health authorities; to support the national measurement process through the PAHO/WHO Representative Offices in the countries; to collaborate in training the facilitators that will participate in the application effort; to collect the evaluations conducted in the countries; and, finally, to systematize the information received and publish the results of the EPHF performance measurement in the Region.

Regarding the logistics in preparation for the EPHF measurement exercise, it is recommended that whenever possible, the activity be conducted somewhere other than the usual workplace of the participants; this will ensure the continuity and focus of the effort. The area selected should be able to house a U-shaped table to seat all the participants and thus encourage the direct exchange of views among the members of the workshop. If the decision is made to create parallel groups to analyze the functions, it will be necessary to provide that many more areas. Audiovisual equipment must also be available for the opening and closing presentations of the event.

It is important to reiterate that the objective of this measurement exercise is to enable each country to adopt the instrument as its own, modifying it as needed for subsequent monitoring exercises in its territory. This application has been designed as a self-evaluation of each country; thus, the designation of national facilitators who can monitor subsequent use of the instrument is fundamental. In this initial measurement exercise, the work of these facilitators will support that of the external facilitators who will also be working on this initiative.

As soon as a counterpart made up of national facilitators is designated, a cycle of meetings should be held to train the group. This is the responsibility of the PAHO/WHO Representative Office, supported by the regional project team. The objective of this cycle of meetings is for local facilitators to take ownership of the initiative. They should participate in the exercise as part of the team in charge of conducting the measurement and, insofar as possible, avoid participating as respondents.

A country may wish to take advantage of the EPHF measurement exercise in order add measures or functions that it feels should be evaluated, given the country's particular situation or political circumstances. The process should facilitate additional measures of this type. It is advisable to keep this measurement separate from the general response to the instrument. A good option is to request that prior to the exercise, the national counterpart prepare an Annex to the instrument with the additional measures; the Annex can be addressed once the standard instrument has been applied.

Folders should be prepared for the participants as part of the logistics of preparing for the event. It is suggested that these contain at least the following:

1. The EPHF measurement instrument in the official language of the country.
2. Glossary of terms used in the instrument.
3. Participant evaluation to be completed at the end of the event and handed in to the organizing team.
4. Where warranted, the file can be complemented with additional documents agreed upon by the team organizing the event (PAHO/WHO Representative Office and Ministry of Health).

It is a good idea to attach the instrument to the invitation to the event so that participants can review it ahead of time and obtain all the information they need for an informed response to the measurement exercise. Participants should be asked to bring any information they consider relevant to the event to support their responses to the questions in the instrument, especially specific questions considered as "means of verification"; these materials can then be made available to the EPHF measuring team.

The steps for applying the instrument in each country are as follows:

1. Generation of PAHO/Government political agreement to conduct the exercise.
 - a) Formalization of an agreement between PAHO and the Ministry of Health to conduct the exercise. Formal correspondence between the highest authority of PAHO and the Ministry of Health may be necessary, depending on the situation in the country.
 - b) Formal designation of the Ministry of Health counterpart, establishing individual responsibilities for the representatives of the two groups (Ministry and PAHO) in preparations for the exercise. Members of the ministerial counterpart should serve as local facilitators throughout the exercise.
 - c) Holding of a cycle of meetings between the counterparts to outline:
 - ◆ The underlying “philosophy” of the "Public Health in the Americas" initiative
 - ◆ Features and details of the construction of the measurement instrument
 - ◆ The need for foresight to deal with potential “risks” that may arise during the exercise and its preparation, such as:
 - ✓ Fear of the external “evaluation” among top health management personnel, or among the authorities responsible for the areas covered by the instrument.
 - ✓ Fear that the evaluation is a step toward classifying the countries of the Region as a function of their support for public health.
2. Selection of participants in the exercise as the exclusive competence of the national health authority. In this regard, it is very important to assist the Ministry in the selection process to ensure that its representatives understand the reasoning behind the selection of a core group and a peripheral group, stressing the importance of keeping members of the core group present throughout the exercise. The participant profile described earlier should serve as orientation for the Ministry for the selection of the participants, whose full names should be provided. It is essential that the PAHO counterpart promote the formation of an interdisciplinary group and diversity among its members (ensuring that they are from the central and subnational levels of the ministerial structure, as well as nongovernmental and academic institutions).
3. Logistical planning for the exercise (selection of place and date, appointments with participants, financing of the visits of persons coming from elsewhere, secretaries, supplies, equipment, food, computers with the scoring software, etc.).
4. Implementation of the performance measurement exercise using the measurement instrument should follow a workshop methodology and should last three days, as indicated in the methodological guidelines. Pre-established groups will be assigned to answer questions for a specified EPHF by way of reaching a collective response through consensus building.

5. Preparation of the final report on the measurement exercise. This report is the product of a first draft describing the measurement process, the results of applying the instrument in terms of EPHF scores, indicators, and possible interpretations of results in terms of factors that might explain the final scores, and the identification of priority areas for interventions to strengthen public health practice. The final report is written once the ministerial authority has commented on this draft.

4.3 Proposed Agenda for Applying of the Instrument

It is recommended that a workshop-style event be held to bring all respondents together to work intensely on finishing the measurement instrument. Full application of the instrument will require an agenda of at least three days, covering three to four EPHF a day.

The agenda should also include time to outline the directives and expectations of the NHA regarding the task for which the participants are being convened, followed by a conceptual and methodological presentation on the measurement instrument and on what the workshop must accomplish.

Following the exhaustive measurement of each function, the agenda should leave time for brief presentations of the most relevant preliminary conclusions yielded by the EPHF measurement in the country. This calls for the presence of the highest national health authority. At that time it will be possible to identify weaknesses ---in general terms--- in public health practice and propose on potential plans of action to begin to rectify these shortcomings. The agenda should incorporate enough time to interpret and analyze the results of the performance measurement instrument, given that this is a critical point in which to identify and analyze the strengths and weaknesses. Doing so would also permit a proper elaboration of an action plan that would best direct interventions aimed at improving the institutional performance of EPHF.

Finally, the agenda should offer an occasion for all participants to provide feedback to the project team on the content, methodology, and any other aspect of the measurement process that can be improved. Since active participation will sometimes inhibit the expression of personal opinions by some participants, forms to evaluate the event will be distributed and collected at the end. This will ensure that all participants have an opportunity to evaluate the process.

In summary, a generic agenda for the event could include the following:

Day One

- | | |
|------------|--|
| 45 minutes | Inauguration of event. Remarks by the representative of the National Health Authority and the PAHO/WHO Representative. |
| 60 minutes | Presentation of the conceptual framework and methodology for EPHF measurement and a Question/Answer session |

6 hours An estimated 90 minutes on average for the review of each EPHF. It is important to ensure the presence of the core group throughout the exercise. During the first day it is estimated that it will be possible to cover 2 or 3 functions, depending on the participants' familiarity with the instrument, as well as on the degree of discussion and level of consensus-building.

Day Two

8 hours The second day will cover only measurement of EPHFs. This means 5 or 6 functions will probably be covered.

Day Three

4 hours The third day should wrap up measurement of the remaining functions. Reasonably, a half-day can be devoted to this task, which means that 3 or 4 functions can be covered.

4 hours Presentation of the final results of the exercise and discussion of relevant elements to guide future actions of the NHA.

45 minutes Participatory evaluation of the measurement instrument and methodology.

45 minutes Close of the event, with the participation of current authorities.

4.4 Group Composition

The optimal number of participants for the discussion and consensus-building effort is approximately 15 people. For larger groups, or if the agenda requires faster work, the effort can be divided into two parallel working groups, each with its own permanent core group and incorporating additional participants depending on their specialty. A reasonable division of labor for the groups is as follows:

Alternative One

Group 1.EPHFs 1, 2, 5, 6, 11

Group 2.EPHFs 3, 4, 7, 8, 9, 10

Alternative Two

Group 1: 1, 2, 10, 11

Group 2: 5, 6, 8

Group 3: 3, 4, 7, 9

4.5 Application of the Instrument in the Countries

The response to the instrument is a collective process, based on the search for a consensus around each submeasure. The facilitators of the process will present each function, its indicators, and the proposed measures, guiding the participants and helping them to reach a

consensus on each response. Since in some cases there may be no conclusive response, the participants will have an opportunity to provide a full response on any given function in the days following the session.

It is suggested that the measurement methodology provide for the initial registry of each participant's individual responses exercise⁸ for subsequent comment on the collective results obtained. A graph should be presented showing the percentage of "YES" and "NO" responses to the questions defined as submeasures and the average obtained in the "parent" measure (which is calculated automatically by the computer software). In the event that there is a significant discrepancy in the responses, it is suggested that the group move on to a discussion of the "YES" or "NO" responses in order to achieve a consensus on those responses.

As a general rule, given the limited time available to fully apply the instrument, it is recommended that the group move immediately to the next submeasure once a majority response has been obtained. The group should first reach a consensus on the percentage most appropriate for establishing a majority (e.g. 60% or 70%) of responses to each of the two possible answers (YES or NO) on a measure or submeasure.

In the case that a majority decision is not reached, consensus should be approached through one or two rounds of discussions followed by new votes. Should a majority vote not be reached after a few discussion rounds, it is recommended that the response be accepted as a "No" response, given that the doubt existing with regards to that particular performance is assumed as a weakness to be overcome.

In short, the recommended procedure is based on a review of the appropriate "parent" question---without answering it immediately---moving on to the submeasures of that question, and seeking a consensus on a positive or negative response. Having answered all the subquestions, the software will calculate the quantitative response to the parent question, which will be the percentage of positive responses to the submeasures that comprise it.

Another feasible method is to use the Option Finder electronic voting system, which makes it possible to rapidly obtain and chart the profile of individual responses. This can help in consensus building.

In all likelihood, many participants will lack the necessary knowledge about functions outside their specific area of expertise and training, making it difficult for them to provide a response. This is further reason to recommend that the measurement instrument be furnished to all participants ahead of time, so they can review it and obtain the information they need to respond to all the questions in the instrument. Throughout the exercise it should be stressed that this performance measurement exercise is not designed for experts in each function; on the contrary, it is interested in the response of all the participants to all the questions.

Building a consensus will allow persons with divergent views on the degree of public health development in the country to express their opinions and inform those who are unfamiliar with any given function. Nonetheless, all participants should be able to contribute to the collective response to the complete instrument and should have an opportunity to contribute their knowledge to the contents and process.

⁸ It is useful to have a method for rapidly recording individual opinions. This can be done with color-coded cards to represent positive and negative responses.

It should be stressed that the objective of the measurement exercise is to obtain as realistic a picture as possible of the performance of public health functions in the country. The instrument will thus meet its objective of identifying areas of weakness that need to be strengthened. The participants should welcome any effort that contributes to this end.

During application the participants will probably ask questions to better understand the meaning of the measurement exercise or to clear up aspects of the instrument. The glossary annexed to the instrument will help to standardize the terms used in the measurement instrument and should be available for consultation throughout the measurement exercise. There is also a long list of frequently asked questions that the facilitator should be prepared to answer; it is based on the validation exercises and previous application of the instrument in countries of the Region.

5 Processing the Measurement Score

A computer program is provided to register and process the results of the group responses to the instrument. The program automatically tabulates the final score of each parent question, based on the responses to its measures and submeasures, and generates graphics that illustrate the results obtained. The use of this tool requires a basic knowledge of Microsoft Excel.

Instructions for using the MeasurementProgram.xls file:

1. Copy the MeasurementProgram.xls file from diskette/floppy (A:) to a user-selected subdirectory on the hard drive (C:).
2. Open Excel and select the MeasurementProgram.xls file just copied on to the hard drive.
3. Upon opening the MeasurementProgram.xls file, the program will ask if you want to activate the file macro. Select the option "Enable Macros."
4. To enter data on the results of the measurement for each EPHF, select the F5 key (*Go To*), and select the EPHF you wish to work with. You may also enter this mode by clicking on the EPHF sheet at the bottom of the Excel screen and placing the cursor within the sheet of the desired EPHF.
5. For each secondary question (measures and submeasures not in **bold type** or *italics*), enter the number '1' in column B when the response is YES or 0 when the response is NO. The program automatically calculates the results of the indicators and the parent questions. The program will warn the user should a response other than '0' or '1' be entered, or if the user tries to input data in the wrong cell.
6. The graphs for each EPHF and for the general profiles automatically show the results obtained from the measurement exercise. The EPHF graphs are located in columns C and I at the top of the page of its respective EPHF.

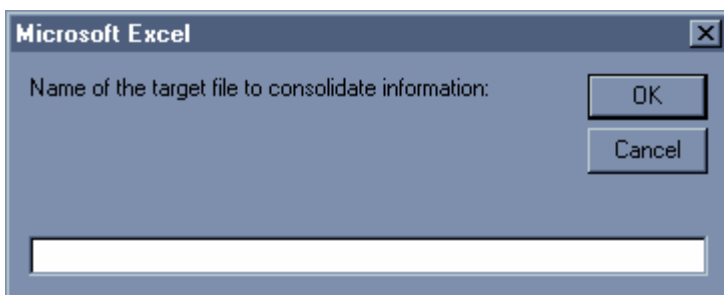
7. The graph that shows the general profile of all EPHFs and the graph with the aggregate results by areas of intervention are available as four separate worksheets in the file. To activate these worksheets, use the arrows at the bottom left of the screen to choose the worksheet you want to see: Essential Functions (general profile of all EPHF); Fulfillment of Outcomes and Processes; Development of Capacity and Infrastructure; or Development of Decentralized Competencies and Capacities (the three areas of intervention discussed in section 3.3).
8. These three last graphics each have two formats: 1) Standard: automatically uses as its reference point the average score of the eleven EPHF; and 2) National: Evaluating team chooses their reference point and inputs it into the program by entering the J2 cell of each of the three worksheets and entering a value from 0 to 1. Both formats may be used.
9. The graphs can be exported to any other Windows program, such as PowerPoint, Word, etc. To export the graph, just go to the worksheet with the graph you want to export and hit the CTRL key along with the key for the graph you want to copy, as indicated on the following list:
 - ◆ CTRL + f -- to copy the general profile graph of the 11 EPHF
 - ◆ CTRL + g -- to copy the graph for each Essential Function (need to be in the particular worksheet of the desired EPHF).
 - ◆ CTRL + r -- to copy the graph for Fulfillment of Outcomes and Processes (*Standard*)
 - ◆ CTRL + s -- to copy the graph for Fulfillment of Outcomes and Processes (*National*)
 - ◆ CTRL + c -- to copy the graph for Development of Capacity and Infrastructure (*Standard*)
 - ◆ CTRL + b -- to copy the graph for Development of Capacity and Infrastructure (*National*)
 - ◆ CTRL + d -- to copy the graph for or Development of Decentralized Competencies and Capacities (*Standard*)
 - ◆ CTRL + e -- to copy the graph for or Development of Decentralized Competencies and Capacities (*National*)

After using the appropriate combination of keys for the graph you want to export (one at a time), go directly to the chosen program (e.g. Word) and "Paste," or use the CTRL+v keys to copy the desired graphic onto the other program.

Consolidation of Data for EPHF into Single File

As some applications will have parallel groups responding to the instrument, data may be collected and inputted into two or more different files. In order to consolidate these data into *one* file, it is important to fulfill the following instructions to ensure a successful consolidation of data and, consequently, a more automatic scoring of the results.

1. Enter an Excel program, version 97 or newer.
2. Open an empty MeasurementProgram.xls file.
3. Save that file with another name, for example, with that of the name of the country where the measurement is being conducted: i.e. 'MeasurementProgramChile.xls'. This will be known as the *target file* that will ultimately hold the consolidated data.
4. Without closing the target file just created, concurrently open the files that hold the data to be consolidated - these files are known as an origin file. The target file and an origin file cannot have the same name.
5. To move and consolidate the data, all files to be used must be open (target and all origin files) and in maximized window frame.
6. To facilitate switching from screens from one file to another files, use the Window option at the top of the screen, and click on it once. Select the name of the origin file needed to be copied, which should always be kept open and whose window should always be maximized in order to initiate the consolidation commands for each of the EPHF.
7. With in the open origin file, press CTRL and 't' (lower case) simultaneously. The following screen should appear:



8. Enter the name of the target file (already open) without adding the xls at the end - i.e. MeasurementProgramChile and click on 'OK'. The following screen should then appear:



9. Enter the number of the desired EPHF (1-11) you want to be copied on to the target/consolidation file and click on 'OK'.
10. Check that the data was indeed transferred in to the target file from the origin file.
11. Repeat the aforementioned instructions for each of the functions. Note that the CTRL 't' command can only be activated in the origin file and that the files to be used (origin and target) should be open and maximized.
12. Remember to save the consolidated data in the target file after each transfer.

6 Preparation of the Final Report

PAHO will collect the results of the measurement exercise and submit a report to the respective national health authority (Secretariat or Ministry of Health) on the results of the measurement of essential public health functions in the country. This report will be for exclusive use of the Ministry and will report on areas of strength and weakness in the public health system, with a view to taking actions for strengthening. This diagnostic report will be written to serve as the foundation for plans to strengthen public health in the country, consistent with similarly oriented regional efforts that will become possible once the general situation of the countries in the Region has been evaluated (please refer to the model report). The structure of the report will be as follows:

Introduction and Background. This section will contain a brief description of the "Public Health in the Americas" initiative, as well as a summary of the application of the measurement process in the country, highlighting the nature of participation in the exercise and the general comments of participants. The agenda for the evaluation workshop and the list of participants will be included as Annexes to the report.

Processes: This section should describe the processes and methodology that was used to conduct a measurement exercise in the country. Information that would be

useful to depict would be the following: the composition of the coordinating group of facilitators which includes the local and PAHO facilitators; their role in coordinating, preparing, and facilitating the whole process; venue of the activity; decisions made for conducting the measurement activity (i.e. percentage required for consensus responses, composition of groups, etc).

Results. The principal results will be presented in a bar graph with the final scores for each EPHF, thus providing a basis for comparison with the average results for the instrument as a whole. Next, the results of each essential function and of the corresponding indicators will be presented in a similar graph (11 in total). These graphs will be imported directly from the computer software. Each graph will be explained briefly in the text.

Presentation of the results for each EPHF will be followed by a description of the areas of intervention (Achievement of Results and Key Processes; Development of Capacities and Infrastructure; and Development of Decentralized Competencies). The questions will be classified by their nature as measurements of each area of intervention that must be known in order to support NHA decision-making for future improvement of the country's public health.

Conclusions. The report will close with a chapter containing conclusions and general recommendations drawn from the results. This chapter will include a critical review of any biases that might have influenced the measurement process and that might explain the score obtained, regardless of the country's situation in terms of the performance of each EPHF. Evaluation of the exercise by the participants provides essential input for drafting this chapter; its results should be summarized as part of the whole.

The first draft of the report will be delivered to the highest authority of the NHA for analysis and recommendations that, in the opinion of the authority, should be followed to modify the style and substance of the report. Once the pertinent recommendations have been incorporated, the final report on the measurement of the performance of essential public health functions in the country will be delivered to the NHA.

7. Evaluation of the Application Process by the Participants

The end of the EPHF measurement exercise should include a 45-minute session for participants to evaluate the exercise, using an anonymous evaluation form. The questions on this form refer to the evaluation instrument and its methodology, as well as to the application process. Filling out this form is a very important part of the process of applying the EPHF measurement instrument in the countries; facilitators should therefore be sure to collect all forms with the participants' opinions.

The evaluation form has 4 sections (Process, Structure, Contents, and Recommendations). Feedback from the forms will help to improve the design of the instrument and the application process. Two types of questions are included: closed and open. It is anticipated that more frequent use of the forms will lead to questions that are mostly of the closed type. After completing the forms, participants should return them to the facilitator.