V. ANNEXES

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ANNEX 1 - ASSOCIATION OF PUBLIC HEALTH LABORATORIES

Background & History of APHL: The Association of Public Health Laboratories (APHL) is a non-profit association representing public health laboratory interests. Since 1952, APHL has supported advanced laboratory training in basic and advanced topics in its laboratories and at other sites in the U.S. and other countries. Members of the Association have considerable expertise for training in public health laboratory practice and have hosted many international students and provided or assisted in training programs in many countries.

Capacity of APHL:

The Association of Public Health Laboratories (APHL) has established mechanisms to coordinate the assessment and improvement of multiple parameters of national and international public health laboratory practice and has maintained partnerships to promote the assessment, development, and evaluation of high priority laboratory training activities. In this capacity, we are well-equipped to assist in the establishment of a potential network of public health laboratories in the Central America region.

Specifically, APHL can:

- Advise on matters relating to public health laboratory management, organizational and personnel development, budgeting, workload measurement and cost accounting;
- 2) provide laboratory assessments as well as assessor training for defined areas of public health laboratory management and practice;
- assist in developing management information systems, computerized lab based data systems, networking, information exchange and communications;
- 4) coordinate, and facilitate laboratory training programs in areas including, but not limited to anti-microbial susceptibility testing, and isolation and identification of various enteric diseases:
- 5) provide guidance in organizing meetings and conferences on laboratory science and practice related to disease control, outbreak investigation, surveillance and epidemiology; and.
- assist in the standardization of laboratory procedures and quality assurance and quality control practices.

In the past, APHL has provided training and consultation to Central laboratories in Central and South America and the Caribbean region. Below is a brief summary of the recent projects in the Region of the Americas.

Establishment of Public Health Laboratory Partnerships

A pilot project was established to address public health laboratory activities in Latin America and the Caribbean. The goal of this pilot program was to establish linkages between three countries (Jamaica, Guatemala, and Ecuador) and three state public health laboratories (Michigan, Wisconsin, and North Carolina, respectively). The purpose of these linkages was to provide the impetus for improvement of scope and quality of public health laboratory services. Based upon the completion of these projects, it was determined that any progress was dependent upon the support of the National Ministries of Health (or its equivalent). Without that support, such projects tend to be very focused with no continuing activity to assure either improvement or expansion of services. Training for both bench laboratorians and upper level laboratorians (e.g. laboratory director) was sited as an immediate need. Since the middle and senior level laboratory administrators are fundamental in maintaining the infrastructure of the public health laboratory system, training in quality assurance, personnel standards, continuing education, leadership skills, etc. were required. In addition to laboratory training, the integration of laboratory activities with program activities is essential to assure appropriate control, quality, and success of public health systems.

Caribbean Epidemiological Center (CAREC) Distance Learning Project

The purpose of this project was to work with the Division of Laboratory Systems at CDC to assist in the development and delivery of distance learning programs for public health laboratorians in the Caribbean region. The countries selected for the pilot program were Jamaica, Belize, Cayman, Bahamas, Barbados, St. Lucia, St. Vincent, Suriname, Trinidad & Tobago. The three main components of this project were to 1) assess the feasibility of using live, interactive satellite videoconferencing as part of CAREC's training program; 2) Compare various distance learning instructional strategies in terms of their feasibility and impact on reach and knowledge gained, and; 3) determine what will be required to make a distance learning a sustainable component to CAREC's program.

Annex 2: Applied (Field) Epidemiology Training: Skills and Competencies.

- Measure indicators of health status and magnitude of disease problems in the population
 - Conduct outbreak investigations
 - Organize, run. and evaluate surveillance systems
 - Identify risk factors and populations at risk for common diseases and conditions
 - Identify, respond to, and find solutions for emerging, heretofore unrecognized threats to the public's health
 - Assist Ministries of Health to rationally set priorities among common health problems
- Assist Ministries of Health in the design of effective health interventions based on epidemiologic evidence and literature based reviews
- Work with local communities to develop mechanisms to detect diseases and serious health problems
- Communicate with community members, leadership and groups to implement health policies and programs
- Evaluate the effectiveness of health service delivery and utilization of health resources
- Evaluate the effectiveness and the impact of health-promoting and disease-preventing interventions
- Communicate properly analyzed and interpreted health information in a timely manner to policy-makers and planners.

At the end of the training each Public Health Practioner or Intevention Epidemiologist (Field Epidemiologist) will have completed the following:

- 1. Use surveillance, other health information systems, or professional contacts to identify public health problems requiring epidemiologic investigation.
- 2. Conduct or participate substantively in a field investigation of a potentially serious public health problem that requires a rapid public health response. This health problem can be infectious or non-infectious in nature and should involve direct contact with human subjects.
- 3. Write a research protocol and develop supporting human subjects documents.

- 4. Design, conduct, and interpret an epidemiologic analysis of a new or pre-existing data set. This data set must have been collected by the trainee or obtained from existing or routinely collected data by the FETP or other public health institution in the country. As a result of the analysis, appropriate public health recommendations should be made.
- 5. Design, implement, or evaluate a public health surveillance or other information system.
- 6. Develop and carry out a pre-planned epidemiologic study or survey to assess a health concern of public health importance to the country (gap analysis). The nature of this problem may be either infectious or non-infectious.
- 7. Use scientific literature to support the findings of epidemiologic investigation and recommendations made from investigations. An evaluation of an existing or planned public health strategy will be undertaken. The results of this investigation will be provided as a written document and oral presentation in GHL ongoing seminars during the training program.
- 8. Write and submit a report for publication in an epidemiology or public health bulletin and write a scientific manuscript for a peer-reviewed journal.
- 9. Give an oral presentation at a national or international scientific conference.
- 10. Respond appropriately to written or oral public health inquiries from the public, the media, government officials, or other health professionals.
- 11. Teach in a course on public health topics and/or serve as a proctor or mentor for junior level trainees.
- 12. Write a fundraising document for a proposed program to implement activities that will improve public health outcomes.
- 13. Communicate with the media and representatives of a community on a health problem or program.
- 14. Present briefing document to decision-maker (WHO leadership, National MOH or Politicians) on az health problem.
- 15. Use computers effectively to manage public health work including: budgeting (spreadsheets), epidemiologic analysis (Epi-info), document presentation (wordprocessing), and communication (graphics).
- 16. Attend and participate in training courses on program evaluation, cost-effectiveness analysis, graphics and visual presentations and media relations

Optional Activities: Trainees are encouraged to participate in program management activities and actual implementation of public health interventions.

ANNEX 3- Training Programs in Epidemiology and Public Health Interventions Network

Brackground and History of TEPHINET: The Network of Training Programs in applied Epidemiology and Public Health Interventions (TEPHINET) is an international non-profit organizations aiming to improve global health through high quality community-oriented competency-based training for public health practitioners. Since 1951, "learning by doing" became the standard of effective training field epidemiologists; over the years the method became adapted to other countries, now 25. Since 1997, these national programs decided to formalize networking to share expertise, training materials, help countries with needs, and provide response teams to provide technical assistance to study outbreaks and provide relief and assessment during disasters. In the aftermath of Hurricane Mitch, graduates/trainees of Peru, Mexico, USA, and Colombia were sent out to assist communities affected. This year, under the auspices of PAHO, graduates/trainees of Peru, Mexico and the USA assisted the MoH of El Salvador to contain a cholera outbreak. For 4 months now a graduate of the Peruvian FETP has provided on-site consultation on behalf of PAHO to help establish an FETP-like training program in the region.

Capacity of TEPHINET: TEPHINET has the support of 24 national training programs around the world, and their host institutions. These institutions include the Colombian, Mexican, and Peruvian MoH, and their laboratories: National Institutes of Health of Colombia and Peru, and the National Diagnosis Reference Institute of Mexico. In addition, there is networking with CDC, LCDC, and Carlos III FETPs and laboratories.

Specifically, TEPHINET can:

- 1) Provide training to trainers, through the following mechanism:
 - a) Receiving trainees/trainers to participate in investigations, observe how the apprenticeship is carried out,
 - b) Through Train the Trainer regional workshops, and
 - c) Exchange of training materials.
- 2) Assist to develop culturally appropriate teaching materials,
- 3) Assist to organize Regional Scientific Conferences, and
- 4) Assist in the establishment of national programs in Central America, by providing short-term and long-term consultants.

ANNEX 4: Draft Agreement between CDC and PAHO

George Alleyne, M.D. Director Pan American Health Organization 525 23rd Street, NW Washington, D.C. 20037

Re: Collaboration with PAHO

Dear Dr. Alleyne:

In response to the destruction from Hurricanes Georges and Mitch in Central America, funding has become available to the Centers for Disease Control and Prevention (CDC) to assist with reconstruction related to certain public health activities. The Pan American Health Organization (PAHO) and the CDC have a long history of cooperation in this area. We would like to provide, through a cooperative agreement mechanism, a total of \$2 million to support PAHO in joint activities for the reconstruction in selected countries. Enclosed is a proposed budget for these funds.

The CDC will provide technical support to each country to review available information and develop their own priorities for rebuilding and strengthening their health systems. Based on this priority setting process, we will work with the countries to design and implement projects to provide the capacity to meet needs identified by the countries for their information systems and disease prevention and control partners. This is an exciting model, which will strengthen our partners' abilities to make evidence-based decision making in addition to helping them build capacity to design and implement better information systems and intervention programs. By involving our partners in the design of activities, we believe the countries will feel more ownership and that the project will be more sustainable.

Because of PAHO's longstanding relationships with Ministries of Health in the sub-region and the history of successful collaborations between PAHO and CDC, PAHO is the ideal partner to help CDC coordinate and facilitate this large project. We would like to propose the following roles for PAHO:

- Coordination of sub-regional organizational planning including sub-regional analysis and dissemination of health information, sponsorship of sub-regional meetings for definition of inter-country prevention and control strategies.
- Sub-regional networking of laboratory support services.
 This includes coordinating the planning for a regional laboratory network and involves the development of reference centers and providing quality assurance and quality control training and manuals for involved countries.
- Sub-regional goal of disease prevention and control strategies in collaboration with CDC. This includes providing assistance to Ministries of Health for developing programs to prevent and control priority infectious diseases. Examples of activities put forward include urban malaria control, monitoring drug resistance, and the promotion of community based prevention strategies. Community participation and social mobilization for dengue control and/or water and sanitation are also of interest.

The CDC strategy as defined in the overall document for Hurricane Mitch reconstruction involves (1) epidemiology training and (2) prioritizing key gaps in health information systems while selecting disease control programs to target at a National level. Assistance to Ministries of Health in the design and implementation of disease control and prevention programs can best be accomplished through the strengths of both agencies contributing to local efforts. We expect that CDC and PAHO will both collaborate actively with the Training in Epidemiology and Public Health Interventions Network (TEPHINET), which will be another source of experts in epidemiology training.

The CDC proposes to establish the Cooperative Agreement with PAHO for implementation of Post-Hurricane activities in the amount \$1 million per year over the 2-year project for a total of \$2 million (contingent upon full funding of the subject program by USAID). Submission of a PAHO work plan will assist

in coordination of activities and allow CDC to submit the required reports to USAID on the use of funds provided by the United States. PAHO should take the opportunity to review and revise the activity areas listed above based on their own needs and assessments.

Mechanisms

The CDC requests that PAHO submit a work plan describing implementation strategies. The cooperative agreement would be awarded either as a supplement to an existing Agreement or as a new Agreement. Under the terms of the agreement, PAHO/Washington will be asked to submit reports twice yearly. Progress towards achievement of goals and program objectives will be reviewed biannually by a Coordination Committee composed of USAID, CDC and PAHO representatives.

Communications

Communication and reporting on the overall program will be between PAHO/Washington and CDC/Atlanta. In the sub-region, CDC representatives in the field will communicate directly with their counterparts for the sub-region and the individual countries. Representation of the overall project to the Ministry of Health will be the responsibility of in-country CDC staff, and a spirit of collegiality and professionalism is expected from all parties.

We look forward to working closely with PAHO and the impacted countries on this vital reconstruction project which will assist these nations in rebuilding from the destruction of these storms.

Sincerely yours,

Jeffrey P. Koplan, M.D., M.P.H. Director

Enclosure

Enclosure

Budget Revision: Hurricane Mitch Reconstruction

	Year 1		Υe	ear 2			Year	3
Total								
IR1 =	1	,272,000	3	,698,000		0		4,970.000
IR2 =	1	,201,620		443,644		0		1,645,264
IR3 =		508,524		353,940		202,9	940	1,065,404
IR4 =		472,750		257,000		0		
729,750								
Staff =	1,662,9	501	1,694,7	779	1,232	,302	4,589	,582
PAHO =	1,000,0	000	1,000,0	000			2,000	0,000

Total 15,000,.000

All monies in US Dollars.

ANNEX 5 - Control of Diarrheal Diseases through safe water storage

The USAID missions in Nicaragua and Guatemala have expressed a strong interest in including the CDC Safe Water System as part of their response to Hurricane Mitch. FDDB would be very interested in assisting them to initiate a project, which could become the nucleus of a project that could eventually be regionwide. The elements of this proposal are summarized below.

BACKGROUND

For the Hurricane Mitch Relief Initiative, we propose the CDC Safe Water System, which includes water disinfection with locally-produced bleach, safe storage in narrow-mouthed containers, and community education. This intervention has been implemented in several Latin American countries, and in Zambia. It has been shown to improve water quality, reduce the incidence of diarrhea, or both, in every evaluation conducted. In Bolivia and in Zambia, social marketing campaigns have been successful at marketing the intervention, creating employment, and recovering at least some of the costs. Furthermore, in Bolivia, the Safe Water System has been incorporated into PAHO Bolivia's strategy for rapid response to emergencies, and has been deployed in at least 5 emergency situations, including flooding, an earthquake, a landslide, and a large cholera outbreak. In Zambia, the project was utilized in a cholera epidemic. If the Safe Water System is implemented in Central America, we expect similar benefits. In fact, dozens of sodium hypochlorite generating machines have already been deployed in Central America in response to Hurricane Mitch by PAHO, CARE, and other organizations. What is lacking is coordination of these efforts into a unified campaign

PROJECT PARTNERS: USAID missions: funding

PSI: IEC, marketing, production of vessels and solution

CDC: technical assistance, coordination, training, evaluation

FETP. technical assistance, training, evaluation

Procter and Gamble: technical assistance for vessel production

PAHO: technical assistance, coordination Ministries of Health: logistics, communications NGOs: distribution, community education

PURPOSE

To reduce the incidence of diarrheal diseases, including cholera, by improving water handling and hygienic practices.

OBJECTIVES

- 1. Increase availability of appropriate water storage containers through local production
- 2. Incorporate local producers of disinfectant into regional network to facilitate planning
- 3. Develop marketing strategies (including price, promotional materials and activities, and distribution mechanism)
- 4. Develop a network of NGO's and relief agencies to distribute the vessels and disinfectant to populations affected by Hurricane Mitch and other emergency situations
- 5. Implement marketing and distribution system for high-risk areas and / or populations
- 6. Incorporate the use of safe water system as appropriate in MOH/PAHO epidemic preparedness and response plans for diarrheal diseases and cholera

ACTIVITIES

- Hire regional Central American project coordinator (MPH-level FTE based in region);
 training to be provided by FDDB
- Hire Atlanta-based Central American project coordinator (one half FTE to be based in EPO)
- CDC begins the development of a "how to" manual describing how to initiate and maintain this type of project
- Contract with PSI for IEC and social marketing services based in Guatemala City and Managua; PSI hires managers for Guatemala and Nicaragua projects
- PSI and Procter and Gamble identify local plastics manufacturers capable of producing vessel
- Production of molds for vessel, cap, and spigot begins (4-month process)
- CDC, USAID, PAHO, and PSI conduct regional coordinating conference
- Regional coordinator to begin forming network of NGOs and producers of chlorine (i.e., those who are already producing chlorine locally) to coordinate emergency response, distribution of IEC materials and water vessels, and, eventually, into marketing franchises
- PSI to identify chlorine producers for Guatemala City and Managua
- PSI purchases hypochlorite generators and regional coordinator trains operators of equipment
- PSI develops and produces IEC material
- NGOs identify target populations for projects
- Regional coordinator identifies several target populations and CDC and FETP trainees conduct baseline surveys of demographic characteristics, water handling, health status, and water quality
- Local production of water vessels and disinfectant solution begins
- PSI arranges sales of products to NGOs with assistance of regional coordinator and NGOs distribute products to target populations
- CDC and FETP trainees conduct baseline surveys of populations targeted by PSI for social marketing campaign
- PSI initiates marketing activities, including development of brand names, promotional materials, advertising strategies, and distribution networks, in Guatemala City and Managua
- "How-to" project manual is completed, printed, and distributed to all USAID missions,
 PAHO offices, and NGOs in the region

- Follow-up evaluations of emergency response and social marketing projects are conducted by CDC and FETP trainees, focusing on product acceptance and use, and water quality; diarrhea prevention will be studied in a few selected sites
- Regional coordinator continues to network with regional NGOs. PAHO offices, and Ministries of Health to facilitate distribution of products and IEC materials to a wider population; after first year of project, organizes a regional coordinating meeting
- PSI provides regular reports of water vessel and solution sales and distribution by region
- Regional coordinator becomes point person for emergency response, coordinating vessel production with PSI, disinfectant production by local providers, product distribution by NGOs, and health needs assessment by CDC and FETP trainees for rapid response to natural and manmade disasters
- Marketing campaign expanded by PSI as demand and resources dictate

Annex 6 – Results Framework

ANNEX 6 - RESULTS FRAMEWORK

Intermediate Result 1: Disease Surveillance Rehabilitated and Information Used for Public Health **Decisions**

																		· · · · · · · · · · · · · · · · · · ·		
Method of collection		Project reports	Interviews, internal	review, external	evaluation			MOH Annual	surveillance review			External evaluation		Project reports	Project reports			External evaluation		External evaluation
	End Y5		×					×				X						×		×
	End Y2		×					X (phase	l roll-	ont	areas)				×			×		×
at:	End Y1							X (pilot	areas)				;	×						
Collected at:	6 months	×									:		İ							
	Indicator	Assessment tool / Priority	Decision-makers use the	information from HIS to	determine priorities,	allocate resources, prepare	plans	Data through HIS timely,	accurate, predictive value	positive, useful		Data used by international	organizations	Receiving timely reports	Regional institution	receiving reports per	norms	Maps prepared and	disseminated	Control and prevention
	Sub result	HIS in place	countries											Regional	Capacity to	use data	Cillianced			
	Result	Effective	information	system re-	established															

			Collected at:	ıt:			Method of collection	
Result	Sub result	Indicator	6 months	End Y1	End Y2	End Y5		
		Outbreaks detected and			X		External evaluation,	
		responded to in time					project reports	
		Recommendations used			×		External evaluation, project reports	
	Public Health	MOH sets aside funding for feedback bulletins			×		Project reports	
	Communicat	Bulletins produced and distributed	×	×	×	×	Receipt of reports, readership surveys	
	enhanced	FETPs submitting articles			X	×	Project reports	T
		Yearly health profiles produced			×	×	Project reports	
		Communications strategies implemented			×		Project reports	
		Intercountry publication of data		×			Project reports	
		Decision-makers have			×	×	Readership surveys	<u> </u>
		access to appropriate information in timely						
Plan for	Preliminary	EWS team established	×				Project reports	
effective	assessment	Assessment report listing	×				Project reports	
public health Early Warning	completed	potential users, functional needs, description of proposed content and						
System (EWS)		description of EWS operational parameters						·
•	EWS plan	EWS critical components identified		×			Project report, EWS report	
		Assessment document completed		×			Project report, EWS report	
			·					7

			Collected at:	at:			Method of collection	
Result	Sub result	Indicator	6 months End Y1	End Y1	End Y2	End Y5		
		model plan developed and		X			Project report, EWS	
		delivered					report	
•	to guide	Project and program plans		X (pilot	X (phase	X	Review of plans,	
information	prevention	based on accurate,		areas)	l roll		annual MOH reviews,	
is being	and control	scientifically valid			out		External evaluations	-
nsed	programs	information			arcas)			
		Project and program plans			X	X	Annual MOH reviews,	
		being funded by MOH					External evaluations	
	for epidemic	for epidemic Diseases of epidemic		X	X	X	Annual MOH review	
	preparednes	potential reported within					of HIS	
	s and	48 hours or per national						
	response	guidelines						
		Contingency stocks in	X	X	X	X	Project reports, annual	
		place			_		review, external	
							evaluation	_
		response to suspected	X	X	X	X	Project reports, annual	
		epidemics occurs per					review, external	
		national guidelines					evaluation	

Intermediate Result 2 - Increased availability of epidemiologists in the region and training of other levels of health workers by these epidemiologists

fepidemiologists End Y1 End Y2 End Y3 End Y5 coessfully X X X I the FETP 25% 50% 75% 100% I the FETP X 100% 100% 100% I the FETP X 100% 100% 100% I the FETP X X X X X I the FETP X X X X X X I the FETP X <t< th=""><th></th><th></th><th>Collected at:</th><th>at:</th><th></th><th></th><th></th><th>Method of collection</th></t<>			Collected at:	at:				Method of collection
number of epidemiologists having successfully completed the FETP training host MOH establishing funding for program, protocols for cooperation and cost sharing established with other countries continued recruitment beyond life of project counterparts recruited from countries supervisors (L per 8 trainees) selected, trained monitoring systems for supervisors in place number of FETP graduates retained by MOH Number of FETP graduates using epidemiology in their	Result	Indicator	6 months	End Y1	End Y2	End Y3	End Y5	
training having successfully completed the FETP training host MOH establishing funding for program, protocols for cooperation and cost sharing established with other countries countries countries from countries from countries supervisors (L per 8 trainees) selected, trained monitoring systems for supervisors in place number of FETP graduates retained by MOH Number of FETP graduates using epidemiology in their	38 field epidemiologists	number of epidemiologists				X	×	Project reports
training host MOH establishing host MOH establishing funding for program, protocols for cooperation and cost sharing established with other countries countries countries countries supervisors (L per 8 trainees) selected, trained monitoring systems for supervisors in place number of FETP graduates retained by MOH Number of FETP graduates using epidemiology in their	available for assignment	having successfully						
funding for program, protocols for cooperation and cost sharing established with other countries x X X trainees) selected, trained monitoring systems for x X X trainees) selected, trained monitoring systems for supervisors in place number of FETP graduates retained by MOH Number of FETP graduates using epidemiology in their	Health	training						
funding for program, protocols for cooperation and cost sharing established with other countries countries counterparts recruitment beyond life of project counterparts recruited from countries supervisors (1 per 8 trainees) selected, trained monitoring systems for supervisors in place number of FETP graduates retained by MOH Number of FETP graduates using epidemiology in their	Establish sustainable	host MOH establishing		25%	20%	75%	%001	Project reports; final
protocols for cooperation X and cost sharing established with other countries continued recruitment beyond life of project counterparts recruited X from countries supervisors (L per 8 X X X trainees) selected, trained monitoring systems for supervisors in place number of FETP graduates retained by MOH Number of FETP graduates using epidemiology in their	capacity to conduct field	funding for program,						evaluation
	epidemiology training	protocols for cooperation	X					Project reports
		and cost sharing						
		established with other						
		countries						
		continued recruitment					X	Final evaluation
		beyond life of project						
X X X X		counterparts recruited	X					Project reports
x x x x x		from countries						
×××		supervisors (1 per 8	×	×				Project reports
ms for X ace A by A by A their		trainees) selected, trained						
d by their		monitoring systems for		×				Project reports
d by X		supervisors in place				Į.		
X		number of FETP					×	Final evaluation
×		graduates retained by	.,					
×		МОН						
graduates using epidemiology in their		Number of FETP					X	Final evaluation
epidemiology in their		graduates using						
and think the		epidemiology in their						
Dosimonis		positions			l			

Establish ongoing training in core public health skills by FETP staff, graduates and trainees for key health personnel	FETP staff, graduates and trainees providing training for MOH staff Short courses given Municipal	×	××	×	Project reports Project reports Project reports Project reports; Final
:	epidemiological capacity strengthened	 			evaluation

Intermediate Result 3 - Infectious Disease and Environmental Health Laboratory Rehabilitation

	Sub-result	Indicator						1
Result			6 months	End Y1	End Y2	End Y5	Method of collection	T
Public health laboratory network within and between six countries established		Country specific plans of action developed	×	×			Assessment reports	·
		Communication pathways developed between central and peripheral labs		×	×	×	Coordinated meetings between central and peripheral laboratories	
		Network that provides coverage for disease epidemics (sharing of data, resources, etc)		X	×	×	Coordinated meetings between key central laboratorians of each country	
	Country laboratory "Centers of Excellence"	Each center will have expertise in specific disease management			×	×	Provide consultation to labs to selected to serve as "COE"	
							Establish mechanisms to allow for "exchanges"	
PH Laboratory infrastructure enhancements	Laboratory facilities meet	Rehabilitation of infrastructure to house			×		Identify & document facility needs	
	requirements	minimal requirements					Assist in appropriate repairs and upgrades	1

Result Sub-result PHL infrastructure enhanced enhanced Laboratory equipment enhanced Consistent availability supplies and reagents			Collected at:	at:			
	<u> </u>	Indicator	6 months	End Y1	End Y2	End Y5	Method of collection
Consistent availabil supplies and reagen		Installation and appropriate use of equipment			×	×	Develop short and long term plan for equipment replacement
Consistent availabile supplies and reagen	ш .::	Effective and efficient laboratory tests			×	×	Purchase and install equipment
	Jo k	Adequate mechanisms for procurement and storage of materials			×	×	Ensure adequate training on use of equipment
	1 9 0	Dialogue with MOH to encourage long term commitment			×	×	Identify sources capable of mobilizing supplies
Laboratory procedures and operations developed and adopted		Current SOPs in place Documented lab safety QA/QC measures Core functions document for PH laboratories Standard methods adopted		×	×	×	Adopt manuals related to safety, shipping, QA/QC, etc.
Results Sub result		Indicators	6 months	End Y1	End Y2	End V5	Method of collection

		Collected at:	at:			
Develop Emergency Preparedness plan to address surge capacity	Established mechanisms to handle complex emergency situations		×	×	×	Disease specific plan action to establish procedures for handle surges
	Establish relationships with other national laboratories			×	×	Collaborate with regional laboratories for future emergency situations
Dengue training	Establish satellite laboratories in three cities			×	×	Laboratorians trained at CDC Puerto Rico
	Regular production of critical reagents for dengue diagnosis				×	Participation of trainees in Region Dengue proficiency
	Ensure continuous, high- quality diagnostic capability		X	×		Establish mechanism for production of reagen

Intermediate Result 4 - Capacity of Ministry of Health to design and implement Prevention programs institutionalized

		Collected at:	t:			
Result	Indicator	6 months	End Y1	End Y2	End Y5	Method of collection
Capacity to determine health	MOH identifies 1-3 health	×				Workshop report
priorities established	problems to be addressed					
	assistance					
Capacity to analyze health	1-3 health problem		×	×		Project reports
problems established	characterization per					
	country presented to					
;	Working Groups					
Capacity to develop	Project and program plans			×	×	Review of plans; final evaluation
effective, cost-effective,	at all levels of the health					
appropriate plans developed	care system are based on					
	accurate, scientifically					
	valid information;					
	project and program plans			×	×	Project reports; final evaluation
	being funded by MOH		į			
Prevention and Control	Funded Projects			X	×	Project reports; final evaluation
Program implemented	Selection of program		X			Project reports; final evaluation
	Monitoring system in		×			Project reports; final evaluation
	place					
Sound, appropriate	Evidence-based public			×	×	Presentation to decision-makers;
strategies and interventions	health reviews conducted					project reports; final evaluation
chosen	to determine the most					
	effective and cost-					
	effective interventions for					
	priority health problems					

		Collected at:				
Capacity to develop	Community-based			X	×	Project reports, final evaluation
strategies for community	programs planned,		_			
participation established	implemented and					
	evaluated					
	Strategies supported by			×	X	Project reports, final evaluation
	community					
Forum for intra and inter-	multi-sectorial working	^	,	×	×_	Copies of nominations and
sectorial cooperation	groups formed around		=			appointments; project reports
established	health problems,					
	working groups include	<u> </u>	X	×	×	Copies of nominations and
	members outside of the					appointments; project reports
	МОН					

Annex 7 - Illustrative Budget

The following budget is illustrative and will be modified once country workplans have been developed. It is expected that the totals will change between line items, IR's and countries as real needs are identified and plans developed. An interim budget for the initial phases of the project ("initial visits" and assessments) is included. CDC anticipates that workplans and detailed budgets will be developed within 120 days of the receipt of the InterAgency Agreement.