

**FINAL EVALUATION OF THE CENTERS
FOR DISEASE CONTROL AND
PREVENTION, DIVISION OF
REPRODUCTIVE HEALTH
(936-3038)**

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by

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ABBREVIATIONS

AIDS	acquired immunodeficiency syndrome
AIDSCAP	AIDS Control and Prevention Project
APROFE	<i>Asociacion Pro-Bienestar de la Familia Ecuatoriana</i>
ASPH	Association of Schools of Public Health
ATPM	Association of Teachers of Preventive Medicine
AVSC	Association for Voluntary Surgical Contraception
BEDRB	Behavioral Epidemiology and Demographic Research Branch (CDC)
CA	Cooperating Agency
CCMIS	Contraceptive Commodity Management Information System
CDC	Centers for Disease Control and Prevention
CEDPA	Centre for Development and Population Activities
CEMOPLAF	<i>Centro Medico de Planificacion Familiar</i>
CEPAR	<i>Centro de Estudios de Poblacion y Paternidad Responsable</i> (Ecuador)
CLM	Contraceptive Logistics Management (USAID)
CMU	Clinic Management Unit (CDC)
CPS	Contraceptive Prevalence Survey
CPSD	Contraceptive Procurement and Services Division (USAID)
CPT	Contraceptive Procurement Table
CT	contraceptive technology
CTS	Contraceptive Tracking System
CTO	Cognizant Technical Officer
DASH	Division of Adolescent and School Health (CDC)
DHHS	Department of Health and Human Services (USA)
DHS	Demographic and Health Surveys Project
DRH	Division of Reproductive Health (CDC)
EIS	Epidemiologic Intelligence Service
EVALUATION	Evaluating Family Planning Program Impact Project
FP	family planning
FPLM	Family Planning Logistics Management
FPMD	Family Planning Management Development Project
FSN	Foreign Service National
FTE	full-time equivalent
HIV	human immunodeficiency virus
HPN	Health, Population, and Nutrition
IHPO	International Health Programs Office (CDC)
IMPS	computer package (U.S. Bureau of the Census)
IPPF	International Planned Parenthood Federation
ISSA	computer package (DHS)
IUD	intrauterine device
JHPIEGO	Johns Hopkins Program for International Education in Reproductive

Health

JSI	John Snow, Inc.
MCH	maternal and child health
MIS	management information system
NFPB	National Family Planning Board (Jamaica)
NGO	nongovernmental organization
OB/GYN	obstetrics/gynecology
OPTIONS	Options for Population Policy Project
PAHO	Pan American Health Organization
PASA	Participating Agency Service Agreement
PATH	Program for Appropriate Technology in Health
PC	personal computer
PFA	Patient Flow Analysis
PHN	Center for Population, Health, and Nutrition (USAID)
PSDB	Program Services and Development Branch (CDC)
PSES	Program Services and Evaluation Section (CDC)
R&D/POP	Research and Development, Office of Population (USAID)
RH	reproductive health
RHE	reproductive health epidemiology
RHPES	Reproductive Health Program Evaluation Survey
RHS	reproductive health survey
SAS	computer package (commercial)
SPSS	computer package (commercial)
STATIN	Statistical Institute (Jamaica)
STD	sexually transmitted disease
SURVEY	computer package (CDC)
TA	technical assistance
TCDC	Technical Cooperation among Developing Countries
TED	Technical and Evaluation Division (CDC)
UNFPA	United Nations Population Fund
UNICEF	United Nations International Children Emergency Fund
USAID	United States Agency for International Development
WFS	World Fertility Survey
WHO	World Health Organization
WHR	Western Hemisphere Region
YARHS	young adult reproductive health survey

EXECUTIVE SUMMARY

This report is an evaluation of the current Participating Agency Service Agreement (PASA) between USAID's Office of Population, Center for Population, Health and Nutrition (PHN/POP) and the Division of Reproductive Health of the Centers for Disease Control and Prevention (CDC/DRH). (In this report, the two agencies are generally be referred to as simply USAID and CDC, respectively.) The PASA provides for technical assistance in the following areas: family planning logistics management, surveys, reproductive health epidemiology, and clinic management. It began in August 1991, following a series of Resources Support Services Agreements that began in 1974. It was scheduled to end in August 1996, but is being extended to September 1997. At commencement, PHN/POP estimated that the level of funding for the five-year PASA would be US\$14,709,865. This evaluation occurs in a context of diminishing resources, the decentralization of decision-making about allocation of resources, and USAID's integration of services under the Center for Population, Health and Nutrition. In addition to evaluating the accomplishments of the PASA, this report provides a number of recommendations for an expected renewal within this context.

Logistics

CDC has provided technical assistance in logistics management to more than 40 countries. The level of assistance has ranged from eleven months of technical assistance in Turkey to a few days in several countries. There have been 159 person trips devoted to logistics, accounting for 43 percent of all person trips under the PASA. Eighty-four person months have been invested in logistics technical assistance, accounting for 55 percent of all PASA-funded international travel. CDC logistics advisors have prepared 109 contraceptive procurement tables for Ministries of Health, Social Security Institutes, nongovernmental organizations, Cooperating Agencies (CAs), the International Planned Parenthood Federation (IPPF), United Nations Population Fund (UNFPA), social marketing groups, World Health Organization (WHO), and HIV/AIDS-prevention programs.

The PASA emphasizes institutionalization, capacity building, skills transfer, and linkage between survey and logistical data sets in order to better assure that the best information is provided to decision-makers. Logistics advisors have assessed programs, identified problems, and applied skills to resolve any problems. As a result, some countries graduate from reliance on technical assistance. However, advisors do not receive credit for graduating a country. Graduation events should not only receive credit, they should become the object of planned technical assistance interventions.

There is a new constellation of staffing skills among logistics advisors at CDC. These skills should serve a wider community in addition to the Family Planning Logistics Management Project at John Snow, Inc., including UNFPA, IPPF, WHO, the AIDS Control and Prevention Project (AIDSCAP), and relevant Cooperating Agencies. These skills can be shared through

collaboration. In the past, this collaboration took the form of many joint efforts, such as planning retreats, trips, multiagency technical committees, document production, and software development. The collaboration was effective and should be restored and strengthened.

Vertical distribution systems have provided a direct means of transporting contraceptives. In a context of diminished resources, contraceptive distribution systems are likely to be integrated into larger distribution systems. CDC should demonstrate two models, one in which contraceptives are distributed by central medical stores, and the other in which reproductive health commodities are incrementally added to an existing distribution system for contraceptives.

Diminished resources require greater leveraging of funds. For example, UNFPA country directors, collaborating with USAID Missions, can obtain USAID quality technical assistance at the same cost they would pay for UNFPA country support technical assistance. South-to-South or technical coordination between developing country arrangements provide a similar opportunity.

The PASA calls for linking information gathered from surveys with logistics management. This has not happened as much as it should. Survey and commodity-based couple years of protection data complement each other. On the one hand, survey information is financially constrained from disaggregating too far below the national level. Survey events can only occur every few years. On the other hand, commodity data is most reliable at the single facility at a single point in time and loses reliability during aggregation. If the two types of data are linked, program managers would know which commodity-based data can be used at disaggregated levels at surrogate measures of coverage and method mix. The technical challenges may be considerable in an effort to link two data systems that serve different purposes, but the benefits could be substantial.

Principal Recommendations Relating to Logistics

- *Focus on graduating programs.* Graduation should become a major focus of the CDC country-specific planning process. Technical assistance should be targeted toward meeting a predefined set of benchmarks that lead to graduating a program from reliance on technical assistance. CDC should demonstrate and document innovative approaches to graduating programs from technical assistance.
- *Reactivate collaboration efforts.* Collaboration is the means through which new skills at CDC can be best shared with the larger community of USAID funded logistics management advisors. Earlier examples of collaboration should be reactivated.
- *Integration of distribution systems.* It is probably inevitable that there will be a need for integration of distribution systems, at least within the public sector. Vertical contraceptive distribution systems eventually will be incorporated into larger distribution systems. CDC should demonstrate and document innovations in integration.

- *Leveraging* of resources can be achieved through the sharing of costs with UNFPA and through TCDC arrangements. Currently, UNFPA country offices pay travel and per diem for technical assistance from regional support office. USAID should discuss global leveraging with UNFPA. CDC should demonstrate and document innovative TCDC approaches to technical assistance.
- *Establish linkage between survey data and logistics-derived Couple Years of Protection data.* The PASA calls for the provision of reliable information to program managers and specifies both survey and logistical activities as the source of this information. CDC combines both survey and logistics technical assistance, and therefore has the capability to explore the feasibility of linking these two data systems.

Surveys

During the period of the PASA, CDC provided major technical assistance for 15 surveys with a median size of about 5,000 respondents. The countries receiving this assistance are in the Caribbean, Central America, South America, and Eastern Europe. Most of the surveys have been Reproductive Health Surveys, with content going substantially beyond the measurement of contraceptive prevalence. They typically include detailed information on fertility, fertility intentions, contraceptive experience, child health, and maternal health. Several surveys have included samples of males and/or have emphasized the reproductive health of young adults. CDC assists in virtually all the phases of the survey operations and does as much work in-country as possible, although some phases of questionnaire design, sample design, and report writing are often done in Atlanta, Georgia, in the U.S. The quality of these surveys is very high. There is strong evidence of collaboration with in-country counterparts and technology transfer.

CDC's technical assistance for surveys has generally been initiated by local USAID Missions and has typically occurred in a Medium Priority Country with at least a moderately well-developed capacity for survey work. Even though the Demographic and Health Surveys Project conducted more than three times as many surveys as CDC during the same period of time (and has far more than three times as large a survey staff), CDC fills an important niche that complements the more standardized and centralized nature of most DHS surveys. CDC staff are praised for "facilitating rather than directing" the surveys they support.

A hallmark of CDC surveys is flexibility in questionnaire and study design, but the surveys have gradually become more consistent and they are more comparable with DHS surveys. CDC is well positioned to improve the comparability with DHS surveys and make the data more generally available to other researchers and simultaneously develop more innovative designs for special purposes.

Because the PASA includes technical assistance for both logistics and surveys, and no other Cooperating Agency has as great a potential as CDC to identify useful connections between the

two activities, it is especially important for CDC to pursue possible linkages in the future. CDC also has a unique potential to develop and apply the indicators that have been systematized by The EVALUATION Project.

Principal Recommendations Relating to Surveys

- *Modularize reproductive health surveys.* Early in the next PASA, CDC should undertake a comparison of the questionnaires it has used in reproductive health surveys and related surveys in recent years in order to identify a core and a set of modules. In addition, CDC—preferably in collaboration with DHS—should undertake a comparison with the current DHS core and modules and consider reconciling differences.
- *Distribute and archive reproductive health surveys.* CDC should move in the direction of obtaining distribution rights for data sets and preparing re-coded data files with SPSS or SAS dictionaries. USAID should provide funding for this activity, although there should be a cost recovery component to the data distribution. Alternatively, this activity could be included in a separate USAID-funded data archiving and distribution project.
- *Propose innovative study designs.* Early in the next PASA, CDC should prepare and distribute a document describing innovative subpopulations, topics, and methodologies for specialized studies for which it would be prepared to provide technical assistance. The starting point for such specialized surveys would be identifiable policy and programmatic needs that are not being met, or not being met efficiently, with data sources such as the standard reproductive health survey.
- *Link surveys and logistics.* CDC should identify one or two countries in which it will continue both survey and logistics activities and attempt to clarify the link between prevalence and service delivery in those countries using existing and/or new data sources.
- *Link with The EVALUATION Project.* Early in the next PASA, CDC should go through the *Handbook of Indicators for Family Planning Program Evaluation* and identify which indicators could be appropriately measured with a CDC survey. Those indicators should be systematically linked to the core questionnaire and modules that are suggested in Recommendation 15.

Reproductive Health Epidemiology and Clinic Management

Training in reproductive health epidemiology (RHE) has been a unique and valuable activity by CDC. No other agency provides this training. The PASA designated a 10 percent level of effort for RHE training, but the actual level has been about 5 percent. Changes in staff reduced the

focus on this activity, although CDC still responds to requests. CDC plans to designate a person to give more effort to future RHE training.

CDC held five RHE training courses (two weeks each for about 20 trainees) in four countries: Bangladesh, Czech Republic, Mexico (two courses), and India. Some trainees have become major contributors in international reproductive health, and others developed high-quality research proposals that lead to sound published studies.

Reproductive health epidemiology training will also benefit staff from USAID and other agencies. Several staff members from USAID's Office of Population and the Office of Health welcomed this idea. CDC can adjust course duration and content to fit the needs of USAID staff.

There are several areas of expertise within CDC that overlap with the priorities of USAID's Center for Population, Health and Nutrition. The health of young adults is one such area, and CDC can serve as a link in this area of expertise. Conversely, CDC can apply the "Lessons Without Borders" idea from international youth activities to the U.S. context. The evaluation team believes that USAID and CDC can support and complement each other in ways that should be publicly acknowledged.

Special epidemiologic assistance and field investigations have been valuable to the Office of Population. However, better use could be made of the medical epidemiologists within the DRH—and CDC more generally—who can respond to USAID's needs.

Clinic management and patient flow analysis (PFA) activities were diminished during the PASA as the DRH shifted to domestic HIV work. International service programs continue to use Patient Flow Analysis to assess costs of services and to improve client satisfaction. USAID's efforts to assess the cost effectiveness of new reproductive health services may be well served by these tools.

Principal Recommendations Relating to Reproductive Health Epidemiology and Clinic Management

- *Increase emphasis on RHE training.* USAID should increase the emphasis on RHE training by 1) increasing resource allocation within the PASA and at the DRH, 2) involving more DRH staff in planning courses and providing training, 3) offering RHE training to USAID, CAs, and other international agencies, in addition to health professionals in developing countries. The DRH and USAID should develop a joint plan for courses at USAID, other agencies, and international settings.
- *New RHE position.* USAID should use the PASA to support a new reproductive health medical epidemiologist position in the DRH. Appropriate mechanisms for this assignment

may be a CDC direct hire, through the CDC Foundation, or a fellowship program at CDC. The person could be located at CDC or at PHN.

- *Identify RHE topics of interest to both USAID and CDC.* The future PASA can support USAID's young adults initiative by using the DRH and the new reproductive health epidemiologist position to identify and exploit areas of mutual interest between USAID and CDC. Such activities at CDC might include school health, adolescent pregnancy prevention, youth development strategies, cost analysis of health services, and HIV/STD prevention.
- *Identify lessons learned for domestic public health problems.* USAID and CDC should jointly document and publicize the lessons learned from international experience that have useful applications for U.S. public health problems. Lessons from young adults initiatives may be good examples.
- *Increase applications of Patient Flow Analysis and clinic management.* USAID and the DRH should give new emphasis to PFA in selected areas. The upcoming CDC workshop for PFA users will help to identify recipients who will most benefit. Priority can be given to programs that emphasize cost recovery, integration of RH and FP services, and reduction of client waiting time.

Other Issues

Both CDC and USAID believe the PASA is managed satisfactorily, and there is no strong desire to change the location of management within either agency. However, administrative functions and location in the DRH may be reviewed after a new director of the DRH is appointed.

The Cognizant Technical Officer who is located in Contraceptive Logistics Management Division (CLM) at USAID does not always receive adequate input from other USAID staff regarding reproductive health needs that could be served by the DRH. PASA management at USAID will benefit from additional input from the Office of Health and the Office of Population for cross-cutting issues such as young adults, safe pregnancy, and new reproductive health interventions. CLM staff welcome additional advisory input to make better use of DRH expertise.

Several branches within the DRH contribute staff time to PASA activities, and good relations among staff permit coordination of functional tasks. However, PASA management creates administrative burdens for the DRH. The DRH also has some administrative limitations, such as the lengthy advance notice required for travel authorizations. Responses to CLM or USAID Mission requests are sometimes constrained by this long lead time.

Other Principal Recommendations

- *Set up task force within PHN to advise the CTO.* USAID should consider naming persons from the Office of Population and the Office of Health who will assist the CTO in identifying needs of PHN that can be addressed through this PASA. This task force could provide assistance with the design of the follow-on agreement and the prioritization of the recommendations in this report.
- *Improve management processes at CDC.* USAID should assure that alternative management processes are developed to reduce PASA administrative constraints under the follow-on PASA. Delays in travel authorization should also be addressed at CDC. Other divisions which do not suffer from these delays may suggest mechanisms to expedite travel procedures.

1. INTRODUCTION

1.1 Purpose and Organization of Report

This report is an evaluation of the current Participating Agency Service Agreement (PASA) between the United States Agency for International Development's Office of Population (PHN/POP) and the Division of Reproductive Health of the Centers for Disease Control and Prevention, CDC/DRH. (The two entities will generally be referred to as USAID and CDC, respectively, in this report.) The PASA began in August 1991, following a series of Resources Support Services Agreements that began in 1974, and is scheduled to end in August 1996. At commencement, PHN/POP estimated that the level of funding for the five-year PASA would be US\$14,709,865. In addition to evaluating the accomplishments of the PASA, this report provides a number of recommendations for an expected renewal.

The evaluation was guided by a Scope of Work prepared by the Cognizant Technical Officer for the PASA. The report speaks to all the points raised in the Scope of Work but is organized somewhat differently. The PASA specifies activities in four areas, in order of emphasis: contraceptive logistics, surveys, reproductive health epidemiology, and improvement of clinic services. Activities in the fourth area have been minimal and will be consolidated with reproductive health epidemiology. Each area will be discussed with respect to overall performance, relationship to other Cooperating Agencies (CAs), and recommendations for future activities. The report also discusses the comparative advantage or special niche that CDC occupies and organization and management issues that relate to the interface between USAID's new Center for Population, Health and Nutrition, on the one hand, and CDC's Division of Reproductive Health, on the other.

1.2 Methodology

The evaluation was conducted under the auspices of the Population Technical Assistance Project. The three-person team developed its findings and recommendations during the period from February 26 through March 22, 1996. This four-week period included 12 days in the United States (approximately eight days in Washington, D.C., four days in Atlanta, Georgia), six days in Ecuador, and four days in Jamaica. During the time in Washington, team members met with PHN staff, primarily in the Office of Population, and staff of other CAs based in Washington, primarily John Snow, Inc. (JSI), Macro International, and the Centre for Development and Population Activities (CEDPA). In Atlanta the evaluation team met with CDC staff, individually and in various groups, and reviewed documentation.

Two country visits were arranged by the Contraceptive Logistics Management Division (CLM) at USAID. Ecuador and Jamaica were selected partly because of their relative accessibility and also because the two countries had carried out activities in several of the four main areas. In

particular, each had a recent survey, for which all the principal reports had been published, and each was able to demonstrate results arising from logistics technical assistance. In Ecuador and Jamaica the team met with the staff of the USAID Mission and local organizations that had worked most closely with CDC. Appendix B includes a listing of the persons who were interviewed in these various locations.

CLM sent a list of eight questions by e-mail to five Missions in addition to the two visited by the evaluation team. The team and Program Services and Evaluation Section (PSES) independently contacted an additional eight Missions. A copy of the e-mail is given in Appendix D. Responses included comments on CDC technical assistance in the Philippines, Egypt, Mexico, Guatemala, Jordan, the Ukraine, and Moldova. Discussions were also held with a representative from USAID/Turkey.

The team members reviewed several reports and documents. A list of those documents is provided in Appendix C. Several tables describing activities under the PASA, mostly prepared by project staff at CDC, are included in Appendix E.

2. LOGISTICS

2.1 Summary of Objectives in the PASA

The PASA includes logistics as the first of four objectives: "To help local program staff build capacities in developing, monitoring, and evaluating contraceptive logistics systems; training new staff; and forecasting contraceptive requirements." The PASA emphasizes the provision of *more reliable and up-to-date information to key program decision-makers* as the over-arching goal of all four technical areas. It also calls for the *training of key managers and policy-makers regarding the interrelationship* between the information from the four program areas. Specific technical assistance in logistics management emphasizes institutionalization of the following tasks:

- determining contraceptive requirements;
- developing and evaluating logistics systems, including the Contraceptive Commodity Management Information System (CCMIS), for distribution of family planning supplies;
- identifying and proposing solutions for administrative and/or management problems;
- developing manual or microcomputer-based inventory monitoring systems;
- developing, implementing, and/or evaluating family planning service statistics systems; and
- identifying potential sources of contraceptive supplies.

2.2 Accomplishments

2.2.1 Activities

During the first four and half years of the PASA¹, CDC has provided technical assistance in logistics management in 44 countries ranging from eleven months of technical assistance in Turkey to a few days in several countries. Each country received an average of two months of logistics technical assistance (TA). There have been 159 person trips devoted to logistics, accounting for 43 percent of all person trips under the PASA. Eighty-four person months have been invested in logistics TA, accounting for 55 percent of all PASA-funded international travel.

To date, under this PASA CDC logistics advisors have forecasted contraceptive needs through the preparation of 114 contraceptive procurement tables (CPTs)². The CPTs have been prepared for many entities including Ministries of Health, Social Security Institutes, nongovernmental organizations, Cooperating Agencies, the International Planned Parenthood Federation (IPPF), United Nations Population Fund (UNFPA), social marketing groups, World Health Organization (WHO), and HIV/AIDS-prevention programs. All told, USAID has supported the preparation of

¹ The supplied data was reliable only through the last semi-annual report, September 1995.

² See Appendix E, table 2: CPTs Prepared by Reproductive Health International Program Assistance/CDC.

about 600 CPTs since early 1991³. The 44 countries receiving technical assistance in logistics and the number of months of logistics technical assistance received by each country are listed in Appendix E, table 8. Technical assistance has also included assessments and evaluations of contraceptive logistics management, including warehousing, distribution, and information systems. Assessments and evaluations have been followed by visits to provide design assistance and training activities.

Another component of logistics support within the PASA is a CDC advisor positioned within CLM. The Scope of Work for this advisor emphasizes participation in logistics management within CLM and logistics consultations in several countries. The initial focus of this position included attention to the differentiation of condoms used for disease prevention and condoms used for contraception. The Office of Health monies were originally used to reimburse Office of Population funding for this position, but these reimbursements were discontinued. Eventually, the emphasis on HIV/AIDS, as differentiated from family planning, has diminished. Currently, the advisor participates in the ongoing work of CLM. He reports to CDC, and his activities and travel require CDC approval and go through CDC channels, but the CDC association has little influence on the scope of his activities beyond serving at times as a liaison between the PASA staff and the CLM.

2.2.2 *Innovations*

Historically, CDC has demonstrated leadership in contraceptive logistics in proposing early CPT formats and CCMIS software. During this PASA, CDC has taken the lead in simplifying CCMIS into the Contraceptive Tracking System (CTS). CTS includes all of the important elements of CCMIS but is reprogrammed in a programming language called Clipper. This change facilitates installation and local adaptation. Programmers who know the dBase software are more likely to be available in host countries. A further and more recent modification of CTS in Ecuador allows the system to be used for daily tracking. CDC is providing leadership in many Eastern Europe and NIS countries.

UNFPA Collaboration. In Ecuador CDC has demonstrated how collaboration between donors can leverage PASA funds to achieve more. The UNFPA country office in Ecuador sometimes pays per diem and for travel for the CDC logistics advisor. These costs are the same as what the UNFPA country office would pay to bring technical assistance from their regional support office in Santiago, Chile. This arrangement benefits all parties and takes advantage of USAID's leadership and expertise in the provision of technical assistance in contraceptive logistics management. The CDC advisor is able to use the trip to pursue programmatic objectives held jointly or independently by USAID and UNFPA. The host country organizations receive the highest quality technical assistance regardless of whether they are in the public or private sector. USAID and UNFPA each receive service at a lower cost.

³ per NEWCPT printout (NEWCPT is a software package for estimating contraceptive requirements).

RECOMMENDATION:

1. Logistics advisors should create opportunities to leverage USAID investments through multi-donor funding. CLM and UNFPA should discuss how to globally replicate this method of cost sharing.

Evaluating Contraceptive Logistics Interventions. In a context where logistics management competes for limited and decentralized resources, it is all the more important to demonstrate the outcomes and impact of this technical assistance. Evaluation of logistics technical assistance is currently anecdotal and unsystematic. Once a contraceptive distribution system works, people soon forget the programmatic constraints and the extra expense that previously arose from stockouts, hoarding, and contraceptive bonfires. Contraceptive logistics audits can be used by CLM to prioritize interventions and advise USAID and host country programs of the magnitude of their logistical problem and their status compared to other USAID assisted programs. Such results can serve as a baseline against which accomplishments can be measured.

RECOMMENDATION:

2. Contraceptive logistics audits should be used to establish baselines and provide a standard for logistics management comparisons between programs and countries.

Integration. USAID-donated contraceptives are often distributed vertically within countries. The contraceptive distribution system typically does not include other commodities. Vertical distribution may be the best way to assure client access to contraceptives in a new program. Vertical distribution may also be optimal in a country where logistics is a programmatic constraint. In the longer term, though, very few countries are likely to find it cost effective to maintain separate vehicles, separate warehousing, and separate information systems for contraceptives, an Expanded Program on Immunization, an Essential Drug Program, and for each health sector program. Integration is likely to occur, especially, as access to and reliance upon donor funding diminishes.

The manner in which these delivery systems are integrated should vary from country to country. In some countries, contraceptives can be included in the normal distribution of medical consumables. More often, the contraceptive distribution system is the more reliable of the two systems. In such cases, other commodities related to reproductive health can be added incrementally to the contraceptive distribution system. This process will require a recognition of exactly how fragile these systems may be.

RECOMMENDATION:

3. Diminished access to donor funding will result in the integration of health sector distribution systems. Many vertical contraceptive distribution systems will be incorporated into larger distribution systems. In some countries, additional health sector

commodities will be added to what are now contraceptive distribution systems. CDC should demonstrate and document innovations in integration.

Linkage between Survey Data and Commodity-based Data. CDC is the only organization that provides countries with both survey technical assistance and commodity-based Logistics Management Information Systems. The two should complement each other. Surveys provide information that supports nationwide and program-wide decision making at multiyear intervals. The capacity to disaggregate information across time and administrative units is constrained by cost. Commodity-based data produce surrogate indicators of coverage, method mix, and source, but such data arise at the most disaggregated levels, that is single facilities with time frames as short as a month or trimester. Indicators based on couple years of protection are best used to improve facility performance and supervision. Constraints in the use of commodity data for purposes other than supply management occur as repeated aggregation moves the data further from its source, including too much time or too many facilities. The two types of data should be linked. Commodity-based data should be aggregated up the system and across time to meet survey data at the place below which survey data can no longer sustain disaggregation.

RECOMMENDATION:

4. CDC and USAID should jointly select countries or programs in which to demonstrate the relationship between survey data and commodity-based surrogate indicators, develop and test an integrated monitoring system, and present this package to USAID Missions.

2.2.3 *Transfer of Capability to Local Organizations*

The PASA requires CDC to *institutionalize effective programs* in logistics management. The host country program should be able to correctly forecast its own contraceptive requirements, properly manage warehousing, and assure the timely distribution of the correct quantities of contraceptives.

Attribution of authorship of CPTs provides one indirect indicator of institutionalization of forecasting procedures. A review of authorship of more than 600 CPTs in NEWCPT for years since the beginning of 1991 suggests that from 1991 to 1993, CPTs were authored by logistics advisors from CDC or John Snow, Inc./Family Planning Logistics Management (JSI/FPLM), often working jointly. (NEWCPT is a software package for estimating contraceptive requirements.) Progressively, the names of USAID Foreign Service Nationals and other host country staff began to show up as secondary authors. More recently, the in-country individuals appear as prime authors with logistics advisors listed as second authors. Nevertheless, this apparent trend continues to account for only a small portion of all CPTs.

A review of trip reports, comments from USAID, and other anecdotal information suggests that institutionalization of appropriate warehousing and distribution systems has been frequently

achieved, particularly in those countries that have received repeated technical assistance visits. The public sector in Botswana and Jamaica, and the large nongovernmental organization (NGO) programs in Ecuador and Guatemala are examples. In each case, service providers consistently report an inability to remember the last stockout; but a review of earlier trip reports or discussions with informants who have longer institutional memories suggest that before the provision of technical assistance, these distribution systems were seriously flawed.

Nevertheless, a fuller transfer of skills, particularly in forecasting, remains elusive. Discussions with PSES logistics advisors produced a list of reasons why this is true:

- *Motivation.* So long as no-cost technical assistance is available from CLM, PHN officers choose to rely on expert technical assistance rather than in-country staff. USAID Missions, conscious of their responsibilities for commodities, seek to maximize accountability and minimize stockouts. They may feel that these objectives can best be met through technical assistance.
- *CLM reservations.* Logistics advisors believe that in some cases CLM requires documented participation by an advisor to certify reliable forecasting. Not unlike the Missions, CLM's concern for accountability and appropriate stock levels results in reliance on the continued participation of logistics advisors.
- *Technical advances.* CPTs have evolved from simple spreadsheets to software packages that perform multiple functions. Although these additional functions serve to rationalize the forecasting, ordering, and shipping processes, the expanded software packages can intimidate host-country staff.
- *Lack of host country organizational capacities.* Host country programs and NGOs often lack the appropriate staff to undertake forecasting. Staff turnover makes skill transfer a repeated challenge. Although advisors may negotiate for greater attention to logistics, host country resource allocation is beyond the control of logistics advisors.

The ability to produce a reliable CPT for use by USAID in forecasting procurement needs is not synonymous with the capacity to generically forecast commodity requirements. This distinction is important, because it is the generic forecasting capacity that is the primary goal for institutionalization. The ability to prepare reliable CPTs is likely to always require some level of support from USAID-funded logistics advisors.

RECOMMENDATION:

5. CLM should clarify the role of logistics advisors in preparing CPTs and transferring forecasting skills. Some criteria should be established to assess the transfer of forecasting skills.

A number of countries or programs have graduated from reliance upon USAID funded contraceptive logistics management technical assistance. In the past the countries and programs have graduated quietly without much attribution of success to logistics organizations and/or relevant logistics advisors. In the future, such graduations should become a major focus of the technical assistance. Perhaps the largest problem with institutionalization of logistics is that it remains a noble concept rather than a clearly defined goal. Without definition, it is impossible to know when it has been achieved. The definition of graduation may be country-specific. The country work plan should not only specify the criteria for graduation, it should list the specific technical assistance required to achieve graduation.

RECOMMENDATION:

6. The indicators developed jointly with The EVALUATION Project should be used to assess logistics management performance and sustainability. Country work plans should be directed toward meeting these graduation criteria.

2.3 Relationship to Other Cooperating Agencies and Donors

2.3.1 JSI/Family Planning Logistics Management

Collaboration between the logistics advisors at CDC and at JSI/FPLM has been the subject of considerable discussion and evolution. Managerial constraints preventing the expansion of logistical technical assistance provided by CDC were some of the reasons for contracting similar services from JSI. Collaboration between CDC and JSI provided much of the early training for JSI logistics advisors. Early in the current PASA the provision of joint technical assistance trips by CDC and JSI/FPLM was the norm. Other collaboration included participation in nine technical coordination working groups,⁴ two joint planning retreats, cooperation in the design and use of computer software for inventory and forecasting purposes, CDC participation in joint training events in both Arlington in the U.S. and in the field, and the development of reference documents on contraceptive logistics and forecasting.

As this PASA approaches completion, collaboration between JSI and CDC on family planning logistics management activities seems to have diminished. Joint retreats are not currently planned. Joint trips are no longer the norm. There are no plans for joint efforts such as conducting trainings, producing documents, or developing software. Some of this results from external causes. There was no point in planning a joint retreat that would have occurred near or after the end of JSI's second FPLM contract. Eventually, when the JSI/FPLM contract was renewed, it was followed by federal government furloughs, the closing of government due to snowstorms, and budget traumas.

⁴ In 1994, technical coordination working groups included Central Commodities Management, Forecasting, Management Information Systems, Quality Assurance, Research et. al., Field Activities, Training, Coordination and Epidemiology.

The diminished collaboration is unfortunate given 1) the anticipated role of USAID Missions under the field-support system and 2) the prospect of diminished funding. Collaboration will be even more essential to assure that technical assistance is cost-effective and consistent. Collaboration needs content. Both organizations should be involved in the design and implementation of performance and sustainability indicators and in assuring institutionalization of generic forecasting.

RECOMMENDATION:

7. CLM should encourage increased collaboration between CDC/FPLM and JSI/FPLM by including both in decision making on common issues.

2.3.2 UNFPA

The DRH staff have participated in four UNFPA Maternal and Child Health/CH/TED Global Initiative Teams. These teams have conducted country-specific, in-depth studies which are intended to forecast contraceptive requirements worldwide in the longer term. Each country team typically includes a logistics specialist. CDC staff participated in teams to Bangladesh, Turkey, Brazil, Zimbabwe, Egypt, and Nepal. Other coordination occurred in several countries including Nigeria and Cambodia.

2.3.3 WHO

Collaboration in logistics management with WHO during the PASA has included work with the Global Program on AIDS in the design, evaluation, forecasting, and implementation of condom procurement and distribution. Much of this work occurred early in the PASA during an Office of Health buy-in for logistics activities in HIV/AIDS prevention.

2.3.4 Centrally Funded Cooperating Agencies

Collaboration with centrally funded contracts includes participation in the selection of relevant indicators for the handbook produced by The EVALUATION Project. Other collaborations have occurred with FPMD, AVSC, PATH, OPTIONS, and JHPIEGO.

In-country collaboration with other donors and USAID-funded CAs is the norm. The preparation of CPTs for other contraceptive donors, multi-agency interest in improved contraceptive distribution, and a clear technical dominance by USAID-funded technical assistance in contraceptive logistics has made such collaboration the norm.

2.3.5 *IPPF/Western Hemisphere Region*

Collaboration with IPPF/WHR has included LMIS training in Mexico.

3. SURVEYS

3.1 Summary of Objectives in the PASA

The portions of the 1991 PASA that relate to survey activities will be briefly summarized. First, the overall objective of the PASA was to contribute to “increased contraceptive prevalence, lower fertility levels, improved family planning/maternal and child health (FP/MCH), and ultimately, to an improved quality of life.” Technical assistance for “survey methodology and demographic research” was viewed as a component in a package of activities. More specifically, the objective of this component was “To help policy-makers and program staff determine levels and differentials in fertility and infant mortality, prevalence of contraceptive use, source of contraceptives, numbers and characteristics of women in need of family planning services, and to evaluate other program topics.” Moreover, the PASA stated the usefulness of surveys for “documenting contraceptive use and forecasting commodity needs” and the value of comparing survey results with service statistics.

The PASA stated that CDC “will provide survey TA to selected priority countries not covered by the DHS project.” It referred to the expertise of CDC, already well established in 1991, on the Young Adult Reproductive Health Surveys and surveys of males and the expectation that more surveys of this kind would be conducted during the period of the PASA.

The PASA emphasized that “TA in logistics management and TA for implementation of household surveys are interrelated and closely linked. For this important reason, CDC staff will coordinate logistics and survey activities and disseminate both findings and methodologies for linking survey data, service statistics, and logistics management to other agencies involved in survey work, program evaluation, or related areas through workshops, training courses and seminars.”

Specific topics to be covered in surveys were infant/child morbidity and mortality; maternal morbidity and mortality; and HIV/AIDS and STD prevention through condom use. The PASA also states that “Technical assistance will continue to be responsive to local needs in establishing study objectives and questionnaire content. Survey and research skills will be transferred to local institutions and timely survey reports will be produced and disseminated in a format that will be appealing to in-country decision-makers as well as the lay public.”

The PASA identified nine specific “High Priority” countries, 33 specific “Medium Priority” countries, and an unspecified category of countries with high HIV/AIDS condom needs as being important for all types of PASA activities. New systems for assigning country priority have evolved during the PASA.

Within this report, the term “CDC survey” refers to a survey for which CDC/DRH provided technical assistance.

3.2 Accomplishments

3.2.1 Activities

This PASA began in August 1991, but because there is necessarily an elapsed time between the fieldwork and the publication of a final report, it can be safely assumed that surveys conducted in 1990 were partially supported by the PASA. Table 1 gives the country, date of fieldwork, and sample size for the fifteen surveys conducted from 1990 to 1996. It also includes an estimate, provided by CDC/DRH, of the amount of local funds that went into each survey.

Table 1

Country Surveys Conducted between 1990-1996

Country	Year	Survey	Type of Sample Size*	Local Costs	Funding Sources
Costa Rica	1990	YARHS	1405	\$120,000	USAID
Mauritius	1991	FP/MCH		5438	\$ 50,000 UNFPA
Belize	1991	FP/MCH		2826	\$ 80,000 USAID
Costa Rica	1992	FP/MCH		3619	\$120,000 USAID
Nicaragua	1992	RHS		7150	\$248,000 USAID
Dom. Repub.	1992	YARHS	1245	\$100,000	Rockefeller
El Salvador	1993	RHS		6207	\$320,000 USAID
Jamaica	1993	CPS	3016* +3065		\$230,000 USAID
Czech Rep.	1993	RHS		4497	\$ 73,000 USAID
Romania	1993	RHS		4861	\$ 82,000 USAID/UNFPA
Ecuador	1994	RHS	13582	\$250,000	USAID
Paraguay	1995	RHS		6470	\$350,000 USAID/BID/UNICEF
Honduras	1996	RHS	8000* +3000		\$300,000 USAID
Russia	1996	RHPES		6000	\$ 86,000 USAID
Romania	1996	YARHS	2000	\$120,000	USAID/UNICEF

Note:

YARHS: Young Adult Reproductive Health Survey
 FP/MCH: family planning/maternal and child health
 RHS: Reproductive Health Survey

CPS: Contraceptive Prevalence Survey
 BID: Inter-American Development Bank
 RHPES: Reproductive Health Program Evaluation

* the first number + refers to a male sample

Three of these surveys were Young Adult Reproductive Health Surveys of males and females aged 15-24, a type of survey that CDC developed during the 1980s. Both USAID/Washington and CDC would like to do this type of survey more often. Some of the surveys are focused on urban areas—such as the planned Russian survey, which will be limited to three oblasts.

There appears to have been a very typical pattern of initiation and funding for the surveys that have received CDC technical assistance. Most often, the local USAID Mission takes the initiative for funding a survey, usually in consultation with a specific local governmental or nongovernmental agency. The Mission consults with the Office of Population in Washington and a decision is made to conduct the survey with either support from CDC or DHS, with the local Mission playing a key role in this decision as well.

Ecuador, for example, has a rich history of national fertility and health surveys. Surveys, with support from the World Fertility Survey organization (the USAID-sponsored predecessor of DHS), were conducted in 1979 and 1982, and a DHS survey was carried out in 1987. Because of a perceived rapidity of change in contraceptive prevalence, the Mission wanted another survey in 1989. However, DHS was not prepared to undertake a survey at that time because it was in transition between funding cycles; and moreover, two years would have been an unusually short interval between two DHS surveys in the same country. USAID/Washington informed the Mission that CDC was a potential source of technical assistance, and an agreement was reached with CDC. In addition, the HPN Officer in the Mission also had previous experience with CDC surveys. The role of CDC in the 1989 survey proved to be so successful that CDC was the clear choice for the 1994 survey, and there is the expectation that the survey planned for 1999 will also be conducted by CDC, although the local expertise is now so great that CDC may have a smaller role. The 1987, 1989, and 1994 surveys were all conducted by CEPAR, an Ecuadoran nongovernmental, nonprofit survey organization with a very high level of experience and expertise.

Jamaica has used CDC to carry out a series of surveys, the most recent ones being the 1989 and 1993 Contraceptive Prevalence Surveys. These surveys were initiated by USAID/Jamaica with the strong involvement of the National Family Planning Board. The Mission and local agencies have been particularly attracted to the flexibility of CDC in the design and content of its surveys. Another survey is planned for 1997, and there appears to be no question that it will be done through CDC.

CDC has expertise in all aspects of survey operations and has provided technical assistance in the following phases of carrying out a survey: survey design and sampling; questionnaire design; fieldwork; data processing; tabulation and preparation of reports; and further dissemination activities. It is impossible for this report to give a detailed description of the support provided in each country, but in most surveys CDC has provided at least some assistance in each of these phases. CDC works closely with the in-country survey director and survey organization who have contracts with the Mission and are selected by the USAID Mission, usually through a competitive process.

Survey Design and Sampling. Typically, CDC takes a consultative role in decisions about the population to be studied (e.g., women in a specified age range, men, young adults), the feasibility of having a large enough sample to get stable estimates at various levels of aggregation, omitting hard-to-reach subgroups, and so on. It is appropriate that the actual decisions in this area rest

mainly with the in-country agencies. CDC surveys employ two innovations: the sampling of one woman per household and one child per woman. The sample clusters are usually drawn in-country, but are sometimes drawn in Atlanta, using a sampling procedure within the SAS computer software. The sampling frame is provided by the in-country statistical office, usually, from the most recent census or from an update for the periodic labor force survey.

Surveys have ranged in size (including both male and female respondents, where applicable) from about 3,000 to more than 13,000, with a median of about 5,000 respondents. The team saw a great deal of local pressure, within both Ecuador and Jamaica, to draw increasingly large samples in order to be able to estimate variables such as prevalence, maternal mortality, programmatic needs in progressively smaller administrative units. It is not very clear that small-area estimates are justified in settings with small total populations, or that a population-based survey would be the best way to estimate the quantities that are needed for these small areas. At the same time, we recognize that progressive efficiencies in data processing have made large samples more feasible and economical.

RECOMMENDATION:

8. Before submitting to local pressure for a large sample, especially in a relatively small country, CDC should identify precisely what data would allegedly be useful at the local level, verify that variation across administrative units (regions, provinces, etc.) is indeed so great that these units cannot be grouped, and verify that these estimates cannot be more efficiently obtained from another source, such as the commodity distribution system.

Questionnaire Design. CDC surveys generally involve very broad participation in the identification of topics of local interest to the USAID Mission, family planning program administrators, the Ministry of Health, and other agencies with a stake in the results. Representatives of these local interests reach a consensus about the topics, with or without the physical presence of a CDC staff member. The questionnaire is generally drafted in Atlanta, using prior experience to develop the wording of questions. The draft questionnaire is subject to local revision and some specific questions are generated entirely locally. For example, in Jamaica, local researchers prepared a series of questions about knowledge of mechanisms of HIV transmission and a series of questions about how young men and women negotiate sexual activity. The questionnaire is always pre-tested with CDC participation.

Because of the breadth of topics included in these surveys, it is no longer appropriate for them to be described as contraceptive prevalence surveys. One survey conducted during the period of the PASA—the 1993 CPS in Jamaica—carried this label. We suggest that CDC no longer use this label for any of its surveys.

Fieldwork. CDC is generally involved in the training of interviewers and emphasizes close supervision during the first week of interviewing, which is regarded as an extension of the training process. The interviewing is done by an experienced local agency under a contract with the

USAID Mission. This agency may or may not be involved in other phases of the survey operation. For example, in Ecuador the fieldwork and data entry/editing were contracted to CEPAR, who specialize in demographic research and surveys. The survey director was CEPAR's Director of Evaluation. CEPAR also coordinated the development of the questionnaire and that co-wrote the reports. In Jamaica the fieldwork and data entry/editing were contracted to the Statistical Institute, the Government of Jamaica's central statistical office. The coordination and the development of the questionnaire were done by the National Family Planning Board, a government agency within the Ministry of Health, and the overall survey director and co-author of the reports was a private consultant, Mrs. Carmen McFarlane (a retired director general of STATIN). Due to delays in the Mission's competitive selection process, Mrs. McFarlane did not come on board until the survey design and questionnaire were largely finalized.

Data Processing. Data entry and editing are generally done in-country using SURVEY, a software package developed for this purpose by CDC (not as part of the PASA). SURVEY is a relatively easy-to-use computer program that does range, skip, and consistency checks but not date imputation. The setup of SURVEY for each application is done by a CDC staff person. SURVEY is less comprehensive but easier to use than ISSA, a package developed and distributed by DHS. The program and documentation are left in-country. SURVEY has been used for other non-CDC or non-USAID projects in Mexico, Brazil, Ecuador, Costa Rica, Honduras, and the Dominican Republic.

In Jamaica, it was interesting to learn that STATIN did not make any use of SURVEY subsequent to the 1993 CPS because they were already satisfied with IMPS, a program distributed by the U.S. Bureau of the Census under another PASA with USAID. The IMPS program is used for activities such as the periodic labor force and agriculture surveys.

Tabulation and Preparation of Reports. The outline for the main report, tabulation plan, and authorship of chapters are planned well in advance by the survey director and CDC. The tabulations are usually produced in Atlanta with the SAS software package and put directly into a word processing package, to avoid re-typing and associated typographical errors. There has been a movement toward doing tabulations in-country when there is adequate local expertise, as in Ecuador. Chapters are written both in Atlanta and in-country, with a mix of country visits by CDC staff and visits to Atlanta by the survey director and, occasionally, one or two other local authors. In most countries a preliminary report is issued about four months after the completion of fieldwork. The main report is issued about a year after the fieldwork. The main report is usually in a single volume, including approximately 200 pages of text with tables and graphics, followed by detailed tabulations and a copy of the questionnaire. In Jamaica, the report was issued in six volumes—an executive summary, with broadest distribution, and five volumes on specific topics that were distributed more selectively.

Printing and distribution costs are handled in a variety of ways, although some copies are generally printed in Atlanta. In Ecuador, in-country printing and distribution costs were paid by UNFPA, representing a creative way to include and give visibility to other funding agencies. In

Jamaica, some (but not all) volumes of the report were printed in-country by STATIN, which has its own printing press, with funds from the USAID Mission. CDC sometimes issues an English language condensed version of the report if the original language was not English—although, only occasionally, if the original language was Spanish. This version also includes the detailed tabulations and questionnaire. The preparation of the English version makes it easy to disseminate the report internationally.

Despite the team's positive evaluation of the reports, the reports can be faulted for giving only standard errors and confidence intervals for a few variables, which are all buried in an appendix that few readers will examine. The omission of standard errors for the maternal mortality estimates is particularly serious. The statistical uncertainty of estimates is not adequately indicated within the text.

RECOMMENDATION:

9. The tabulation plans and reports for CDC surveys are generally excellent, and CDC should continue with the current basic format. CDC should continue to include comparisons with other countries in the region, comparisons with earlier surveys in the country, clear graphics, and genuine analysis—as contrasted with a recitation of the numbers in the tables. Appendices should continue to give detailed tabulations, design effects, standard errors, and confidence intervals for key variables. Some confidence intervals should also appear within the text. Discretion should be used to avoid giving estimates which have large standard errors. If the main survey report is not written in English, CDC should produce at least a condensed English version.

Further Dissemination Activities. There is virtually always a national meeting to present the main survey results. The meeting is chaired by the survey director, and one or two CDC staff members who worked on the survey and the main report do participate. This meeting is attended by representatives of the agencies that were involved from the beginning of planning the survey, plus other interested parties from government and academia. The national meeting may be followed by regional meetings where sub-national results of local interest are presented. These meetings may also be attended by CDC staff, as was the case in Jamaica and Ecuador.

The survey director in Jamaica informed us of three problems with the national meeting in that country. First, it was scheduled to coincide with the release of the preliminary report, which contained such a small amount of information that it was difficult to sustain interest in the meeting. Second, the preliminary report only became available for distribution about one day before the meeting, and participants complained that they had not had time to study it. Third, it would have been useful if questions raised at the regional meetings, which were held later, could have been raised as issues at the national meeting. Although we do not have a broad base of information about the national meetings in other countries, these limited observations should be shared. It need not be assumed that the same sequence of dissemination will be optimal in every country.

RECOMMENDATION:

10. A national meeting for presenting the main results of the survey should not be held until a substantial amount of analysis has been completed, either in the main report or in a substantial preliminary report. Persons attending the meeting should receive a copy of the report at least a week in advance. CDC and survey directors should consider the option of holding the regional meetings before the national meeting, rather than after it, so that the reactions to regional meetings can be given as input to the national meeting.

Further analysis of the data—including comparative analysis—and archiving are appropriate activities to consider under the heading of “further dissemination.” The desirability of these kinds of activities was mentioned repeatedly in interviews. They will be discussed below in connection with local capacity-building and complementarity with the DHS project. Early identification and involvement of potential in-country researchers may be the best way to promote their later interest in the data.

To summarize, the reaction to CDC’s role in the survey component of the PASA is extremely favorable. The persons who have provided the TA are regarded as highly competent. They work closely with their in-country counterparts rather than dominating them. They are praised for “facilitating rather than directing” the activity. Indeed, the team did not encounter any comments in discussions or communications with in-country nationals or USAID Missions that were critical of the CDC role or the CDC staff in this area.

RECOMMENDATION:

11. CDC should continue to do as many survey-related activities as possible in-country, rather than in Atlanta. In-country counterparts should be full collaborators in even the most technical activities, such as the drawing of the sample, specification of edit checks, and setting up the tabulation plan. Software for all activities, such as SAS for sampling and tabulations and SURVEY for data entry and editing, should be installed in the appropriate local institutions as part of the entire package of technical assistance. CDC should also promote the use of local experts to provide TA and training to other countries in the same region.

3.2.2 Innovations

The demographic and statistical expertise of the CDC staff have led to several innovations which distinguish the surveys done under this PASA. It is sometimes difficult to draw the line between past innovation and today’s standard practice. The following list is not meant to be complete.

Sampling One Woman Per Household. Virtually all comparable surveys will interview all eligible women in the household, defined as all women (sometimes ever-married women) in a specified

age range. In most households there will be only one such woman. However, in CDC surveys, even if there is more than one eligible woman in the household, only one will be interviewed. This woman is selected by a random procedure which is not subject to interviewer bias. The justification given for this practice is that when the household includes two or more eligible women—particularly a mother-daughter pair—some response error will occur because of a respondent's fear that confidentiality will be compromised. Supervision of fieldwork is also simplified if there is only one individual questionnaire per household. The selected respondent is appropriately weighted up.

Sampling One Child Under Age Five Per Mother. To obtain data on the health of young children, most non-CDC surveys will ask detailed health questions about all children born to a woman within a window such as the most recent three or five calendar years. An alternative strategy is to ask these questions about the last birth and possibly the next-to-last birth. By contrast, CDC surveys generally select (again at random, with a procedure that is not subject to interviewer bias) a single child born in the past five years for the detailed health questions. A recent publication by CDC staff demonstrates that this procedure has several advantages:

1. It is free of an age bias that is inherent in the choice of the last or next-to-last child;
2. It averts the tendency of some interviewers in some countries to shift children out of the five-year window in order to lighten their workload, thereby distorting the birth histories; and
3. It is statistically more efficient than collecting data on all children born in the window, because siblings are not statistically independent.

To some degree, item 3 above also applies to the selection of one woman per household. The selected child is appropriately weighted up.

These sampling strategies within the household are well justified. The choice of one child is a particularly ingenious way to avoid displacement and is preferable to the alternative of reducing the window for child health questions from five to three years. The disadvantage of subsampling, fully appreciated by CDC, is that it prohibits some internal household analyses that could be done with complete data. For example, although it is possible with birth history data to examine the clustering of deaths within households, because the birth histories include information on the survivorship of all children, it is not possible with the subsampled health data to analyze the clustering of vaccinations, diarrhea, and so on. This is not a serious disadvantage.

Estimates of Maternal Morbidity and Mortality. Considerable excitement has been generated by the inclusion in recent CDC surveys of information on maternal morbidity and mortality. Several informants in Ecuador, for example, were pleased that these estimates were available. Maternal morbidity information is collected about the respondent herself. Maternal mortality estimates are derived by both direct and indirect analysis of the respondent's sisters, and how many of them died from factors related to pregnancy and childbirth. The use of information about sisters to

estimate maternal mortality is not original with CDC, and is also done by DHS, but the inclusion of these questions in recent surveys is an innovation.

The failure of CDC to provide standard errors for the maternal mortality estimates is a serious omission. For example, the 1994 Ecuador survey included 13,582 respondents, making it one of the largest such surveys ever done in Latin America, but it identified only 126 maternal deaths (related to pregnancy and childbirth) to sisters in the preceding 14 years. The estimate of maternal mortality for this 14-year interval was 220 deaths per 100,000 births. Although the report does not give any standard errors or confidence intervals, it is easy to show that an approximate 95 percent interval would be 220 ± 40 deaths per 100,000 births. This is perhaps an acceptable range, but the report goes on to divide the 126 deaths into three age groups of women (sisters) and two seven-year time periods, and to estimate maternal mortality rates for each of six combinations. The number of reported deaths in these six combinations is as low as 14. For example, one alarmingly high rate of 538 maternal deaths per 100,000 births is given, for example, based on only 21 deaths; an approximate 95 percent confidence interval would be 538 ± 230 deaths per 100,000 births—a very wide range. The evidence of overall decline in maternal mortality across the two seven-year windows appears to be statistically significant, but we question the division into these six categories and inferences about change within age groups.

RECOMMENDATION:

12. CDC should investigate the statistical stability of its estimates of maternal mortality and refuse to publish estimates for specific sub-populations or time periods if they exceed a specified level of statistical uncertainty.

The information collected about the deaths of sisters could also be used to establish an estimate of overall female adult mortality, although the reports do not present this information. Because the classification of a sister's death as a maternal death is wholly in the judgment of the respondent who is not familiar with the formal definition of maternal mortality and can at best know the sister's symptoms, it is quite possible that some deaths are misclassified. The data on sisters' deaths could be used to develop overall estimates of adult female mortality, and estimates derived in this way could be compared with other existing estimates of adult female mortality. CDC could then verify that the proportion of overall mortality which is maternal is consistent with reliable estimates from other comparable settings.

In Ecuador, a separate study was conducted in an attempt to validate the survey information on maternal morbidity. Questionnaire responses were compared with the medical records from hospitals where the women delivered.

This exercise was innovative and useful. A substantial number of questions had very high (over 90 percent) agreement with medical records. These questions might now be included in other reproductive health surveys with more confidence that women's answers are reasonably reliable. The exercise also found several questions where medical records were weak in providing the

information, and some where the women's responses were probably more accurate than the medical records.

This relatively simple validation study is a good example of innovative fieldwork by CDC, combining skills from several staff within CDC to assess a new area of survey questions. The results were mixed, but provided useful information to identify some maternal morbidity questions to which women give reliably accurate responses. CDC should be encouraged to continue these useful field innovations and to disseminate these innovations to the larger professional community.

The more recent surveys in Eastern Europe—in the Czech Republic, Romania, and Russia—have included detailed questions on induced abortion, which has been used heavily in the absence of adequate contraception. These surveys can help to document any shift away from abortion in those countries. The report on the 1993 Romanian survey is a particularly well-written analysis of the rapid reduction in unwanted pregnancies that occurred after contraception and abortion were legalized at the beginning of this decade.

Young Adult Reproductive Health Surveys. CDC conducted several Young Adult Reproductive Health Surveys of males and females aged 15-24 during the 1980s, and the surveys came to be regarded as a CDC trademark. However, during the PASA there have been very few such surveys: one in Costa Rica in 1990, one in the Dominican Republic in 1992, and one planned for Romania in 1996. Two other surveys—in Jamaica and Honduras—included samples of males in a broader age range. This is a type of survey in which CDC has particular expertise. The PASA emphasized this type of survey and it was repeatedly mentioned by the staff of both CDC and USAID/Washington as an interest for the future. The small number of such surveys appears primarily to reflect a lower level of interest by USAID Missions, who must initiate and fund surveys.

Samples of males and females in a wider age range can always contain special questions for young adults. Most CDC surveys now contain at least one or two pages of questions directed at young adults. For example, the 1993 CPS in Jamaica included women, aged 15-44, and men, aged 15-54, with special questions for ages 15-24. Findings for these ages were presented in one of the volumes of the report. Topics include sex education in school; knowledge of contraception, STDs, and AIDS; sexual experience and contraceptive use; attitudes regarding contraception and fertility; fertility and its effects on school status; and unintended pregnancy and unmet need for family planning services.

If there is a particular interest in ages 15-24 that will lead to breaking them out of a larger sample for a separate analysis, as in Jamaica, it is suggested that these ages be over-sampled. The 1993 CPS in Jamaica obtained only 1,181 women and 1,052 men in this age range. More than seventy tables on young adults were included in the report; some of them were three-way tables done separately for men and women, and it is questionable whether the sample size was sufficient for this amount of detail.

These surveys will also be discussed below in the context of reproductive health epidemiology.

3.2.3 Transfer of Capability to Local Organizations

An overall goal of the PASA, in every activity in which CDC works, is technology transfer to the local institutions. This is a difficult concept to measure and is difficult to achieve by any measure. In the survey area, perhaps the best evidence of technology transfer is that in Ecuador and Jamaica, the most recent surveys required considerably less TA from CDC than the previous surveys in those countries—at least, according to our in-country informants. Both countries expect to do future surveys and approach them with the confidence that they can manage with even less TA support. There is an awareness that USAID budgets are shrinking and that was stated repeatedly in Ecuador and Jamaica but with the confidence that local researchers would be able to proceed with less help because of the experience gained in the previous exercises. The two countries have been provided with a template, in effect, for the sampling scheme, questionnaire, tabulation plan, report, and so on. The team suggests later in this report that the limited nature of the TA from CDC has helped make the in-country institutions more self-sufficient.

However, there are certain critical phases of survey operations in which local capacity is inadequate. In Ecuador and Jamaica—and we take these to be fairly representative of the smaller countries in which CDC has worked—we saw good evidence of a layer of expertise with the nuts and bolts of conducting a survey, such as fieldwork and data entry. But almost no one, other than the current or past survey directors, had the combination of statistical, demographic, and social science competency necessary to guide a survey from beginning to end without at least a few critical injections of technical assistance. The most critical phase for future TA is probably the tabulation plan and preparation of the main report. Most of the surveys have depended heavily on the involvement of CDC staff in developing an analysis plan and co-authoring the report. Without that assistance, it is unlikely that the reports would have appeared in such a timely manner. Indeed, there is some contradiction within the PASA between the emphasis on timeliness and the emphasis on building in-country self-reliance and this is particularly true for preparing the report. USAID should realize that there is a trade-off between these two goals.

We found very little local expertise for—or interest in—further analysis of the data. This may result from the absence of institutional interest in or funds for such analysis, the lack of incorporation of the academic community into the activity, or the difficulty of analyzing the data in its final format. However, it will be impossible for a country to become self-sufficient in survey analysis unless this kind of expertise is developed.

It is difficult to generalize beyond the countries visited by the team, but it appears that in Jamaica the organization that conducted the 1993 CPS, although well aware of the value of the data, had very little technical expertise for analysis. In Ecuador, the parallel organization realized the value

of the data and had a fairly high level of expertise, but was over-burdened with other non-analytic activities. In neither country was there much outreach to the academic community.

The ability of local researchers to write the main report on any future survey will be greatly enhanced if they participate in both the main analysis and further analysis of current surveys. Without the prior experience, local researchers who attempt to write a main report will be working at the limit of their ability. A sensitivity to several variables, such as sampling issues and limitations, interrelationships among topics, related findings in other settings, and significance of the results requires that researchers have a knowledge of survey analysis that goes beyond the main report. Local universities seem to be a largely untapped source of researchers. We believe that CDC could take more initiative in involving the local academic community and facilitate the use of the data files as steps toward local self-reliance.

RECOMMENDATION:

13. CDC should try to include statisticians, demographers, and social scientists at in-country universities in the development and analysis of surveys. Wider participation of this kind may add a few months to the entire process, but it may also increase the capacity to carry out future surveys and the interest in further analysis of the data.

In terms of building local capacity, it would be best to choose a local survey director who is at an early or middle stage of his or her career, and is also affiliated with an institution. Perhaps the greatest investment in local skills is through the survey director, and if this person is an independent consultant or is at a late or quite senior stage of his or her career, there will be less future benefit to the country, even though that person may have the greatest experience. This suggestion is directed toward USAID, which (through the Mission) usually has main responsibility for selecting the survey director.

3.3 Relationship to Other Cooperating Agencies

There are two other USAID projects in this area with which CDC should have close links: the Demographic and Health Surveys Project, contracted to Macro International and the Evaluating Family Planning Program Impact Project (EVALUATION), contracted to the Carolina Population Center.

3.3.1 The Demographic and Health Surveys Project

DHS is the largest project that conducts comparable surveys. From 1990 to 1996, DHS carried out 51 surveys ranging in size from about 3,000 to more than 28,000 respondents, with a median of about 8,000. It frequently samples males or husbands; 23 of the 51 surveys included such samples. It does not carry out surveys that focus on young adults or on urban populations.

Formal Links and Publications. The assistant director of the PASA at CDC, Leo Morris, is a member of the Scientific Advisory Committee of the DHS project. The annual meetings of this committee provides a formal mechanism for communication in both directions. Paul Stupp, a demographer at CDC, was a member of the team that evaluated DHS-II.

The most visible sign of collaboration has been an issue of *Population Reports* (Series M, Number 11, December 1992) on "The Reproductive Revolution: New Survey Findings," co-authored by Bryant Robey (Population Information Program staff), Shea Rutstein (DHS staff), and Leo Morris (CDC). This issue of *Population Reports* includes a very thorough discussion of trends in fertility, family planning, the potential demand for family planning, other fertility determinants, and child health and survival in virtually all of the countries included in the DHS and CDC survey programs through 1992. A shorter and updated version of this report, by the same authors, was published in *Scientific American* in December 1993, entitled "The Fertility Decline in Developing Countries."

DHS does not include results from CDC surveys in its comparative reports. The results from DHS and CDC surveys are compiled together by third parties, such as the International Statistical Center of the U.S. Bureau of the Census, the Population Reference Bureau, and the United Nations. But there should be a mechanism for incorporating CDC surveys into DHS comparative reports. The *Population Reports* mentioned above is conspicuously unique.

RECOMMENDATION:

14. When DHS is in the early stages of preparing a comparative report, CDC should be notified and asked to submit the appropriate indicators for countries in which it has recently conducted surveys. The report can clearly indicate that these numbers came from CDC surveys and the indicators can be annotated as needed when they differ slightly from the DHS indicators, without compromising or diminishing the primary responsibility of DHS for preparing the report. It is not suggested, at this time, that CDC should participate in the design of the DHS comparative reports.

Reference Age Interval. DHS always samples women, aged 15-49, but in most countries CDC samples women, aged 15-44. There are exceptions: in Ecuador, for example, there was sufficient fertility in ages 45-49 in the rural areas that it was decided to sample ages 15-49 for the entire country. A strong case can be made for using 15-49 rather than 15-44 in all countries. The main reason is that even though fertility after age 45 is negligible, the inclusion of the age group 45-49 facilitates the analysis of trends, because this group can be back-dated to earlier ages in earlier time periods. Even for the measurement of fertility in the past five years, the women currently aged 45-49 will make a contribution to the 40-44 interval. Secondary reasons are that the risk of maternal mortality and morbidity are greatest in the later ages, and that it is desirable to maximize comparability with DHS surveys. In every country, this five-year age group is smaller than any younger one, and the cost of including it is relatively small. It is therefore suggested that CDC expand its age coverage to the full range of 15-49.

Flexibility Versus Standardization of Questionnaire Design. Many people informed the team that a major strength of CDC was its willingness to modify the questionnaire to meet local needs. Indeed, in Ecuador it appeared that CDC had made a very serious effort to identify the topics and questions that would best meet the needs of the local users of the survey. This flexibility is in sharp contrast to the perception that DHS is rather inflexible with its questionnaire design. DHS has two core questionnaires (consisting of questions that are present in virtually every survey), one for high prevalence settings and one for low prevalence settings, and several supplemental modules (consisting of sets of additional questions on specific topics or for special surveys). The following topics are included in both of the DHS core questionnaires:

- Respondent's background
- Reproduction
- Contraception
- Pregnancy and breastfeeding
- Immunization and child health
- Marriage
- Fertility preferences
- Husband's background and woman's work
- AIDS
- Height and weight

The following modules are also available for DHS surveys:

- Pill-taking behavior
- Sterilization experience
- Maternal mortality
- STDs/AIDS
- Verbal autopsy
- Female circumcision
- Consanguinity
- Men's questionnaire
- Service availability questionnaire
- Women's status

The team believes that a systematic comparison of typical and model questionnaires would show that the questionnaires used by DHS (and its antecedents) and CDC (and its antecedents) have steadily converged to become extremely similar in the topics covered and even in the specific wording of questions. It is our impression that there is in reality a great deal of standardization across the CDC surveys, as a natural consequence of the experience that has been accumulated. DHS has put a great deal of effort, from the beginning, into having a core and modules; we believe that a core and modules have evolved at CDC in an implicit rather than an explicit manner. If the implicit core and modules in the CDC surveys can be conceptualized and extracted, we

believe CDC's questionnaire design can become more efficient, differences from DHS can be identified, even if not reconciled, and there can be greater comparability with DHS results.

RECOMMENDATION:

15. Early in the next PASA, CDC should undertake a comparison of the questionnaires it has used in Reproductive Health Surveys and related surveys in recent years, in order to identify a core and a set of modules. The core and the modules may both show some variation across types of populations. A document should be prepared to assist in the development of future questionnaires, with a comprehensive and detailed description of these modules that would indicate where they have been used and their strengths and weaknesses. In addition, CDC—preferably in collaboration with DHS—should undertake a comparison with the current DHS core and modules and consider reconciling differences. If differences cannot be eliminated, there should be an effort to estimate the effect of having different questions or approaches.

Despite this recommendation, the team agrees that CDC should continue to be flexible in its questionnaire design. It should continue to incorporate country-specific questions that do not duplicate questions that can be found in a module. The purpose of the recommendation is not to push CDC in the direction of the DHS style of standardization, but to provide countries with a clear menu of options, as well as clear documentation of topics and wordings that have been used elsewhere and some of the methodological lessons learned by both CDC and DHS.

Special Purpose Surveys. The flexibility described in the previous section is within the context of the generic reproductive health survey, or demographic and health survey, that typifies most CDC (and DHS) surveys. However, as mentioned, CDC also conducts surveys that focus on young adults, aged 15-24, and on urban populations. CDC is able to design and support surveys to study the impact of interventions, as in the Russian oblast surveys. It has the potential to do more such surveys and to develop even more innovative designs. As a WHO Collaborating Center for Perinatal Mortality, it could focus, for example, on risk factors for infant and child morbidity and mortality. Drawing on other parts of CDC, it would be possible to promote more qualitative research designs.

The DHS focus on producing standardized and comparable surveys makes it an awkward vehicle for conducting customized or special surveys. CDC, on the other hand, appears underutilized as a resource for customized surveys that could focus on a variety of subpopulations or a variety of topics. The initiative for actually funding such surveys must come from USAID, usually at the Mission level, but it is suggested that CDC put some effort into identifying subpopulations, topics, and innovations that could be presented as options to USAID/Washington and to USAID Missions.

RECOMMENDATION:

16. Early in the next PASA, CDC should prepare and distribute a document describing innovative subpopulations, topics, and methodologies for specialized studies for which it would be prepared to provide technical assistance. The starting point for such specialized surveys would be identifiable policy and programmatic needs that are not being met, or not being met efficiently, with data sources such as the standard reproductive health survey.

Reconciliation with WHO/UNICEF Surveys. In the recent interim evaluation of DHS-III, it was noted that DHS surveys sometimes produce estimates of the prevalence of childhood immunizations that differ substantially from those produced by WHO/UNICEF surveys. For example, a 1993/94 DHS survey in Bangladesh found that 59 percent of children, aged 12-23 months, were fully immunized, but a 1994 UNICEF survey gave a figure of 84 percent. Similar discrepancies have been found in other countries, with the DHS estimates typically lower than the WHO/UNICEF estimates. We have not identified conflicts of this kind involving CDC surveys, but because the CDC and DHS questions are so similar, an investigation by CDC could shed light on this issue.

RECOMMENDATION:

17. CDC should investigate the consistency between CDC and WHO/UNICEF surveys, where both have been done, and should identify methodological or other reasons behind discrepancies which may exist.

Data Archiving. A major distinction can be drawn between DHS and CDC in terms of what happens to the basic data after the main report has been completed. DHS has an archival component, through which it has distributed some 7,000 copies of data files, approximately at cost. It also archives data files from the earlier CPS and World Fertility Survey projects. There has been far less distribution of either raw or re-coded data files from CDC surveys, in-country or internationally, although all Central American data sets are archived and documented at the Central America Population Center in San Jose, Costa Rica. Limited access to the data files is a major deterrent to further analysis.

Several reasons could be given for the very limited activities of CDC in this regard. One reason is that there is not usually a contract for a CDC survey which stipulates that the survey must be archived. "Ownership" of the data is often ambiguous, especially when, as often happens, the survey director leaves the in-country organization that carried out the survey. A second reason is that the surveys are not highly standardized, and there is no "standard re-code file" as for DHS. These problems could be overcome in most settings. For example, a contract with the survey organization to make the data broadly available could stipulate that distribution is restricted for the first year or two.

An internal difficulty is that the PASA has restricted access to programming staff to carry out these tasks. This limitation could also be overcome and is discussed in connection with organization and management issues at CDC.

Data documentation, archiving, and distribution activities would greatly enhance the investment USAID is making in CDC surveys. They would make it easier to include CDC surveys in comparative analyses, permit in-depth analyses of changes from one survey to the next in the same country, contribute to in-country capacity for data analysis, and so on. All the reasons for the success of the DHS data archive would apply to CDC surveys.

RECOMMENDATION:

18. CDC should move in the direction of obtaining distribution rights for data sets and preparing re-coded data files with SPSS or SAS dictionaries. USAID should provide funding for this activity, although there should be a cost-recovery component to the data distribution. Alternatively, this activity could be included in a separate USAID-funded data archiving and distribution project.

3.3.2 *The EVALUATION Project*

Formal Links. CDC also has a degree of collaboration and complementarity with The EVALUATION Project. Leo Morris of CDC is a member of the Technical Advisory Group for EVALUATION. Howard Goldberg, a demographer at CDC, was team leader for the recent evaluation of The EVALUATION Project.

Indicators. An important recent publication of the EVALUATION Project is the *Handbook of Indicators for Family Planning Program Evaluation* (by Jane Bertrand, Robert Magnani, and James Knowles.) This volume systematizes a wide range of indicators to measure the following concepts:

- The policy environment
- Service delivery operation
- Family planning service outputs
- Demand for children
- Demand for family planning
- Service utilization
- Contraceptive practice
- Fertility impact

All of these categories of indicators, except for the first two, are drawn mainly or partly from the information in CDC and DHS types of surveys. It is important for CDC to systematically review the indicators in this volume and to relate them to a generic CDC questionnaire. Otherwise, the

work of the Evaluation Project will be seriously undermined. By the same token, future activities of the Evaluation Project should respond to input from CDC about the feasibility of providing data for the indicators.

RECOMMENDATION:

19. Early in the next PASA, CDC should go through the *Handbook of Indicators for Family Planning Program Evaluation* and identify which indicators could be appropriately measured with a CDC survey. Those indicators should be systematically linked to the core questionnaire and modules that are suggested in Recommendation 15. CDC should then prepare a document which will specifically map indicators to questions. Ideally, representatives of CDC, DHS, and The EVALUATION Project would collaborate in this activity.

Wider Range of Methodologies. Some of the data needs identified by The EVALUATION Project, and, indeed implied by the original PASA, that would link contraceptive prevalence to service delivery, are not currently being met. The DHS Service Availability Module, was partly an effort to serve this function, but it is at risk of being eliminated. CDC is uniquely positioned to improve this linkage in those countries where it is active in logistics and management information systems as well as reproductive health surveys.

Several topics would best be served by establishing links between a survey of women/couples and service statistics. These topics include the actual clientele served by public versus private sources; the transitions from public to private services and from free to subsidized to unsubsidized services; the impact of provider biases, quality of services, stockouts, and so on upon prevalence; the responsiveness of providers to side effects or the perception of side effects; wastage of contraceptive commodities; and so on. CDC has been less adventurous than it could have been in exploring such linkages, especially in view of its superior vantage point and the mandate in the PASA. CDC has the potential to develop, test, and use various qualitative and rapid assessment techniques and methodologies. These kinds of activities could greatly enhance the complementarity between CDC and The EVALUATION Project. Service availability surveys, including a full inventory of service points and including quality of services, are another mechanism for linking service providers with the respondents in a population-based survey.

RECOMMENDATIONS:

20. CDC, together with USAID, should identify one or two countries in which it will continue both survey and logistics activities, and attempt to clarify the link between prevalence and service delivery in those countries that have existing and/or new data sources. Possible data sources for this purpose could be, for example, data from the public, private, and commercial sectors on the distribution of commodities and services; existing MIS information; improved elicitation of source of supplies and services in the main survey; and even qualitative information about user/provider interactions.

21. CDC should work toward being able to support a service availability survey or other related data collection and analysis activities when requested to do so. Any CDC effort to collect service availability data should take into account the lessons learned by the DHS project.

4. REPRODUCTIVE HEALTH EPIDEMIOLOGY AND CLINIC MANAGEMENT

4.1 Accomplishments

4.1.1 *Activities Related to Reproductive Health Epidemiology*

Training in Reproductive Health Epidemiology. Reproductive health epidemiology (RHE) training under this PASA is intended to continue the two-week workshops that were conducted in seven countries in the years preceding the current PASA. A comprehensive training manual was developed with epidemiologic exercises in reproductive health.

The course was designed for professionals who want to study reproductive health issues. Participants were expected to develop proposals which could be funded and implemented. The materials were to be translated into French and Spanish. The Spanish translation is completed, and a Portuguese translation has been started.

RHE training was expected to be given a 10 percent Level of Effort under the PASA. Through September 1995 only four percent of the person-months and five percent of trips were devoted to RHE training. A RHE training workshop in India was being undertaken at the time of this evaluation. This may slightly raise the total.

A total of 86 health professionals (excluding the India course) have been trained in RHE in four courses in three countries: Bangladesh, the Czech Republic (including trainees from Romania, Hungary, and the Slovak Republic), and Mexico (two courses). The current course in India will be a fifth. In addition, an orientation in reproductive health was conducted for ten Russian OB/GYN physicians at CDC in Atlanta. DRH has conducted RHE training in collaboration with other CAs and with host country organizations. Other countries have also received TA in epidemiology as listed in Appendix E, table 10.

CDC's two week training workshops in RHE have been well received in developing countries. The curriculum is highly relevant to a wide range of needs for understanding and using the basic tools of reproductive health epidemiology. Most trainees are 1) professionals already working in reproductive health, but lacking epidemiologic skills, or 2) epidemiologists who need to learn epidemiologic applications in reproductive health.

The training manual for the course contains chapters on the following topics:

- Reproductive Health Epidemiology
- Developing a Research Proposal
- Measures of Disease Frequency in Reproductive Health
- Epidemiologic Study Design

Sample Size and Power
Descriptive Studies
Survey Sampling
Randomized Clinical Trials
Cohort Studies
Case-Control Studies

Impact evaluations are not available, but considerable evidence exists that the training is valuable. Some individuals who now make major contributions in reproductive health were introduced to this discipline through these training workshops. Others developed projects during the workshops that were funded and completed. One example is a Kenyan randomized clinical study to assess the therapeutic benefits of prophylactic antibiotics with IUD insertion.

There is no lack of interest in conducting RHE training, despite the low level of effort. Due to staff turnover, no one person has had the lead in organizing and coordinating the workshops. Staff from each of the branches have participated in the RHE training courses, and considerable experience in RHE training remains in the DRH. Senior staff throughout the division support a renewed emphasis on implementing RHE training courses.

Plans to strengthen the RHE training efforts include sharing the training activities across a larger number of staff in the DRH, giving primary responsibility for organizing and coordinating these efforts to one person, and placing increased emphasis on seeking opportunities for conducting RHE training.

Although the course has been offered in developing countries, the need is also great within USAID, CAs, and other international agencies. The Office of Population staff have requested reproductive health epidemiologic assistance as they address new areas of reproductive health that will be integrated into family planning services. USAID senior staff can advise the DRH on course components that will be most useful for USAID staff. The RHE modules are flexible, and the DRH can tailor courses, for example, to a one week period, if desired.

The director of the Office of Health also sees the value of RHE training for USAID staff. This training will be particularly relevant for staff who design and assess safe pregnancy initiatives and other reproductive health interventions. An epidemiologic base should be incorporated into guidelines for programming that is currently being designed, according to USAID's Office of Health staff. Some staff expressed their interest in receiving training in RHE.

The Office of Health should be included in discussions with DRH during the design of the next PASA in order to serve the needs of USAID staff. The Office of Health staff also plan to contact the DRH directly about options for receiving epidemiologic TA under the current PASA.

In summary, the RHE training activities are unique, innovative, and serve an important need. No other organization can provide this training. CDC has primarily responded to requests for RHE

training, rather than actively seeking opportunities. Staff from other organizations (USAID, the World Bank, Cooperating Agencies, etc.), as well as professionals from developing countries, can benefit from such training. The DRH recognizes that more of its staff will be interested in contributing to such efforts and that greater attention to coordinating this activity within DRH can increase the level of use.

RECOMMENDATION:

22. USAID should increase the emphasis on RHE training by 1) increasing resource allocation within the PASA and at the DRH, 2) involving more DRH staff in planning courses and providing training, 3) offering RHE training to USAID, CAs, and other international agencies, in addition to health professionals in developing countries. DRH and USAID should develop a joint plan for courses at USAID, other agencies, and international settings.

Reproductive Health Epidemiologic Support to the Office of Population and PHN. The Office of Population, PHN, and the CAs need epidemiologic technical assistance in the area of reproductive health. This expertise can be provided by CDC. However, current staffing at CDC and the resource allocation of the PASA do not provide such assistance on a regular basis. A new position for a reproductive health medical epidemiologist will need to be supported. Currently, the Office of Population and the DRH have few reproductive health epidemiologists with medical training who can address service delivery implications and risk-benefit considerations of prospective reproductive health initiatives.

USAID supports an Epidemiologic Intelligence Service (EIS) position. However, this may not be filled in the near future, and the EIS mechanism is not always satisfactory to ensure that the person devotes sufficient effort to USAID-related issues.

The proposed position could be permanent (other alternatives may be a CDC Foundation or a fellowship position), filled on a two-year rotation basis by candidates who are interested in international reproductive health epidemiology. A training and staff development component would make this assignment attractive to physicians soon after their clinical training. Salary requirements at an early career stage may also be more acceptable to USAID.

The Epidemiologic Intelligence Service officer could be located at CDC or USAID/Washington. Being in Washington would allow greater access to USAID activities, but the officer would not benefit from regular interaction with DRH staff and staff from other divisions. Locating the officer at CDC would help ensure a high level of technical expertise and knowledge of reproductive health-related activities at CDC which should be linked to USAID's technical needs. The location and detailed responsibilities will need to be negotiated between CDC and USAID.

Special USAID needs which may be served by the EIS officer include the following:

- Participating in USAID task forces to address reproductive health, provide technical guidance and competence for contraceptive service delivery;
- Providing support for young adult initiatives, including defining major health problems, interventions, and tools to evaluate outcomes and impact;
- Conducting special studies in countries that need assistance in reproductive health epidemiology;
- Assessing proposed reproductive health interventions (e.g., cervical and breast cancer screening and treatment, STD diagnosis and treatment, HIV/STD prevention with regard to feasibility, cost effectiveness, and health impact.

RECOMMENDATION:

23. USAID should use the PASA to support a new reproductive health medical epidemiologist position in the DRH. Appropriate mechanisms for this assignment may be a CDC direct hire, through the CDC Foundation, or a fellowship program at CDC. The person could be located at CDC or at USAID/PHN.

DRH Collaboration with USAID's Young Adults Initiatives. The DRH survey work has made substantial contributions to the understanding of young adult sexuality and health behavior. Some of the survey results were critical to shaping the program for young adults in Jamaica. It was recognized that three different age groups needed different messages, based on the level of sexual activity in the group. The survey informed policy-makers that sexual activity among Jamaican youth begins earlier than was generally believed.

Other divisions at CDC carry out domestic work that complements USAID initiatives. For example, the Division of Adolescent and School Health (DASH) at CDC, supports comprehensive school health programs. DASH also supports a person in Geneva who works with international school-based programs.

The DRH supports and coordinates a teen pregnancy-prevention program that works with 13 community coalitions using community resources for prevention of teen pregnancies. These programs have identified interventions that succeed in reducing teen pregnancies, at least within the context of the United States. Cost sharing and fee-for-service programs will also be useful to USAID's Young Adults Project.

The director of the Young Adults Project reports previous favorable experiences in working with DRH staff. Surveys of young adults in Mexico City proved very useful for program purposes.

The Young Adults Project has recently requested help in assessing the effectiveness of the combined use of condoms and spermicides for contraception and STD prevention. Preliminary

evidence from Mexico City suggests that the combination is very effective in preventing both pregnancy and STDs.

The DRH staff and officer in the newly proposed position can be used as a conduit to access the domestic work of other divisions of CDC. Conversely, the experience and results from USAID's international work should support domestic issues addressed by CDC. For example, lessons learned from efforts to reduce STD transmission and early pregnancies among young adults in Latin America could inform parallel programs serving Spanish-speaking youth in the U.S.

Enhanced collaboration between CDC and USAID should enable both international and domestic efforts to benefit from each other. In this way, DRH can support USAID's "Lessons Without Borders" initiative.

RECOMMENDATIONS:

24. The future PASA can support USAID's young adults initiative by using the DRH and the new reproductive health epidemiologist position to identify and exploit areas of mutual interest between USAID and CDC. Such activities at CDC might include school health, adolescent pregnancy prevention, youth development strategies, cost analysis of health services, and HIV/STD prevention.
25. USAID and CDC should jointly document and publicize the lessons learned from international experience that have useful applications for U.S. public health problems. Lessons from young adults initiatives may be good examples.

Contraceptive Safety and Effectiveness: Epidemiologic Assistance. USAID has benefited from the epidemiologic expertise at CDC by receiving updated information on the safety and effectiveness of contraceptives. CDC staff have provided important support for the development of WHO's contraceptive eligibility criteria, the recommendations from the multiagency, Technical Guidance Working Group, and new research into contraceptive safety and effectiveness.

DRH assessments of the risk of HIV transmission related to method of contraception are very important. DRH's summary of recent international studies appears to show little or no increased risk of HIV transmission for users of hormonal methods or IUDs. However, some studies, including more recent research with rhesus monkeys, suggest that progesterone may increase the risk of transmission.

RECOMMENDATION:

26. USAID should continue DRH's technical support to the Office of Population in the form of technical updates on contraceptive safety and effectiveness. Especially useful will be

those findings resulting in policy and guideline changes which will improve access and quality in family planning and other reproductive health services.

Special Assistance and Investigations. The rapid response capability of CDC and the DRH is useful to USAID when special investigations or assessments are required. For example, the DRH is assisting Bangladesh in the evaluation of reports that IUD strings break. This has led to the development of a prototype for a contraceptive complaint form that can be used to document and assess complaints about contraceptives. In another instance, the DRH wrote a special report on the effectiveness of condoms in the prevention of HIV transmission at a time when reports were publicized that the condom was ineffective.

CDC's good reputation is important to USAID and to host countries who receive special assistance in urgent or crisis situations. CDC's ability to provide a rapid response for epidemiologic assistance on a broad range of issues will likely be important to USAID in the future, since unanticipated problems will continue to emerge.

RECOMMENDATION:

27. The PASA should continue to support CDC's rapid response capability for epidemiologic assessments of a broad range of potential reproductive health problems in USAID-supported programs.

4.1.2 Activities Related to Clinic Management

The main element of assistance in clinic management has been the computerized Patient Flow Analysis (PFA) technique developed by the DRH. The technique documents staff utilization and patient or client flow through health services. The data can be used to identify problems in patient flow, determine staff and space needs for a facility, document staff costs for specific services, and provide the basis for improving clinic service strategies.

The PASA designates five percent of the effort for clinic management activities. Table 3 in Appendix E shows that about three percent of person months and three percent of trips were for PFA and clinic management activities. In recent years there have been few PFA activities.

Several factors account for the low level of activity:

1. Other activities, particularly a 1991 commitment to HIV-prevention training for Title X family planning programs, consumed almost all staff time in the unit that usually conducted international clinic management and PFA activities.

This HIV-prevention training project significantly expanded the technical capacity of the Clinic Management Unit. Conducting operations research led to the development of tools

and expertise for assessments in the following areas: (a) client attitudes and preferences (through client exit interviews), (b) provider attitudes, preferences, and training, (c) service costs, (d) clinic policies and operational procedures, and (e) overall program development. These tools supplemented and enhanced the use of PFA techniques and strengthened the overall capacity of the CMU staff.

2. Staff turnover during the PASA resulted in the departure of the most experienced PFA trainers, while the remaining staff were required to manage the HIV project mentioned above.
3. Funding was only sufficient for occasional PFA activity. Invitations from international programs, including IPPF, were received. The DRH was unable to respond, and sometimes the host country or organization could not provide the funding needed for in-country costs. There were also administrative barriers, and sometimes a concern by USAID about the appropriateness of such clinic-based interventions.

PFA work, using primarily a train-the-trainer approach, has been conducted in more than 25 countries in the past 10 years. This work has proved useful in both developed and developing countries. CDC's innovative developments in PFA have been adopted and expanded by several organizations in developing countries. For example, after initial training in 1988, APROFE, an NGO in Ecuador, now uses PFA routinely to assess clinic performance and to measure the costs of various health services in its 20 clinics. APROFE is also proud to have trained the staff of IPPF/WHO, the Population Council, and CEMOPLAF, an NGO in Ecuador.

AVSC has modified PFA from a computer to a manual system for use in its COPE (client-oriented provider-efficient) initiatives. (The original CDC prototypes of PFA were manual, but CDC later developed computer versions.) COPE is used widely by AVSC as a quality of care tool. AVSC staff should be included in the PFA users workshop, if at all possible.

Despite few international PFA activities in recent years under the PASA, there is considerable potential to use PFA to assess costs of service components. As HIV/STD and other reproductive health services are integrated with family planning, it will become increasingly important for providers to measure the time and cost involved in providing these services.

CDC will conduct a workshop for PFA users in April 1996. This should further define the most appropriate future use of PFA and suggest ways to improve the technology.

Given the desire to respond to client needs, make services more efficient, and determine costs of existing and added services in the context of integrating reproductive health and family planning, clinic management tools such as PFA appear to be underutilized. The DRH staff believe that additional work in this area could greatly benefit from being given a higher priority by USAID. CDC is interested in developing a clinic management/operations research agenda with USAID. The level of PFA activity will need to be negotiated between USAID and CDC.

RECOMMENDATION:

28. USAID and the DRH should give new emphasis to PFA in selected areas. The upcoming CDC workshop for PFA users will help to identify recipients who will benefit most. Priority can be given to programs that emphasize cost recovery, integration of reproductive health and family planning services, and reduction of client waiting time.

4.1.3 Other Related Activities

The DRH is supporting the completion of a book called *Family Planning Methods and Practice: Africa*, an update of *Contraceptive Technology Africa*. Dr. Hatcher and the *Contraceptive Technology* authors have written much of the text; an editor, Debbie Kowal, is contracted to edit the book, and DRH staff have written some chapters on clinic management and logistics. The first edition was well received by many Africans, and this is the basis for updating a separate contraceptive text for Africa.

Completion of the book has been delayed by one year due to other commitments of Dr. Hatcher. Further delays are occurring as the manuscript is sent to other outside reviewers, as requested by Dr. Jim Shelton of USAID. The internal USAID review and the Department of Health and Human Services approval process for CDC publications have also contributed to delays and frustration.

There is a difference of opinion between CDC staff and some reviewers about how much additional work is needed to make the book appropriate for African service providers. To the extent possible, the substantive content should be consistent with the other CA and USAID-supported manuals and guidelines for family planning/reproductive health being used in Africa. The book should also be consistent with *The Essentials of Contraceptive Technology*, being prepared jointly by Dr. Hatcher, Ward Rinehart (Population Communication Services/Johns Hopkins University), and others. Comparing the two works at this stage might facilitate completion of *Family Planning Methods and Practice: Africa*.

One point of view at USAID is that the book is not necessary, and that it may not be the most efficient use of resources to continue efforts to complete the book project. If the efforts on the book are discontinued, it may be possible to include some of the special sections written by DRH into other texts, such as *Essentials of Contraceptive Technology*.

Based on the amount of effort expended and the advanced status of the work, DRH staff believe that the book should be brought to completion, but they acknowledge that it would be wise for DRH to decline future opportunities for similar work.

As soon as possible, there should be a review of the current status of the book and the work needed to bring it to completion. USAID staff, relevant DRH staff, the primary authors, and

writers of other similar works, particularly *Essentials of Contraceptive Technology*, should be consulted in reviewing the status of the book and deciding if it should be discontinued or completed.

4.2 Relationship With Other Agencies and Donors

A WHO Collaborating Center is located within the DRH. Maternal mortality and child survival are the main topics of this collaboration. Some of the work has been done through Pan American Health Organization (PAHO). Relations with WHO enhance the visibility of work in the DRH and offer a direct means to influence policies and positions taken by WHO. Strong professional links between the DRH and WHO are useful for information dissemination and for recruiting the important voice of WHO.

The DRH is also working with the World Bank to assess facility-based services and health infrastructures. These links help extend the influence of the DRH and increase the leverage of DRH's work.

5. OTHER GENERAL ISSUES

5.1 Management

USAID wants the CDC PASA to support the interests of the entire PHN Center; address cross-cutting reproductive health issues, and support the young adults initiative. There is a perception at USAID that CDC could provide a greater range of inputs to USAID, and the evaluation team agrees. We considered the option of a different location within USAID for monitoring the PASA, and also the possibility of a different location for directing the activities of the PASA at CDC.

We did not find strong encouragement from either agency to recommend major structural changes that would relocate the management functions. However, there are divergent views among PASA staff on the merits of introducing some changes in management structures and functions. We considered relocations within the Office of Population or the PHN Center for USAID, and within the DRH for CDC. Recommending structural changes in either organization might create administrative problems and could risk losing the current management expertise for the PASA at CDC and USAID. There are also different views within the DRH. Options for structural changes to facilitate PASA management within the division could appropriately be considered after the new director of DRH is designated.

The general feeling at both agencies was that management of the PASA activities is satisfactory in the current locations and that mechanisms other than relocation might work better to serve the diverse interests within USAID and CDC.

For example, at USAID, an informal task force consisting of persons from the Office of Population and the Office of Health may help CLM to address the broader needs of PHN. The CTO for the DHS project could be a member of this task force; this would help ensure a coordinated approach to survey activities. At DRH the organization of activities around functional areas could strengthen RHE training, expand the use of PFA and clinic management techniques, and improve access to the other areas of CDC.

RECOMMENDATIONS:

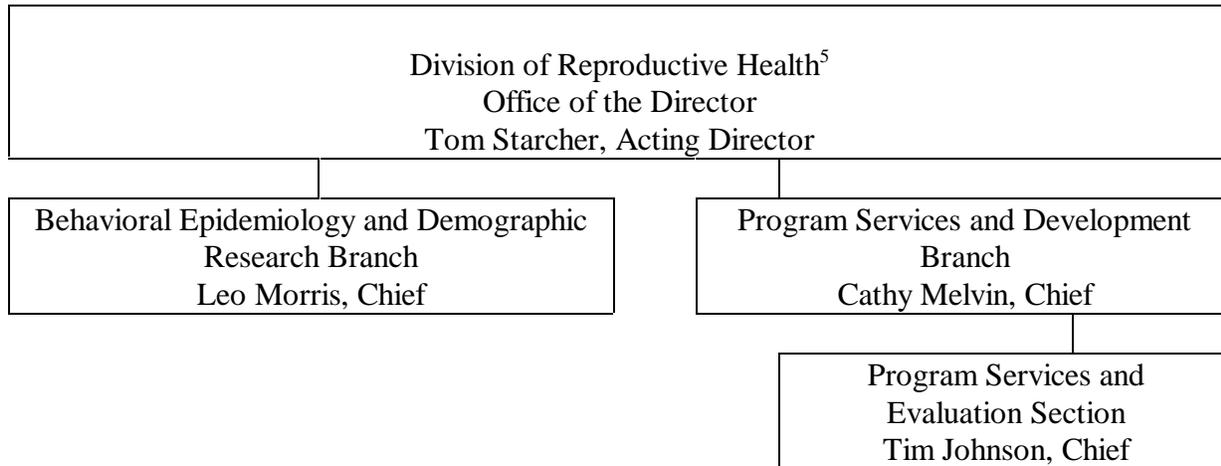
29. USAID should consider naming persons from the Office of Population and the Office of Health who will assist the CTO in identifying needs of PHN that can be addressed through this PASA. This task force could provide assistance with the design of the follow-on agreement and the prioritization of the recommendations in this report.
30. The DRH should establish an internal advisory group to extend RHE training and clinic management (PFA activities) and to access other areas of CDC. The new reproductive health epidemiologist officer should also be involved in this extension of focus. Survey

and logistics areas should collaborate directly with DHS and JSI's FPLM projects, respectively.

Despite the evaluation team's decision not to recommend any specific relocation of the management of the PASA within CDC, several problems associated with the existing management structure and management processes can be identified. Some of these are associated more generally with administrative limitations and practices of CDC.

Most PASA-supported staff and activities are divided between one branch of CDC and one large section in a *different* branch of CDC. Survey work is conducted by the Behavioral Epidemiology and Demographic Research Branch (BEDRB), which is a fairly small branch, not subdivided into sections. Logistics activities, and also the management of the PASA, are located within a large section, the Program Services and Evaluation Section (PSES), within the very large Program Services and Development Branch (PSDB). The PASA Project Director also serves as Chief of the PSES, under the general supervision of the Chief of PSDB, who in turn reports to the Director of DRH. The Deputy Project Director is the chief of BEDRB, and is therefore at a higher administrative level than the Project Director. Thus, the Deputy Director, as a Branch Chief, has access to some information and has some kinds of authority that the Director, as a Section Chief, does not have. This is sometimes a problem for the incumbent. The following chart shows the linkages between the principal components of the PASA within DRH, which gives rise to some of the communications and management concerns voiced by some PASA staff.

PASA in the Division of Reproductive Health, CDC



⁵ The full organization chart for the Division of Reproductive Health is included in Appendix F.

PASA activities within PSES have been constrained by the administrative limitations. International travel approval, the recruitment and hiring of staff, supervision of secretarial support, and the allocation of office space are examples of such limitations.

Requests for any reimbursable or in-kind travel approval must commence six to four weeks prior to anticipated travel. Each of these requests are reviewed by 1) the section, 2) the branch, 3) division administrators, 4) center administrators, and 5) the International Health Programs Office (IHPO). The IHPO does not accept any request not received by the IHPO two weeks prior to departure. Any significant change in travel requires starting the whole process over. Two people traveling together require a multiple traveler justification memorandum, which is sometimes returned for trivial changes in wording. A six-to-four week lead time limits the capacity of PSES to respond in a timely fashion to USAID and other requests for TA. Difficulties with the multiple traveler justification memorandum delay attempts to provide field training for new staff members. The filling of the remaining two positions (out of the four lost) continues to be constrained by inefficiencies and delays in the Human Resources Management Office. The secretary serving PSES is supervised and evaluated by the branch's assistant chief (not by the Section Chief/PASA Director) and has additional non-PASA responsibilities. Office space is assigned by the division.

PASA activities currently account for about 15 percent of the budget of DRH and the number of staff employed by the PASA (measured by full-time equivalents) exceed the number of staff in many branches. To ensure that the PASA can be even more responsive in the future to an expanded range of needs, serious consideration should be given to administrative structural changes.

RECOMMENDATION:

31. USAID should assure that alternative management processes are developed to reduce PASA administrative constraints under the follow-on PASA. Delays in travel authorization should also be addressed at CDC. Divisions at CDC which do not suffer from these delays may suggest mechanisms to expedite travel.

Management of the current PASA requires a significant Level of Effort. Deliverables must be tracked. Funds and staff time must be allocated according to PASA priorities. The execution of these management tasks across branches is currently time-consuming and will become more so if the follow-on PASA takes on a greater technical breadth. Moreover, USAID's new budget system will increase budget tracking requirements.

RECOMMENDATION:

32. The follow-on PASA should include provision for a PASA administrative staff position in addition to the position of project director.

5.2 Staffing

Because CDC is a federal agency, rather than an NGO, it shares the same kinds of limitations as USAID itself in the hiring and firing of staff. CDC personnel occupy full-time equivalents or budget lines that are supposedly independent of temporary funding mechanisms such as a PASA. This can make it very difficult to add even a clerical staff person, let alone a professional, to the group of persons at CDC who carry out the work of this PASA. It also means that established lines or full-time equivalents which pertain to this PASA can remain vacant for months or even years because of hiring restrictions or freezes that CDC as a whole faces. Although we encountered a very high level of support for the PASA within all administrative levels at CDC, up to the director of the Center for Chronic Diseases and Disease Prevention, there is very little room to maneuver with respect to these restrictions.

The extent to which staffing of logistics management advisors can be augmented under the follow-on agreement is constrained by CDC-wide full-time equivalent limitations. Positions created through fellows programs such as those supported by The Association of Schools of Public Health (ASPH) and The Association of Teachers of Preventive Medicine (ATPM) offer an alternative approach. ASPH is restricted to positions on-site at CDC. The ATPM has more site flexibility. Both groups are likely to support junior- or mid-level positions. The PASA has also availed itself of staffing opportunities under the University of Michigan Fellows Program and under the CDC Fellows Program.

Four PASA positions have been vacated to date in PSES. Two of these positions have been permanently lost due to CDC's efforts to reduce the number of full-time equivalents throughout the organization. The remaining two positions are still unfilled. One position has been vacant for approximately eight months, the other for more than a year. CDC's personnel policies required that the first phase of recruitment be restricted to in-house applicants. This did not produce suitable candidates and the DRH now has approval to recruit outside CDC.

The success of CTS suggests that one of these positions should emphasize computer skills. The promotional skills required under a field support system imply that the other position would provide skills that offer USAID Missions the range of services available under the PASA.

The extent to which staffing of logistics management advisors *should* be augmented under the follow-on agreement depends on the future demand. At the moment, the field support system makes it very difficult to predict this demand.

Given full-time equivalent constraints, it is possible to predict the most likely scenario for the staffing constellation for logistics throughout the remainder of this PASA and into the next. Retirement and replacement of early staffers has produced a shift in competencies. The current PSES has been strengthened in publication and promotional capacities. These strengths should serve a range of field logistics officers that is broader than what currently exists within CDC.

Renewed collaboration between CDC and JSI/FPLM will make better use of publications and promotional capacities.

RECOMMENDATION:

33. The problem of unfilled full-time equivalents should be addressed by the DRH and the Center. Efforts should be made to expedite filling positions in order to meet the obligations under this PASA.

5.3 CDC's Comparative Advantages and Disadvantages

5.3.1 CDC's Comparative Advantages

CDC occupies a special niche, or has a comparative advantage, relative to the CAs with which it can be compared.

Prestige of the Centers for Disease Control and Prevention. Because CDC, in the larger sense, is known and respected worldwide for its involvement in such activities as the elimination of smallpox and the control of the ebola virus, it has international prestige in a class with the World Health Organization and the International Red Cross. Its name recognition and medical and humanitarian reputation have given it entry into countries and allowed it to collaborate with organizations where USAID, for example, would be greeted less enthusiastically. CDC's status has made it easier to study sensitive topics such as abortion and AIDS, because with CDC's involvement, abortion and AIDS are more clearly perceived as within the arenas of public health and reproductive health.

Access to a Wide Range of Specializations Within CDC. Within the structure of CDC, including the other divisions of the Center for Chronic Diseases and Disease Prevention and other Centers, there is a wide range of specializations related to reproductive health. These include STDs/AIDS, maternal and child health, youth, health education through schools, and domestic violence. Most of the activities in these areas are domestic rather than international (the majority of CDC's international work is through two PASA's with USAID), but they provide a resource for USAID.

Desirability of a Secondary Source of Support. Several USAID staff described the potential risk of "putting all your eggs in one basket." There are structural advantages of maintaining two survey organizations; even if one of them is primary and the other is secondary. CDC is clearly secondary to DHS in terms of the number of surveys supported by USAID (although it is not suggested that CDC is secondary to DHS in professional competency). Some of the advantages of maintaining two survey organizations (such as USAID using DHS as the primary organization and CDC as the secondary) are that the secondary survey organization can, and CDC does:

- handle the overflow from the first organization (DHS);

- specialize in some kinds of surveys, such as the young adult reproductive health survey and city surveys;
- step in when factors such as timing or country priority mitigate against using the first organization;
- utilize other channels for funding surveys;
- be an additional source of innovations and efficiencies.

Exactly the same kinds of arguments apply to the advantages of using two organizations in the area of family planning logistics management. JSI/FPLM is by far the primary CA for this activity, in terms of the quantity of technical assistance, and CDC is secondary, but CDC is able to fill gaps, develop innovations, and provide a different perspective.

Potential to Link Surveys and Logistics. One of CDC's strengths that sets it apart from other CAs is that it has both surveys and logistics activities through this PASA. One CA does survey work (Macro International, with DHS) and another does logistics (John Snow, Inc., with FPLM), but only CDC does both. If these activities are to be better integrated, in a manner as described in this evaluation, no organization is better suited to accomplish this than CDC.

5.3.2 *CDC's Comparative Disadvantages*

There are also some constraints associated with CDC that do not exist for other CAs. Because it is a domestic agency of the U.S. federal government, CDC generally cannot spend funds—including PASA funds—in a foreign country (with the exception of purchase orders less than US\$5,000). In-country expenses must be covered by another CA or by the local USAID Mission. CDC is sometimes placed in the difficult situation of having to return funds or route them through a CA that has more flexibility. The fieldwork in Romania, for example, was delayed by about a year for this reason. The team can identify four consequences of this constraint on CDC's role in supporting survey activities:

1. The first effect has been to limit CDC's role to providing technical assistance by sending CDC staff to a country on short-term visits or occasionally hosting a visitor to Atlanta for training or collaboration. CDC cannot commit resources to pay for in-country staff such as programmers and interviewers, or other costs related to fieldwork, analysis, and dissemination of results, in the same way that DHS does. Similarly, on the logistics side, it would be very difficult for CDC to place and manage long-term resident advisors through the PASA, although that was initially planned. CDC's in-country expenditure constraints have also limited its ability to provide formal training in logistics or to undertake any form of subcontracting for any activity. This is particularly problematic given the emphasis on transferring skills.
2. Another effect has been on the process by which countries are selected for CDC support. A CDC survey seems to require greater initiative and active involvement by the Mission

than for a DHS survey. This is because CDC can supplement a survey with technical assistance but can never serve as a mechanism to fund the entire survey. In a sense, if a survey is to be done, the “default” organization is DHS; special circumstances are required for choosing CDC. This is increasingly true in the logistics area as well; JSI/FPLM is becoming the “default” organization.

3. The constraints reduce the control that CDC has over an entire activity, relative to the local collaborating organization. CDC does not have as much leverage as a contracting agency would have. The degree of its involvement in sampling, data processing, and so on varies according to the country’s needs, but CDC is defined to be a supporting player. However, this lower level of control does not seem to have resulted in any loss of quality during the period of the PASA.
4. This reduced role for CDC actually appears to have a beneficial impact on local capacity-building, so long as there is already a moderate level of local expertise and a cooperative attitude, because it fosters local self-sufficiency, at least in survey activities. Although the funding restriction is a constraint from the CDC perspective, it has actually served to make CDC more cost-effective and to enhance the building of local capacity.

5.4 Responsiveness to the Needs and Priorities of USAID and Host Organizations

The 15 countries in which CDC provided survey support can be compared with the list of priority countries in the 1991 PASA. Only one country (Ecuador) is on the original High Priority list. However, most of the remaining countries (Belize, Brazil, El Salvador, Dominican Republic, Guatemala, Honduras, Jamaica, Mauritius and Nicaragua) are on the Medium Priority list. Clearly, the opportunity to assist the Czech Republic, Romania, and Russia could not have been anticipated at the time of the PASA. Costa Rica is the only other country that was not on the High or Medium Priority lists.

The USAID list of Priority Countries has changed somewhat since 1991. This list currently (in early 1996) has three categories: 15 Joint Programming Countries, 10 Special Circumstance Countries, and 33 Joint Planning Countries and Regions. The 15 countries in which CDC assisted with surveys during the PASA include two Special Circumstance Countries (Brazil and Russia), and 9 countries on the list of Joint Planning Countries and Regions (Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Nicaragua, Paraguay, and Romania) but no Joint Programming Countries. Four countries (Belize, Costa Rica, Czech Republic, and Mauritius) are not in any of the three current categories.

The initiative for support generally arises in the Missions and is approved by Washington, so any deviations from the needs and priorities of USAID would seem to be the responsibility of USAID, rather than CDC. It is clear that CDC's support for surveys has mostly gone to countries that at the time of selection have moderate and occasionally high priority in USAID’s overall scheme.

CDC's documentation includes Strategic Plans for 1992, 1993-1996, and 1994-1996. (It appears that a plan for 1995-1996 was drafted but was stalled during a review by USAID/Washington; a new plan for 1996 is currently being drafted.) The 1994-1996 plan describes six criteria according to which USAID and CDC jointly select a country for TA:

1. The USAID Office of Population and Office of Health Priority Country Designation;
2. Past and anticipated levels of family planning program funding by USAID, particularly in expenditures for contraceptive commodities;
3. Country size and other indicators, such as population growth and infant mortality rates;
4. Priority listings by different divisions in Research and Development, Office of Population and regional bureaus, as given in the Resource Allocation Plan;
5. Assessment of each country's capacity to utilize TA effectively, particularly in institution-building activities;
6. Prior history of (CDC) involvement.

The evaluation team considers the six criteria to be important, both as guidelines for the selection process and as a framework for accountability. In our view, all the countries in which CDC has worked can be justified by at least one of the six criteria; although the team would add another one, which is implicit: that CDC has a comparative advantage over any alternative source of TA for that specific country and type of activity.

Apparently, on the basis of these criteria, the countries in which CDC works are divided into three categories: Priority Countries, Other Countries, and HIV/AIDS countries, where CDC's involvement is directly related to HIV/AIDS. An attachment to the Strategic Plan for 1994-1996 lists 11 Priority Countries, 11 Other Countries, and no HIV/AIDS countries as of the date when that plan was prepared.

The classification of individual countries into the three categories is not meaningful. The term "Priority" is presumably intended to convey the meaning "High Priority," in which case "Other" is a euphemism for "Low Priority," leading to the reasonable question, "Why is CDC (or USAID) working in a Low Priority country?" Why give six criteria for selecting countries and then include as many countries that miss these criteria as satisfy them? We suggest that CDC's Strategic Plans should not classify countries into these categories.

The Strategic Plan classifies countries into six phases or types of technical assistance: institutionalization, maintenance, exploratory, phase-over, on hold, and active collaboration. The last category applies when CDC "is providing a significant level of technical assistance in collaboration with other agencies who are coordinating activities, especially JSI/FPLM." (It

would also apply to the current collaboration between CDC and DHS on some aspects of the forthcoming DHS survey in Brazil.) This is a useful classification.

The PASA requires country-specific work plans. These work plans must include timetables and estimation of required resources. Work plans and the capacity to plan over multiple years result from the shift from the annual Resources Support Services Agreement mechanism to a multiyear PASA. The PASA seeks to exploit the multi-year advantage and puts considerable emphasis on strategic planning. Annual Strategic Plans and Country-specific work plans have prioritized logistical interventions for each of the four years, 1991 - 1994. The 1995 draft work plan was submitted to CLM, but CDC reports that no response has been received. The country-specific work plans will be even more important under the new field support system. USAID will need advance information about the planned logistics TA for which to set aside funding. These work plans should be prepared in consultation with USAID. They should include overall objectives and performance indicators against which progress can be assessed.

RECOMMENDATION:

34. A new PASA should continue to require country-specific work plans for all activities. USAID should participate in their preparation.

CDC submits semi-annual reports to USAID for October-March and April-September of each fiscal year. These provide useful documentation on the amount of technical assistance and travel, broken down by countries and by area (logistics, surveys, reproductive health epidemiology, and clinic management), reports and publications. Each report includes a page or two on highlights of a recent survey or other activity. The database for these reports was used to construct the tables that appear in Appendix E.

These reports are well written, and condensed versions of them could be distributed more broadly, in particular to USAID Missions, as part of a broader effort to publicize CDC's activities.

5.5 Allocation of Resources and Staff

The original PASA called for the following approximate allocation of effort: logistics management, 55 percent; surveys, 30 percent; epidemiology training 10 percent; clinic management 5 percent. The tables in Appendix E describe the cumulative distribution of activities. Table 3 shows that logistics received the expected level of effort (55 percent); surveys received more than expected (37 percent); and both epidemiology/reproductive health training and clinic management received less effort than planned (4 percent and 3 percent, respectively). The semi-annual reports show little deviation, even within six-month intervals. This stability is partly due to the correspondence between activities and specific staff members at CDC whose salaries are paid by the PASA. There has been some turnover of the CDC staff, but typically if a person in one area leaves or retires, he or she will be replaced by someone else with the same

specialty. It may be noted that even though the PASA is positioned in CLM within the Office of Population and even though the project director is a specialist in logistics, that activity has not been allowed to swamp the PASA.

The recommendations of this team point toward an increased emphasis on epidemiology and reproductive health training. If a position were added in the area of reproductive health epidemiology, as recommended in this report, then the percentage in that area would increase. Otherwise, we would not suggest that the balance among the areas should be changed. The most important consideration is that USAID and CDC should have the flexibility to change the balance within the course of the follow-on PASA, depending on the needs and opportunities that may arise.