

# An Assessment of the Community Drug Funds of Honduras

*October 18, 1999*

*Prepared by:*

**John L. Fiedler, Ph.D.**  
Social Sectors Development Strategy  
PHR Consultant

**Rolando Godoy M., Ph.D.**  
PHR Consultant



Partnerships  
for Health  
Reform



Abt Associates Inc. ■ 4800 Montgomery Lane, Suite 600  
Bethesda, Maryland 20814 ■ Tel: 301/913-0500 ■ Fax: 301/652-3916

*In collaboration with:*

Development Associates, Inc. ■ Harvard School of Public Health ■  
Howard University International Affairs Center ■ University Research Co., LLC



*Funded by:*  
U.S. Agency for International Development



Partnerships  
for Health  
Reform

### *Mission*

The Partnerships for Health Reform (PHR) Project seeks to improve people's health in low- and middle-income countries by supporting health sector reforms that ensure equitable access to efficient, sustainable, quality health care services. In partnership with local stakeholders, PHR promotes an integrated approach to health reform and builds capacity in the following key areas:

- better informed and more participatory policy processes in health sector reform;
- more equitable and sustainable health financing systems;
- improved incentives within health systems to encourage agents to use and deliver efficient and quality health services; and
- enhanced organization and management of health care systems and institutions to support specific health sector reforms.

PHR advances knowledge and methodologies to develop, implement, and monitor health reforms and their impact, and promotes the exchange of information on critical health reform issues.

**October 18, 1999**

#### **Recommended Citation**

Fiedler, John L. and Rolando Godoy M. October 18, 1999. *An Assessment of the Community Drug Funds of Honduras*. Technical Report No. 39. Bethesda, MD: Partnerships for Health Reform Project, Abt Associates Inc.

For additional copies of this report, contact the PHR Resource Center at [PHR-InfoCenter@abtassoc.com](mailto:PHR-InfoCenter@abtassoc.com) or visit our website at [www.phrproject.com](http://www.phrproject.com).

**Contract No.:** HRN-C-00-95-00024  
**Project No.:** 936-5974.13

**Submitted to:** USAID/Tegucigalpa

and: Robert Emrey, COTR  
Policy and Sector Reform Division  
Office of Health and Nutrition  
Center for Population, Health and Nutrition  
Bureau for Global Programs, Field Support and Research  
United States Agency for International Development

---

# Abstract

The Community Drug Fund (CDF) in Honduras provides a more physically accessible source of medicines compared to the more traditional sources of health centers and pharmacies. The CDF provides what members of the community regard as a satisfactory alternative supply of medicines at lower prices. The CDFs, however, are not an unqualified success. The quantity of services they provide could be increased, and the quality of the services provided can and should be improved.

There is a typical life cycle that most of the Funds have followed, suggesting that most CDFs are not fulfilling their potential and that many of them will survive, at most, no more than a few years. This study examined how a CDF typically evolves from its start-up and then becomes supply-constrained.

Rather than attempting to address issues or problems individually, it is preferable to identify a package of CDF-related policy objectives and desired characteristics that should be addressed concurrently. In this way, potential alternatives and options will be considered in relation to the importance of other goals and measures that will be pursued simultaneously.

This study makes several recommendations for improving the performance of CDFs. Whether the approach should be legalistic, mandating changes and strictly monitoring compliance, or more informal, based on suggestions and recommendations, will depend, in part, on the expected role of the CDFs in Honduras.



---

# Table of Contents

Abstract.....	iii
Table of Contents .....	v
List of Tables .....	ix
List of Figures .....	xiii
Acronyms.....	xv
Executive Summary.....	1
1. Introduction.....	7
1.1 Purpose of the Study .....	7
1.2 Early Development and Objectives of Community Drug Funds .....	7
2. The Methodology .....	11
2.1 Study Design.....	11
2.2 Questionnaire Development, Testing, and Application.....	11
2.3 Archival Data.....	11
2.4 Cost-Effectiveness Analysis .....	12
2.5 Community Drug Funds Survey .....	12
3. An Inventory of the Community Drug Funds of Honduras .....	13
3.1 CDF Locations as a Derivative of NGO Locations.....	14
4. Structure and Operations of a Community Drug Fund .....	15
4.1 Introduction .....	15
4.2 Age and Stability of CDFs Surveyed .....	15
4.3 The CDF Model .....	16
4.4 The Structure of the CDF at the Local Level.....	18
4.4.1 The Community Drug Fund Committee .....	18
4.4.2 Common Characteristics of the Health Advisor.....	18
4.5 The Supply of Medicines.....	20
4.5.1 Initial Stock .....	20
4.5.2 Value and Composition of Initial Assets .....	20
4.5.3 Stocking Medicines .....	21
4.5.4 Resupplying Medicines.....	22
4.5.5 Tracking the Supply of Medicines.....	25
4.5.6 Indicators of the Quality of Drugs, the Drug Supply, and Resupply Practices .....	26
4.5.7 The Absolute Availability of Medicines.....	27

4.5.8	Relative Availability of Medicines .....	28
4.5.9	Types and Quantities of Medicines Sold .....	29
4.6	Attending Patients / Service Provision .....	31
4.6.1	Hours of Service .....	31
4.6.2	Numbers of Visits .....	31
4.6.3	Patient Mix .....	32
4.6.4	Average Expenditures Per Patient .....	33
4.7	Training and Supervisory Visits .....	34
4.7.1	Frequency, Average Duration, and Total Time Expended .....	34
4.7.2	Purpose of Visits .....	37
5.	Financial Analysis of the Community Drug Funds .....	39
5.1	Understanding the Impact of and Adjusting for Inflation .....	39
5.2	Initial Assets of the CDFs .....	39
5.3	Growth in Assets .....	41
5.3.1	Net Assets .....	41
5.3.2	Absolute Growth .....	41
5.3.3	Growth Rates .....	42
5.3.4	Growth Rates by Age .....	43
5.4	Estimating the Average Lifespan of a CDF .....	44
5.5	CDF Revenues .....	46
5.5.1	Setting Prices .....	46
5.5.2	Policies Concerning Credit and the Provision of Free Medicines .....	46
5.6	CDF Expenditures / Costs .....	49
5.6.1	Health Advisor Remuneration .....	54
5.6.2	Relative Efficiency of CDF Purchases of Medicines .....	56
5.7	Conclusions .....	61
6.	Assessment of Other Aspects of the Performance of Community Drug Funds .....	63
6.1	Assessing the Health Advisor's Management of the CDF .....	63
6.2	Health Advisor's Diagnostic and Treatment Skills .....	66
6.3	Appropriateness of Treatments: A Review of the Patient Register .....	67
6.4	Community's Perception .....	69
6.4.1	Community's Knowledge and Use of the CDF .....	70
6.4.2	Community Satisfaction .....	72
6.5	The CDF's Role Within the Health Care Delivery System .....	74
6.5.1	Assessing Current Locations .....	75
6.6	Conclusions .....	76
7.	Finding an Exemplary Community Drug Fund Model .....	79
7.1	The Search for a Prototype: Investigating Variations in Organizational Performance .....	79
7.2	Why Honduras Will Be Better Served by an Eclectic Approach .....	85
8.	Discussion, Recommendations, and Policy Issues .....	87
8.1	Review of Key Findings .....	87
8.1.1	General Findings .....	87

8.1.2 Medicine Supplies .....	87
8.1.3 Financial Status .....	88
8.1.4 Pricing Policies.....	89
8.1.5 Health Advisor Remuneration.....	90
8.1.6 Health Advisors’ Diagnostic and Treatment Skills .....	90
8.1.7 Health Advisors’ Management of the CDFs .....	91
8.2 Common Life Cycle of a Community Drug Fund .....	91
8.3 Recommendations for Improving the Performance of CDFs .....	92
8.4 Reassessing the Current CDF Policy Framework: A First Step in Identifying Public Policy Implications .....	93
8.4.1 The Community Drug Fund Implementation Regulation .....	93
8.4.2 The Struggle to Survive: Sustainability Concerns and Issues .....	94
8.5 Refining CDF Policy.....	98
8.5.1 A Recommended Process for Moving Forward .....	99
8.5.2 The CDF Reassessment and Reform Agenda: Key Issues and Potential Measures to Improve Performance.....	99
Annex A: The Bamako Initiative .....	103
Annex B: The Community Drug Fund Regulation .....	105
Annex C: The Community Drug Fund Inventory .....	107
Annex D: The Community Drug Fund Survey Questionnaires .....	109
Annex E: The Community Drug Fund Cost Estimates.....	111
Annex F: The Development of a Drug Price Index.....	113
Annex G: Indices of Structure and Performance of the Community Drug Funds, Detailed Analysis .....	115
Annex H: Municipality and Department Community Drug Fund Location Criteria: Municipal Health Care Coverage Rates.....	121
Annex I: Bibliography .....	123



---

# List of Tables

Table 1: Size and Composition of Study Sample.....	12
Table 2: Distribution of Active Community Drug Funds as of December 1998 .....	13
Table 3: Number of Months CDFs Have Been in Operation.....	15
Table 4: Year CDFs Began Operating.....	16
Table 5: Items a CDF May Legally Sell.....	17
Table 6: Activities of the Community Drug Fund Committee.....	18
Table 7: Health-Related Experiences of the Community Drug Fund Health Advisors.....	19
Table 8: Financing CDFs' Supplies of Medicines.....	20
Table 9: Value of Expired Drugs of CDFs .....	22
Table 10: Sources of Medicines.....	23
Table 11: Reasons CDFs Purchase Medicines From Their Chosen Sources.....	24
Table 12: Distance Traveled to Purchase Medicines.....	25
Table 13: Mode of Transportation Used in Purchasing Medicines.....	25
Table 14: Persons Preparing CDFs' Inventories of Medicines.....	26
Table 15: Availability of Selected Medicines for Treating Common Ailments of Children in Community Drug Funds, 1998.....	28
Table 16: Availability of Selected Medicines for Treating Common Ailments of Adults in Community Drug Funds, 1998.....	29
Table 17: Types and Quantities of Medicines Required to Treat 1,000 Patients of the Community Drug Funds .....	30
Table 18: Distribution of Community Drug Fund-Provided Visits.....	31
Table 19: The Community Drug Funds' Patient Mix, 1998: Distribution of Diagnosed Presenting Condition by Age of Patient .....	33
Table 20: Amounts CDF Patients Paid for Medicines.....	34
Table 21: Training and Supervisory Visits in 1998: Average Number of Visits per CDF.....	34

Table 22: Training and Supervisory Visits in 1998: Average Duration of a Visit per CDF.....	35
Table 23: Training and Supervisory Visits in 1998: Total Amount of Time of Visits per CDF.....	35
Table 24: Training and Supervisory Visits: Number of CDFs Visited at Least Once in 1998 by Type of Trainer/Supervisor .....	35
Table 25: Training and Supervisory Visits: Number of Visits to CDFs in 1998 by Type of Trainer/Supervisor.....	36
Table 26: Training and Supervisory Visits in 1998: Average Duration of a Visit and Total Number of Minutes by Type of Supervisor .....	36
Table 27: Purpose of Training and Supervisory Visits to CDFs in 1998 .....	37
Table 28: Primary Purpose of Meetings with Other Community Drug Funds in 1998.....	38
Table 29: Initial Assets of the Community Drug Funds .....	40
Table 30: Absolute Growth in the Capital of CDFs: Current Assets Minus Initial Assets.....	42
Table 31: Rate of Growth of the CDF's Assets: Current Assets as a Percentage of Initial Assets .....	43
Table 32: Monthly Growth Rate of CDF Assets by Number of Years in Operation.....	43
Table 33: Estimating the Lifespan of CDFs: Length of Time from Start of Operations to Complete Decapitalization.....	45
Table 34: Determination of the Price of CDF Medicines .....	46
Table 35: Number and Percentage of Community Drug Funds that Have a Policy of Providing Credit or Free Medicines .....	47
Table 36: Actual Provision of Credit or Free Medicines in 1998 .....	47
Table 37: Financial Significance of Providing Credit and Giving Away Medicines Free of Charge ..	48
Table 38: Who Decides to Pay the Health Advisor? .....	54
Table 39: Health Advisor Earnings: Reported Pay Policy Versus Reported Actual Payments Received .....	55
Table 40: Variations in the Prices Paid by Community Drug Funds for 24 Medicines.....	57
Table 41: An Index of the Relative Efficiency of Purchasing Medicines.....	59
Table 42: Potential Cost Savings in Purchasing Medicines More Efficiently – Simulating Two Scenarios.....	60
Table 43: Assessing the Health Advisors' Performance: Structural Indices of Performance .....	64
Table 44: Assessing the Health Advisors' Performance – Process Indices of Performance.....	65

Table 45: Indicators of Health Advisors’ Medical Knowledge and Diagnostic and Prescribing Skills.....	66
Table 46: Appropriateness of Treatments Prescribed and Dispensed by CDF Health Advisors – Average Patient Cost of a Prescription by the Appropriateness of the Prescription .....	68
Table 47: Appropriateness of Treatments Prescribed and Dispensed by CDF Health Advisors – The Case of Two Presentations of Ampicillin by the CDF’s Organizational Affiliate .....	69
Table 48: Characteristics of Persons Interviewed in the CDF Communities.....	70
Table 49: How Members of the Community First Learned About Their Local CDF .....	71
Table 50: Community Knowledge of the Services Provided by the Local CDF .....	71
Table 51: Why Members of the Community Did Not Visit the Community Drug Fund at Least Once in the Previous Year .....	72
Table 52: Frequency with Which Members of the Community Find Medicines They Need in the Community Drug Fund.....	72
Table 53: Community Perception of the Price of Drugs Sold by the Community Drug Fund .....	73
Table 54: Community Perception of Community Drug Fund Services – Would They Recommend that Others Go to the Fund?.....	73
Table 55a: A Comparative Analysis of the Community Drug Fund-Sponsoring Institutions’ Networks.....	80
Table 55b: A Comparative Analysis of the Community Drug Fund-Sponsoring Institutions’ Networks.....	81
Table 56: Identifying the “Best” Community Drug Fund-Sponsoring Institutions’ Networks.....	83
Table 57: Identifying the “Best” Community Drug Fund-Sponsoring Institutions’ Networks.....	84
Table 58: Identifying the “Best” Community Drug Fund-Sponsoring Institutions’ Networks.....	85
Table 59: Organizations Involved in the Development of CDFs in Honduras .....	95



---

# List of Figures

Figure 1: Distribution of CDFs by Organization..... 14

Figure 2: Indicators of the CDFs’ Quality of Drugs and Drug Supply Practices ..... 21

Figure 3: Distribution of CDFs by Number of Drugs Available..... 27

Figure 4: Variation in the Annual Number of Visits per CDF, 1998 ..... 32

Figure 5: Age Distribution of CDF Patients ..... 32

Figure 6: CDFs’ Average Real Value of Initial Assets, by Number of Years in Operation ..... 40

Figure 7: Average CDF’s Composition of Total Current Net Assets ..... 41

Figure 8: CDFs’ Average Monthly Rate of Decapitalization in Lempiras,  
by Number of Years in Operation ..... 44

Figure 9: Estimated Longevity of CDFs, by Years Currently in Operation..... 45

Figure 10: Composition of Mean Expenditures per CDF..... 50

Figure 11: Composition of Expenditures (Mean Expenditure per CDF, Last 6 Months)..... 51

Figure 12: Average Expenditures of the Five Largest CDFs..... 52

Figure 13: Average Expenditures of All Other Than the Five Largest CDFs..... 52

Figure 14: Average Expenditures of the Five Largest CDFs..... 52

Figure 15: Average Expenditures of All Other Than the Five Largest CDFs..... 53

Figure 16: Structural and Process Indicators of the Performance of the Health Advisors..... 66

Figure 17: Appropriateness of CDF Treatment, by Patient Age Group ..... 67

Figure 18: Total Annual Visits Provided by the Surveyed CDFs, 1995-1998..... 74

Figure 19: Annual Average Number of Visits per CDF..... 74

Figure 20: Distance from the CDF to the Nearest Health Center..... 75



---

# Acronyms

<b>AMHON</b>	<i>Asociación de Municipios de Honduras</i> (Honduran Association of Mayors)
<b>CDF</b>	Community Drug Fund
<b>CDFC</b>	Community Drug Fund Committee
<b>CESAMO</b>	<i>Centro de Salud con Médico y Otros</i> (Health Center with Physician and Others)
<b>CESAR</b>	<i>Centro de Salud Rural</i> (Rural Health Center)
<b>CPI</b>	Consumer Price Index
<b>HA</b>	Health Advisor
<b>MOH</b>	Ministry of Health
<b>NGO</b>	Non-governmental organization
<b>PAHO</b>	Pan American Health Organization
<b>PHR</b>	Partnerships for Health Reform Project (USAID)
<b>PRODIM</b>	<i>Programas para el Desarrollo de la Infancia y la Mujer</i> (Programs for the Development of Infants and Women)
<b>SPSS</b>	Statistical Package for the Social Sciences
<b>UNICEF</b>	United Nations Children's Fund
<b>UPS</b>	<i>Unidad Primaria de Salud</i> (Primary Health Unit)
<b>USAID</b>	United States Agency for International Development



---

# Executive Summary

Since 1991, more than 500 Community Drug Funds (CDFs) have been established in Honduras. Nearly all of them have been started by non-governmental organizations (NGOs) and are located primarily in the southern and western sections of Honduras. This small but growing segment of the Honduran health care delivery system is neither well known nor well understood.

The CDFs were originally developed to

- ▲ provide access to medicines for persons residing in isolated, especially rural, areas;
- ▲ promote the rational use of medicines;
- ▲ promote community participation; and
- ▲ reduce self-medication.

While the widespread consensus in Honduras is that the CDFs have been a successful, innovative approach to increasing access to health care, this perception has been based primarily on anecdotal evidence. To date, there has been little empirical analysis of the CDFs. This study was designed to address this lack of information.

## Overview of a Community Drug Fund

CDFs share many structural and procedural characteristics. Most have been established by NGOs that developed a committee comprised of members of the community to oversee and manage the Fund. The heart of the CDF is the health advisor (HA), who receives one to two weeks of training before assuming this position. The typical HA is a 35-year-old Catholic woman with a sixth-grade education, a family of seven, and of low socioeconomic status. Most HAs have years of experience working in health care in other capacities, usually as volunteers. They are authorized to administer 37 drugs, and they include a small mark-up in the sale of these drugs, which is intended to cover their costs and provide some remuneration (about 30 percent). Most HAs maintain an inventory of their drugs and other supplies, a record of all sales, and information on patients seen (age, sex, presenting condition/diagnosis, and treatment).

The CDF networks have a central or regional office that does the initial HA training and subsequently provides supervision and, in some cases, in-service training. In addition, many of the CDF-sponsoring organizations maintain a corps of supervisors who meet regularly with each HA to provide limited in-service training and maintain a system for resupplying CDFs with medicines.

## The Methodology

This study is based on the review of archival data and primary data collected from interviews with persons operating a sample of 51 CDFs and with approximately 493 residents of the communities in which the sampled Funds operate. Data collection was conducted between September 1998 and January 1999 by a team of four interviewers. Hurricane Mitch interrupted the fieldwork and also forced a reduction in the size of the sample and the scope of the study.

## Summary of Key Findings

The CDF is a group of organizations that has filled an important gap in the health care delivery system and, within a few years, has grown dramatically in size and number. The CDF offers a more accessible source of medicines, compared to more traditional sources such as health centers and pharmacies, and provides a satisfactory alternative supply of medicines at lower prices. The CDFs, however, are not an unqualified success. Their services could be increased and the quality of services improved.

This study reveals a fairly common evolutionary development pattern, or life cycle, of CDFs. It looked at how a CDF typically evolves, from start-up to the point where its sales diminish and its stock of medicines are in short supply. This dynamic portrait suggests that the potential of most CDFs is not being fulfilled and that many of them will not survive more than a few years, at most.

Most CDFs begin operations with a supply of medicines that are not matched to local conditions and with a HA who is generally highly motivated, but inadequately prepared for the job. The usual 55 hours of pre-service training for HAs are insufficient, particularly given the limited amount of practical, on-the-job, in-service training that is provided. The initial supply of medicines is frequently inappropriate, resulting in a number of slow-moving products, many of which eventually expire, saddling the CDF with losses and diminishing the value of its assets, or even forcing the Fund to sell expired medicines. Generally, HAs charge low prices, which also further reduces the value of the Fund's assets. It appears that, with enough experience, HAs can learn to establish higher prices that will stem the erosion of the CDF's total net assets.

CDFs usually purchase drugs once every two or three months and this results in a disproportionately large amount of the Fund's assets being held in cash. Excess cash holdings, expired or damaged medicines, and losses due to the low prices charged, all work to reduce the potentially available stock of medicines. With only 10 medicines available at a typical CDF and the most popular medicines often out of stock, there simply are not enough supplies or a rapid enough turnover in stock to be able to generate sufficient revenue. Sales of medicines are constrained by inadequate supplies. Limited inventory translates into few sales and revenues, and thus relatively few resupply purchases.

As the sale of medicines falters, so does the HA's income from operating the Fund. Many HAs even forego their earnings to better maintain the viability of the Fund they operate. The primary motivation for being a HA then becomes the moral incentives of improving the health of one's neighbors and community and of being respected in the community as a health resource. As the Fund supply becomes constrained and sales dwindle, these moral incentives become the chief motivators for the HAs. It is noteworthy, the extent to which HAs will continue their work without economic compensation.

Although this appears to be a common evolutionary pattern of a CDF, it does not have to be. A CDF could become a more significant health care resource if it did the following:

- ▲ charged more for medicines;
- ▲ reduced the cost of purchasing medicines;
- ▲ had better, more regular resupply systems;
- ▲ provided a better stock of medicines, both quantitatively and qualitatively; and

- ▲ better trained its HAs in diagnosing illnesses and prescribing treatments.

Although the study found that many Funds provide credit and dispense medicines free of charge to indigents, neither of these practices is an important factor contributing to the CDF's financial plight.

### **Recommendations for Improving Performance**

The following are some of the steps CDFs and their organizational sponsors could take to improve the CDF's performance:

- ▲ Become more efficient in purchasing medicines. The possibility of purchasing the medicines at cost from the Ministry of Health (MOH) or pooling the purchases of CDFs and CDF network sponsors to obtain volume discounts should be investigated. Another avenue to investigate is the possibility of receiving supplies by mail, rather than incurring the much larger transport and associated costs resulting from making transactions in person. This could be done in conjunction with some type of centralized purchasing or by purchasing directly from a drug wholesaler. The idea of establishing a national drug house (*casa nacional de medicamentos*), suggested by the Pan American Health Organization (PAHO) and others in the mid-1990s, should be re-examined.
- ▲ Ensure that the initial stock of medicines and the ongoing inventory are tailored to each Fund's needs. By developing a system of improved coordination with the MOH, new CDFs could review the service delivery, patient mix, and drug consumption data of MOH facilities in the immediate geographic area and use the data as a benchmark. For CDFs already established, the development of morbidity and drug use/sales profiles—based on the individual CDF's own data—could be encouraged through supervision and the development and implementation of training modules. These efforts would also provide additional motivation for HAs to maintain good patient and drug registries.
- ▲ Develop drug exchange systems with the nearby MOH facilities and other CDFs to minimize losses.
- ▲ Provide better financial incentives to HAs. Make it the responsibility of the promoters or supervisors and other regional and central office personnel to work with the CDF Committee (CDFC) (where they exist) to ensure that HAs are receiving their fair share of the Fund's revenues.
- ▲ Provide more pre-service and in-service training in diagnosing illnesses and prescribing medicines. Invite HAs to participate in MOH training activities. Promote practical approaches such as role playing in patient-health advisor interactions and training on the job.
- ▲ Develop informal (i.e., not legal) systems for certifying and periodically recertifying the maintenance of adequate levels of knowledge and practical skills in diagnosing and treating common illnesses.
- ▲ Provide practical, hands-on training in accounting, including how to establish prices for supplies.
- ▲ Focus financing, training, and supervision on ensuring the sustainability of pre-existing

CDFs. This should include ensuring that all CDFs have a minimum of four consumption months of the most quantitatively important drugs.

- ▲ Seek additional sources of funding from NGOs, international agencies, the MOH, and mayors' offices. Many mayors' offices are interested in improving the health status of their populations and have begun to spend money on these efforts. CDFs are an attractive, highly visible, low-cost method for providing a first line of health care. Existing CDFs constitute an established health infrastructure and an already established investment; therefore, helping to ensure that they have an adequate supply of medicines is a good investment for mayors. This strategy should be aggressively pursued at the CDF, the network, and the national level. CDFs affiliated with a mayor's office are likely to be more sustainable, though they are also likely to be multifunctional and not devoted exclusively to working on CDFs.

### **Reassessing the Current CDF Policy Framework: A First Step in Identifying Public Policy Implications**

Several recommendations identified in the preceding section involve the MOH. Rather than introducing suggested changes in an ad hoc, incremental manner and accepting the current CDF policy framework as given, it is recommended that the MOH take advantage of the more comprehensive understanding of the CDFs and their role within the Honduran health care system that this study has provided. Then, the MOH could reassess how it might influence the development, role, and performance of CDFs beginning with a review of the Community Drug Fund Regulation of 1996 and its effect on the Funds.

The 1996 regulation specifies in detail how a CDF should be organized, structured, and implemented. It does not, however, address a number of key issues that affect the uncertainty of the Funds' future and likely course of development. For instance, the regulation states that NGOs, agencies of international cooperation, and MOH facilities (UPSs) should establish monitoring and supervisory mechanisms and make periodic assessments (monthly in the initial stages) to review seven specific indicators (as identified in the regulation). It does not indicate what should be done if the CDF is not doing an adequate job.

The regulation also disregards the issue of ongoing financial requirements and only addresses the start-up financing of a CDF. In addition, the regulation states that "The person in charge of the Community Fund shall continually receive training,..." but it does not mention who will provide the training or how it will be financed. (Ministerio de Salud Pública, 1996). While the CDF regulation never addresses whether the original implementing institutions would be "continually" involved in financing the Funds' activities, the implicit assumption is that the Funds would be financially sustainable. However, if they are not financially sustainable, what happens to them? How and by whom are promotion, training, and monitoring activities to be financed? These issues, the most troubling weaknesses of the current system, need to be addressed.

The way in which most CDFs have been financed has served to underscore the significance of the regulation's shortcomings. Most have been financed by international agencies, which—like the regulation—have been overwhelmingly focused on the installation of the Funds, with inadequate consideration for, and little or no money allocated to deal with, what happens after they are set up.

This preoccupation with financing the start-up of new CDFs and neglecting the provision of adequate financing for recurrent activities has resulted in what has already been referred to as the common life cycle of a CDF. When CDFs are initially set up and the implementing agency is

receiving funding for the project, substantial training is involved, and comprehensive monitoring and supervisory systems are established. Supervisory visits are frequent and fairly rigorous when implementing the systems recommended in the CDF Regulation. After the initial funding cycle is over, however, a steady process of erosion begins, taking its toll on the quantity and quality of training, supervision, and monitoring, and subsequently, on the record keeping as well. This has contributed to a growing discrepancy between the expected results from training, supervision, and monitoring at the Fund's initiation and the actual results—namely, less rigorous and quantitative data collected and quality services delivered by HAs who lack training and qualifications. This discrepancy is generally seen by comparing what exists on paper and what exists in reality. NGO national health coordinators explain that they have no data on the CDF because they have “decentralized” the system. “Decentralization” appears to be an excuse, or a euphemism, for having abdicated their responsibilities with respect to the CDFs. The findings of this study suggest that there is reason to be concerned about these issues.

The CDFs have not been totally abandoned, however. Although they are no longer an NGO central office priority, many NGOs have incorporated the CDFs into their portfolio of integrated, community development activities. The result has been that supervision and monitoring activities and in-service training are conducted almost exclusively at the lowest level at which the NGO interfaces with the community. Generally, both the frequency and the quality of supervision, monitoring, and training have suffered.

Another common developmental pattern is that once CDFs are set up, they evolve into an independent enterprise. Usually, this has happened because the founding NGO has discontinued its entire CDF program or because the NGO itself or its Honduran operations have been dissolved. As the supervision and monitoring of CDFs erodes, it becomes increasingly difficult to distinguish independent HAs from those still sponsored (however loosely) by NGOs. Adding to the confusion are a number of small pharmacies that operate in a manner virtually identical to the CDFs. The study questions whether this is a desirable development.

### **A Recommended Process for Reassessing and Refining CDF Policy**

The emerging patterns of change in the organization and operation of CDFs and their sponsoring organizations may be summarized as (1) the systematic reduction in supervision, monitoring, and in-service training activities, and (2) the decline of community participation. Lack of financing has been the main reason for this reduction. Any effort to change public policy to improve the CDFs must take these factors into account and must determine the role of the MOH in addressing these and other issues. Rather than attempting to address issues or problems individually, it is preferable to identify a package of CDF-related policy objectives and desired characteristics that should be concurrently addressed. This approach is preferred because potential options should be considered in relation to other goals, objectives, and measures that may be pursued simultaneously.

A working group or committee of the National Health Council, or perhaps the MOH, should lead a public discussion to accomplish the following:

- ▲ specify and reaffirm the goals and objectives of the CDFs,
- ▲ improve and ensure the quality of CDF-provided care, and
- ▲ consider whether the MOH should continue to sponsor its own CDFs or play a different role in financing and oversight.

The approach taken could be formal, mandating changes and strictly monitoring compliance, or less demanding, based on suggestions and recommendations. The more appropriate approach partly depends on the perceived role of the CDFs in Honduras and on the particular issue being addressed.

### **The CDF Reassessment and Reform Agenda: Key Issues**

The CDF Regulation set four goals: (1) improve access to health care, (2) encourage the rational use of medicines, (3) promote community participation, and (4) discourage self-medication. Since the CDFs are not fulfilling these goals as well as they might be, the MOH needs to consider whether these goals are realistic. If they are, what needs to be changed to improve the CDFs' performance and achieve these goals?

Key issues to consider are:

- ▲ access to CDFs,
- ▲ indefinite existence of established CDFs,
- ▲ quality of services,
- ▲ regulatory role of MOH,
- ▲ Health Advisors' level of knowledge and skill,
- ▲ Financing the recurring costs of CDFs, and
- ▲ MOH contributions to the annual maintenance of CDFs.

The MOH will also need to consider whether it should continue its current policy of sponsoring CDFs. Its stated long-term goal is to become less of a direct provider of care, and, therefore, the MOH may want to focus its efforts on monitoring CDFs, developing a legal and regulatory framework that better ensures the quality of care provided, and developing methods to better ensure their financial and institutional sustainability.

It is evident that although CDFs are making a definite contribution to health care in Honduras, they could be providing more and better care to the population. How much better and how much more they should be doing are two fundamental questions now confronting Honduras and its health policy makers.

---

# 1. Introduction

---

## 1.1 Purpose of the Study

Since 1991, nearly 500 Community Drug Funds (CDFs) have been established in Honduras, primarily in the southern and western departments of the country. To date, there are no definitive sources of information about CDFs, nor mechanisms for assembling such information. While there has been widespread speculation about the number of CDFs currently operating, until this report, there has been no systematic accounting system of them or a definitive list of their sponsoring non-governmental organizations (NGOs). Today this small but growing segment of the Honduran health care delivery system remains neither well known nor well understood.

Most Honduran CDFs have been started by NGOs, and, as a result, their locations—mostly in Comayagua and La Paz—coincide with the locations of other activities sponsored by these same NGOs. Although CDFs were originally developed to increase access to care for persons residing in isolated rural areas, no Funds exist in Olancho or Gracias a Dios, two of the most rural and isolated sections of the country.

While the general consensus in Honduras is that the CDFs have been a successful, innovative approach to increasing access to health care, this perception has been based primarily on anecdotal evidence. To date, there has been little empirical analysis of the CDFs. The studies that have been conducted have not assessed the general CDF model, but rather have been undertaken or sponsored by one or more NGOs to investigate particular aspects of the CDF model and its operations. Furthermore, these studies have commonly focused only on a portion of the network or its operations. This narrow focus has not contributed to a better understanding of variations in the CDF network models and therefore could not offer guidance on ways to promote CDFs that are consistent with the goals of the Ministry of Health (MOH). The purpose of this study is to address this information gap.

---

## 1.2 Early Development and Objectives of Community Drug Funds

In 1990, the MOH made a general request for assistance from UNICEF to support a new initiative involving the sale of drugs through what were then referred to as *farmacias populares* or *botiquines populares* (community pharmacies). At the time there were a variety of other government initiatives involving the development of state-owned enterprises, including *tiendas populares*, stores that sold basic food products at low or subsidized prices. The CDFs, as part of this general movement, helped to promote the development of state-owned business. During this era, the CDFs were primarily an urban-based concept. In 1990, 10 *farmacias populares* were established in Tegucigalpa. These first CDFs were short-lived.

In 1991, UNICEF's worldwide promotion of the Bamako Initiative encouraged the MOH to revisit the idea of CDFs. The MOH's concept of the role and objectives of the CDFs became more

consistent with those of the Bamako Initiative (see Annex A for a description of the Bamako Initiative). Still, there were some ambiguities concerning the ordering of priorities and the goals of the CDFs, as may be seen from a review of UNICEF documents<sup>1</sup> regarding these early efforts. The first official MOH document on the CDFs (the Installation Guide, *Guía de Instalación*, issued jointly with the Inter-Institutional Committee in January 1993) stated that the CDF had five principal objectives. It should be noted that the first two of these objectives dealt with the promotion of community participation and human resource development while the goal of making basic drugs more readily available was listed third. More specifically, the guide states that the purpose of a CDF is to do the following:

- ▲ train community residents to be able to manage the community's resources and make decisions to solve health problems;
- ▲ train human resources to provide adequate treatment of the most common health problems;
- ▲ improve the availability of basic medicines of good quality and low cost to the community;
- ▲ diminish self-medication by instructing people in the correct use of medicines, especially antibiotics; and
- ▲ promote the use of natural medicines, when appropriate.

There is a common thread in the design and development of CDFs and CDF policy. The evolution of CDF policy culminated in the MOH's October 1996 issuance of the "Regulation of Implementation and Functioning of the Community Drug Funds." This regulation (presented in Annex B) identifies the following objectives for CDFs (p. 3):

- ▲ to guarantee the population access to health services and the use of essential, safe, and effective medicines of optimal quality at a low cost;
- ▲ to promote the rational use of medicinal products, and natural medicines when convenient, at the community level;
- ▲ to promote community participation in the self-management of the supplies of medicines on the basic list of medicines defined for the community funds; and
- ▲ to reduce self-medication through training on the correct use of medicines.

The president of Honduras, Carlos Flores, and the former minister of health, Dr. Marco Antonio Rosa, reiterated the importance of all four of these objectives in the administration's pursuit of health reform as reflected in the "New Agenda for Health 1998-2002." The New Agenda calls for major reforms in the structure and operations of the MOH. The reforms include "developing and deepening the strategies of the Community Drug Funds as an institutional strategy to improve access to basic medicines for the poorest population and as a means of strengthening the community level and promoting social participation" (page 46). As is clear from this policy statement, CDFs in Honduras have never focused solely on making essential drugs more readily accessible. They have always been regarded as a means of extending the provision of primary care services, for reducing the misuse of

---

<sup>1</sup> These are internal UNICEF project documents provided by Dr. Luis Roberto Escoto.

drugs, and as a tool for promoting community participation. An assessment of the CDFs must investigate each of these dimensions.



---

## 2. The Methodology

---

### 2.1 Study Design

The design for this study was finalized in September 1998 by the two principal investigators, John L. Fiedler, Ph.D., and Rolando Godoy M., Ph.D. The study is based on the review of archival data and primary data collection consisting of interviews with persons operating or working with CDFs. The study began with the development of an inventory of all known CDFs (see Annex C). Assembling the inventory required identifying each of the NGOs currently sponsoring CDFs and visiting or interviewing representatives from the central and regional offices of these NGOs.

---

### 2.2 Questionnaire Development, Testing, and Application

A set of four questionnaires was developed and applied to each of the 51 CDFs profiled in this study. One questionnaire was used to obtain information about the health advisor's (HA's) personal characteristics, family and living situation, and his/her health care-related work experience. A second questionnaire was used to assess the HA's level of knowledge about the diagnosis and treatment of common, primary health care problems. A third questionnaire was used to learn about the funding and operations of the CDF and the Community Drug Fund Committee (CDFC), and the operations of the CDF's NGO sponsor. This questionnaire also included a series of questions about the quantities and types of medicines dispensed, the medicine resupply system and operations, the financing of the CDF (including how prices are set, exoneration, and credit policies), and the physical site. The fourth questionnaire was used to obtain information on the level of knowledge, of attitude toward, and utilization of each of the 51 CDFs studied. A sample of eight to 10 households was taken in each of the 51 communities. All questionnaires were field tested before they were finalized and fieldwork began. Each of the questionnaires is presented in Annex D.

A team of four interviewers working under the guidance of Dr. Rolando Godoy collected the data between September 1998 and January 1999. Data entry was ongoing throughout most of the fieldwork. Data entry and some of the analysis was done using EpiInfo, Version 6. Further data analysis was done using the Statistical Package for the Social Sciences (SPSS) and Microsoft Excel.

---

### 2.3 Archival Data

Archival data were collected and analyzed. Whenever available, CDF data on the number and characteristics of patients treated and the quantity and value of medicines dispensed in the last three years were collected. In addition, MOH archival data were obtained. The MOH's master AT2 data files, containing annual outpatient consultation data for all of the roughly 1,000 MOH facilities were obtained for 1995, 1996, and 1997.

---

## 2.4 Cost-Effectiveness Analysis

Researchers attempted to develop estimates of the recurrent costs of the CDFs and their sponsoring NGOs. The lack of adequate records, changes in program structures and operations, the inordinate amount of time required to visit and interview CDF network supervisors and other staff, and the disruptions caused by Hurricane Mitch, made it impossible to collect the necessary information. While cost estimates were developed for two NGOs' supervisory systems and isolated elements of other components of CDF systems (see Annex E), the more ambitious task of developing a cost-effectiveness analysis of the four most common models was not completed.

---

## 2.5 Community Drug Funds Survey

At the onset of this study, the networks of CDFs were thought to consist of about 400 Funds. A sample of CDFs from the six institutions most involved (determined by the number of Funds they sponsored) were studied. The sample was restricted to those Funds that had been in operation for at least six months so as not to confuse characteristics and performances of one-time start-up operations with those of more permanent operations. In order to better ensure that there would be adequate variation in the characteristics of the Funds studied, a 15 percent sample of each network, subject to there being a minimum sample of eight Funds of each of the CDF-sponsoring NGOs, was included in the sample. The size and composition of the study sample is presented in Table 1. The impact of Hurricane Mitch caused some modifications to the initial sampling. Table 1 contains the composition of the survey that was initially planned and the survey that was actually executed. For each institution, the sample of CDFs was constructed so that half of the sample would be comprised of the best performing Funds of the institution (as identified by the director of the institution). The remainder of the sample of each institution was selected at random.

**Table 1: Size and Composition of Study Sample**

		Sample to Be Surveyed		Percentage of CDFs of the Organization Included in Sample	
Organization	Number of Funds	As Designed	As Executed	As Designed	As Executed
1 PRODIM	150	22	19	15%	13%
2 Save the Children of Honduras	88	13	9	15%	10%
3 World Vision	55	8	11	15%	20%
4 Ministry of Health	28	8	3	29%	11%
5 UNISA	17	8	5	47%	29%
6 CCD	7				
7 COMPARTIR	5				
8 COHASA	40	8	4	20%	10%
9 Global Village	35	8	0	23%	0%
10 European Union	11				
Total:	436	75	51	19%	12%

### 3. An Inventory of the Community Drug Funds of Honduras

Table 2 presents the number, organizational affiliation, and location of CDFs in Honduras as of December 1998. A total of 515 Funds were identified, 450 (or 88 percent) of which are active and included in this table. An “active” CDF is defined as one that has been established and continuously maintained in the same community during the last six months, independent of the level of demand. Those Funds that have been recently inaugurated and are currently providing services also are considered “active” even though they have not yet completed six months of operation. CDFs that are classified “inactive” are those that have not been in continuous operation throughout the last six months. From discussions with CDF organizational sponsors it is clear that many more CDFs have been started, but are no longer functioning. None of the sponsoring organizations, however, maintains any systematic record of defunct CDFs. (See Chapter 8.4.2 for a discussion of some partial indicators of the number of defunct CDFs.)

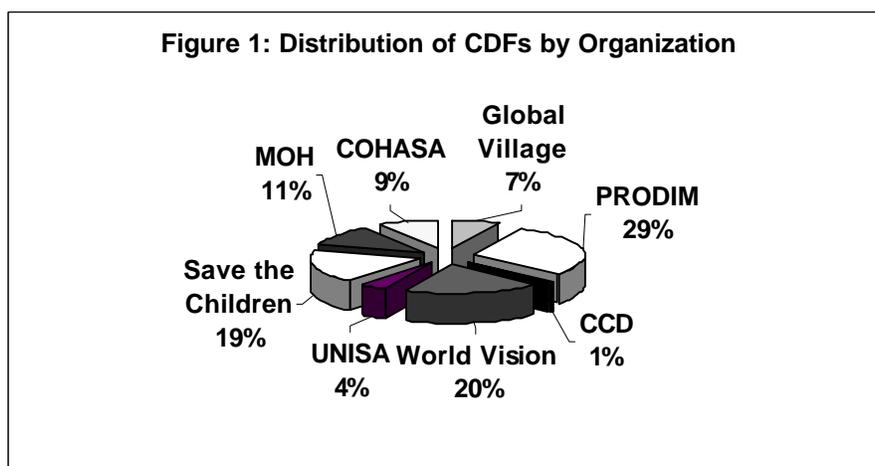
**Table 2: Distribution of Active Community Drug Funds as of December 1998**

Department	PRODIM	World Vision	Save the Children	Ministry of Health	COHASA	Global Village	UNISA	CCD	Total	%
La Paz	74						4		78	17
Intibucá	1	9	30		31			3	74	16
Comayagua	35					28	1		64	14
Choluteca		13	23	11					47	10
Valle		27	19	1					47	10
Franc. Morazán		1	14	9			9		33	7
Santa Bárbara	12	8		13					33	7
Lempira	13	2		6	9				30	7
Ocotepeque		13		2					15	3
El Paraiso		6		2			4		12	3
Copán		4		4					8	2
Yoro		6							6	1
Cortes						3			3	1
Olancho									0	0
Colon									0	0
Atlántida									0	0
Gracias a Dios									0	0
Islas de la Bahía									0	0
<b>Total:</b>	135	89	86	48	40	31	18	3	450	100
<b>(%):</b>	30.0	19.8	19.1	10.7	8.9	6.9	4.0	0.7	100	

### 3.1 CDF Locations as a Derivative of NGO Locations

As may be seen in Table 2, nearly half (48 percent) of the Funds are concentrated in three of Honduras' 18 departments: La Paz, Intibucá, and Comayagua. At the other end of the spectrum, as many as five departments do not have any CDFs: Olancho, Colón, Atlántida, Gracias a Dios, and Islas de la Bahía.

As Figure 1 shows, PRODIM, which sponsors 135 CDFs (29 percent of all CDFs) works with the largest number of CDFs in Honduras. The next most significant sponsoring organizations are World Vision and Save the Children, which account for 89 and 86 CDFs, or 20 and 19 percent, respectively. These three organizations sponsor 69 percent of all CDFs in Honduras.



There is also a marked geographic concentration of the Funds of each organization. Four organizations each have at least three-quarters of all of their CDFs in three or fewer departments. For example, 80 percent of PRODIM's CDFs are located in La Paz and Comayagua; 78 percent of COHASA's CDFs are in Intibucá; 84 percent of Save the Children's are in Intibucá, Choluteca, and Valle; and 90 percent of Global Village's CDFs are located in Comayagua. As will be demonstrated later, the degree of geographic concentration affects the NGOs' style of management and the operations of the CDFs.

Since most CDFs have been set up by NGOs, their locations coincide with those of the NGOs that sponsor them. The focus of operations of most of the NGOs in question has been in the poorest regions of the country, and the vast majority of CDFs are found in two circular areas within these regions. One of these circles of concentration is centered on La Esperanza, Intibucá, and has a radius of approximately 60 kilometers. The center of the second circle is located about 20 kilometers south by southeast of Sabanagrande, at the point where the departments of Francisco Morazán, El Paraiso, and Choluteca are contiguous, and it has a radius of about 50 kilometers. (An assessment of the location of CDFs is presented in Chapter 6.5.1).

---

## 4. Structure and Operations of a Community Drug Fund

---

### 4.1 Introduction

To better understand how CDFs function, this chapter provides a detailed description of their structure and operations. It looks at how the CDF operates within both the organizational network that established it and the local health care delivery system. Later chapters discuss financial aspects of CDF operations, assess how well CDFs perform, and investigate the relationships between performance and variations in structure and process of CDFs and their networks in an effort to identify “best practice” patterns.

The chapter begins with a brief discussion of the age and stability of the surveyed CDFs, followed by an overview of what is referred to as the “general CDF model,” which will provide a reference point for comparing CDFs. The bulk of the chapter is devoted to an analysis of the operations of CDFs with the discussion focused around three main topics: (1) the structure of the CDF at the local level, (2) the supply of medicines, and (3) the provision of health care services.

---

### 4.2 Age and Stability of CDFs Surveyed

The surveyed CDFs are relatively young. As Table 3 shows, 20 percent have been in operation for less than one year, and nearly two-thirds have existed for less than two years. Table 4 shows the starting date of the surveyed CDFs with 75 percent of them established in or after the second half of 1996.

**Table 3: Number of Months CDFs Have Been in Operation**

<b>Number of Months</b>	<b>Number of CDFs</b>	<b>Percent of CDFs</b>	<b>Cumulative Percent</b>
< 12	10	20%	20%
12 – 23	23	45%	65%
24 – 35	10	20%	84%
36 – 47	6	12%	96%
48 +	2	4%	100%
Total:	51	100%	

**Table 4: Year CDFs Began Operating**

Semester	Year	Number of CDFs	Percent of CDFs	Cumulative Percent
2	92	1	2%	2%
1	95	7	14%	16%
2	95	2	4%	20%
1	96	3	6%	25%
2	96	11	22%	47%
1	97	6	12%	59%
2	97	12	24%	82%
1	98	8	16%	98%
2	98	1	2%	100%
Total:		51	100%	

Although they are relatively young, about one-third of the surveyed CDFs have changed location since they were first established. The vast majority of those changing location (88 percent) remained within the same community. The remainder (12 percent, or 4 percent of all surveyed Funds) had been initially established in another community.

Of those surveyed, 63 percent have had the same HA since the Fund was established while 24 percent have changed HAs once. The remaining 14 percent have had two or more changes in their HAs. There are many factors contributing to such changes. The fact that others in the community are willing to assume an HA position suggests that the Fund is valued.

---

### 4.3 The CDF Model

Although CDFs have been implemented by many different organizations, they have many structural and procedural characteristics in common. The vast majority have been established by NGOs that have been working in Honduras for many years. In most cases, the NGO initiated the process of establishing a particular CDF by working with members of the community. Generally, the process begins by developing a CDFC comprised of members of the community who oversee and manage the Fund.

The heart of the CDF is the *consejero*, or HA, who is authorized by law to administer 36 medicines<sup>2</sup> (see Table 5) and provide primary health care to members of his/her community. Most of the HAs are women, many of whom have years of experience working in health care in other capacities. In general, HAs receive one or two weeks of training before assuming their position. HAs sell the medicines at full cost plus a small mark-up, which is intended to cover costs and include a payment for the HA's services. (The CDFs' organizational sponsors cite the HA's payment as 30

---

<sup>2</sup> The basic list of medicines that CDFs are authorized to sell was established by a norm issued by the MOH in December 1998. The list now contains 37 items. The original list of medicines, dating from 1993, contained 14 products. The items on the list were increased to 26 in the official "Community Drug Fund Implementation and Operations Regulation" published in October 1996. Subsequently, in early 1998, the MOH, together with PAHO, UNISA and UNICEF, published "A Manual for Health Advisors of Community Drug Funds," which added nine more products to the basic list. Finally in December 1998, the Ministry issued a norm that added two presentations of amoxicillin.

percent). Most HAs have a set of record books in which they maintain an inventory of their drugs and other supplies, a record of all sales, and information on patients (such as age, sex, presenting condition/diagnosis, and treatment). The CDF networks have a central or regional office that provides the initial HA training and, in some cases, supervision and in-service training. Most of the CDF-sponsoring organizations maintain a corps of supervisors who meet regularly with each HA and maintain a system for resupplying their affiliated CDFs with medicines.

**Table 5: Items a CDF May Legally Sell**

1	Acetaminophen, Tab. 500 mg
2	Acetaminopen, Susp. 120 mg/5 ml 120 ml bottle
3	Acetaminopehn, Tab 100 mg
4	Aluminum Hydroxide, Susp. 250 mg/5 ml 120 ml bottle
5	Aluminum/Magnesium Hydroxide, Tab. 250 mg
6	Amoxyxillan, Susp. 250 mg
7	Amoxycillan, Tab. 500 mg
8	Ampicillan, Cap. 500 mg
9	Ampicillan, Susp. 250 mg/5 ml 120 ml bottle
10	Aspirin, Tab. 100 mg
11	Aspiring, Tab. 500 mg
12	Benzoate of Bencilo, Lotion 25%
13	Calamine, Lotion 8% 120 ml bottle
14	Chlotrimazole, Creme at 1% Tube of 15 gms
15	Chlotrimazole, Vaginal Ov.
16	Ferrous Sulphate, Tab. 300 mg
17	Ferrous Sulphate, Syrup 125 ml/5ml 30 ml bottle
18	Hiosciamina, Tab. 0.05 mg
19	Isopropyl Alcohol
20	Mebendazole, Tab. 100 mg
21	Mebandazole, Susp. 100 mg/5 ml 30 ml bottle
22	Metronidazole, Susp. 125 mg/ 5 ml 30 ml bottle
23	Metronidazole, Tab. 500 mg
24	Multi-vitamins Adult or Prenatal
25	Multi-vitamins Pediatric, 120 ml bottle
26	Neomicine-Bacitracin, 10 ml Tube 1%
27	Nystatine, 100,000 u Ointment
28	Nystatine, Vaginal Ov. 100,000 u
29	Oral Rehydration Salts, Solution, 1 Liter
30	Oxi-tetracycline, Tube 4g, 1% ointment
31	Salbutamol, Syrup 2ml/5ml, 120 ml bottle
32	Salbutamol, Tab. 4mg
33	Salicilato de Metilo, 5% ointment
34	Tinidazole, Tab. 500 mg
35	Trimetropine Sulphametoxazole Adult, Tab. 80/400 mg
36	Trimetropine Sulphametoxazole, Susp. 40/200 mg/5 ml 120 ml bottle
37	Yodo-povidona, 10% solution

Source: Ministerio de Salud Pública, "Reglamento de Implementación y Funcionamiento de los Fondos Comunes de Medicamentos," 1996.

---

## 4.4 The Structure of the CDF at the Local Level

### 4.4.1 The Community Drug Fund Committee

Two-thirds of the CDFs surveyed reported that they had a support committee, or CDFC, when the Fund was established. Of those CDFCs, 15 percent no longer function. At present, only 57 percent of the surveyed CDFs have a CDFC.

The majority of CDFs (86 percent) reported that their first committee was formed—either elected or named—by the community, as opposed to the mayor, MOH staff, or sponsoring NGO. Nearly the same proportion, 87 percent, said that their current committee was also formed by the community.

The responsibilities and activities of the committees vary substantially. The most commonly cited activities are supervision of the Fund and purchase of medicines, both being done by CDFCs at slightly more than half of the Funds. Only one of the 51 CDFs surveyed reported that its CDFC determined the prices of medicines. CDFCs prepare inventories of medicines for 13 percent of Funds and determine how much to pay the HAs for 38 percent of Funds. Other activities of the CDFCs are presented in Table 6.

**Table 6: Activities of the Community Drug Fund Committee**

(To Date in 1998, n= 29)

Activity	Number	Percentage of Respondents	Percentage of CDFs with a Committee
Nothing	6	10%	21%
Purchase/Acquisition of Medicines	15	25%	52%
Supervision of the CDF	17	29%	59%
Promotion of the CDF	9	115%	31%
CDF Committee Meetings	12	20%	41%
Total:	59	100%	

Note: It is possible to have multiple responses for each CDF.

At the time of the survey, CDFCs reported meeting an average of 3.5 times during 1998, roughly once every three months. The mean number of meetings was 3.5, while the median was 2.0, indicating that few committees had met very frequently, but most (71 percent) met four times or less.

### 4.4.2 Common Characteristics of the Health Advisor

After interviewing 54 HAs, researchers determined that the typical HA is a 35-year-old Catholic woman of low economic status. She has a sixth-grade education and a family of seven. Of those surveyed, 80 percent are women, 67 percent are Catholic, 22 percent are evangelical, and the remaining 11 percent have no religious preference. The majority, 61 percent, have completed the sixth grade, and another 19 percent have gone on to intermediate school. At the other extreme, 20 percent reported they had only completed grade three of primary school.

Table 7 presents the health-related positions that HAs have held. On average, they have had five health-related positions (including that of the Fund’s HA), and they have had a mean of 99 months (and a median of 71 months) working in these various capacities. Note that this is the total number of months in these positions—several or all of which may have been held simultaneously—and they are not necessarily independent, calendar months.

**Table 7: Health-Related Experiences of the Community Drug Fund Health Advisors**

(n=54)

Health-Related Position	Number Who Held Position	Percent Who Held Position	Median Number of Months Held Position	Number Still Holding Position	Percent Still Holding Position
Community Drug Fund Health Advisor	54	100%	18	54	100%
Health Volunteer (Guardian)	26	48%	36	21	39%
Member of the Community Board ( <i>Patronato</i> )	12	22%	24	10	19%
Nutrition Monitor	10	19%	12	10	19%
Pneumonia Volunteer	8	15%	12	8	15%
Voluntary Collaborator	4	7%	48	3	6%
Midwife	3	6%	108	2	4%
Member of CDFC	2	4%	12	2	4%
Member of Other Health Committees	5	9%	8	4	7%

HAs have shown a long-standing commitment to working in the health area. The overwhelming majority volunteer in these health-related positions. Excluding their CDF positions, they continue to hold 86 percent of the health-related positions they have ever held. This indicates a strong interest in working to improve the health of their communities.

Of the 54 HAs interviewed, 46, or 85 percent, reported that they had received some training before assuming their role. The mean duration of training was 56 hours, and the median was 47. Although the majority of trainees had only one training session, the mean number of training sessions was 1.6.

Three-quarters of the HAs who were interviewed reported that they had at least one person to assist them in operating the CDF. One-third had one person to help them, and one-third had two or more assistants. Generally the assistants were one of the HA’s children. Children comprised 57 percent of all assistants, and for 76 percent of the CDFs with helpers, at least one of the aides was a child. For 30 percent of the HAs, spouses helped them operate the Fund. All assistants were family members, which is not surprising, given that all 51 Funds surveyed were located in the HA’s home. The majority of these assistants, 81 percent, received some training in operating a CDF.

---

## 4.5 The Supply of Medicines

### 4.5.1 Initial Stock

The MOH designates 37 specific types and presentations of medicines that CDFs are legally allowed to dispense. The initial stock of medicines provided by sponsoring organizations has generally included most, but frequently not all, of these items. In the case of two-thirds of the CDFs, the first stock of medicines was donated to the community (see Table 8A). Subsequently, the most common arrangement (83 percent) is for the CDF to purchase resupplies of medicines with cash (Table 8B).

**Table 8: Financing CDFs' Supplies of Medicines**

#### A. INITIAL STOCK OF MEDICINES

Financing Arrangement	Number of CDFs	Percent of CDFs
Loan/Credit	9	18%
Donation to the community	33	65%
Purchase paid for in cash	1	2%
Consignment	8	16%
Total:	51	100%

#### B. CURRENT ARRANGEMENT

Financing Arrangement	Number of CDFs	Percent of Responses*
Loan/Credit	4	7%
Donation to the community	1	2%
Purchase paid for in cash	45	83%
Consignment	4	7%
Total:	54	100%

\*Note: A CDF may have more than one form of financing.

### 4.5.2 Value and Composition of Initial Assets

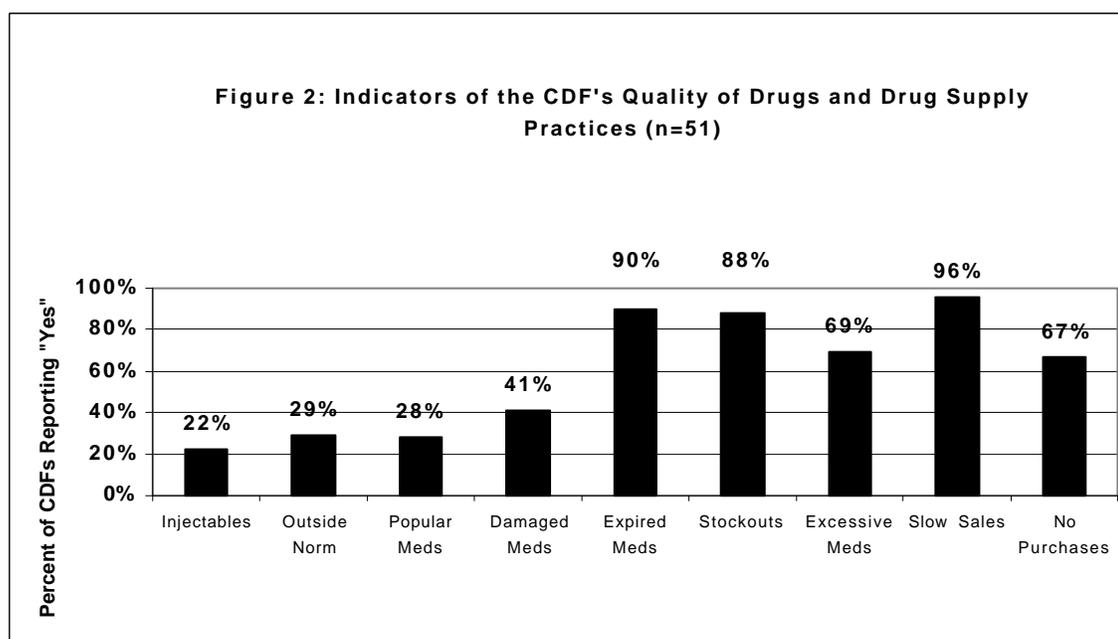
The inflation-adjusted, mean value of the initial assets of the surveyed CDFs was about 3,800 lempiras, while the median value was 3,222.<sup>3</sup> Roughly 85 percent of the real (i.e., inflation-adjusted) value of CDFs' initial assets is accounted for by the initial stock of medicines they are provided. The remaining 15 percent of the value of CDFs' initial assets is primarily cash, with a small amount provided in kind as other products, materials, and equipment.

---

<sup>3</sup> Valued in November 1998 lempiras. See Chapter 5: A Financial Analysis of the CDFs, and Annex A for a discussion of inflation and the inflation adjustment technique used in this report.

### 4.5.3 Stocking Medicines

Most of the sponsoring organizations initially stock CDFs with a set package of medicines. Relying upon standardized packages of medicines simplifies drug supply logistics, but at a cost. Such an approach does not consider local health conditions, illnesses, or perceived needs. As a result, most CDFs are stocked with some medicines for which there is little demand. As Figure 2 shows, 96 percent of the Funds surveyed reported they had one or more products that moved slowly, and 69 percent said they had excessive quantities of some medicines. For some of these drugs, once the expiration date is reached, they become a financial liability for the Fund.<sup>4</sup> In addition, 41 percent of Funds reported that they currently had some “damaged products” in stock. No information was collected on the final disposition of damaged or expired drugs (i.e., whether they are sold, returned to the supplier for credit, discarded, or some combination thereof).



Expired medicines is a common and serious problem among the surveyed CDFs. As much as 90 percent report having some expired drugs in their inventories. The mean value of expired medicines in the current inventory was 509 lempiras. As Table 9 shows, the value of expired medicines varied greatly across CDFs, reflected in the fact that the median is only 206 lempiras, 40 percent of the mean. The mean value constituted nearly one-fifth (18 percent) of the total value of the average

<sup>4</sup> In the calculation of the current value of CDF assets, it was decided that expired medicines would be defined as a liability; i.e., treated like debt and subtracted from the value of assets to derive the net value of assets. It is important to recognize that expired medicines are sometimes sold and that some of the CDF-sponsoring organizations that operate medicine resupply systems for their CDFs occasionally exchange unexpired medicines for expired ones. Both of these practices enable the CDF to avoid incurring the liability, and therefore result in the simplified approach used here in underestimating the value of the CDFs' total assets. Since there was no data collected on the frequency of either of these two practices (other than learning that neither was consistently practiced), it was decided that assuming all expired medicines were liabilities would be the best way to deal with this lack of information. This decision was based on the following reasoning: The Government of Honduras would prefer that only nonexpired medicines be dispensed by the CDFs. Therefore, this study assumed that CDFs are currently operating in the desired fashion and the analysis of their operations was structured to provide a description and understanding of the CDFs based on this assumption. This approach, in effect, provides a best-case scenario in terms of the quality of care provided by the CDFs and a worst-case scenario in terms of their cost and current financial status.

CDF's current assets, while the median value was 13 percent of the median CDF's current asset value of 1,590 lempiras.

**Table 9: Value of Expired Drugs of CDFs**

Value of Expired Drugs (in Lempiras)	Number of CDFs	Percentage of CDFs	Cumulative % of CDFs
0	6	12%	12%
< 100	6	12%	24%
100 – 199	12	24%	47%
200 – 299	5	10%	57%
300 – 499	3	6%	63%
500 – 799	5	10%	73%
800 – 999	6	12%	84%
1000 +	8	16%	100%
Total:	51	100%	
MEAN: 509 MEDIAN: 206			

#### 4.5.4 Resupplying Medicines

In addition to the inadequate allocation of medicines, the method of resupplying CDF inventories is a contributing factor to the accumulation of expired medicines and financial losses. CDFs use a variety of systems that vary systematically by the CDF-sponsoring organization. When asked how they decided what quantity of medicines to purchase, 55 percent of respondents said they purchased those medicines that sold the most. For 41 percent, quantities depended on how much cash they had. Two CDFs reported that they always purchased the same quantity.

In the first nine months of 1998, the surveyed CDFs had purchased medicines, on average, three or four times (mean=4.4, median=3.0), or roughly once every two to three months. In half of the Funds, the HA alone decides the quantity of medicines to purchase. In another 12 percent, the HA participates in the decision, usually with the CDFC. In 16 percent of Funds, the CDFC alone decides the quantity of medicines to be purchased. In 18 percent of the Funds, the sponsoring NGO makes the decisions.

The most common system CDFs use to resupply medicines is to obtain most or all medicines from the sponsoring organization. This was the case for 29, or 58 percent, of those surveyed. Four of the six CDF-sponsoring organizations provided medicines directly to their affiliated Funds, and they were the single most important source of medicines for these CDFs. The remaining 22 CDFs reported that their single most important source of medicines was pharmacies (n=11), other sources (n=8), and drug wholesalers (*droguerías*, n=3). Nearly one-third indicated that they purchased some of their supplies from pharmacies, and 10 percent said they bought some from wholesalers as seen in Table 10.

In most instances, the CDF-sponsoring organization sells the medicines directly to the Fund. In a few cases the medicines are given to the Fund to be sold on consignment (n=4) or the Fund is loaned money or given credit to purchase the medicines (n=4). The loans were always provided by the sponsoring NGO.

**Table 10: Sources of Medicines**

<b>Sources Included</b>	<b>Source</b>	<b>Number of CDFs</b>	<b>Percentage of CDFs</b>	<b>Cumulative % of CDFs</b>
<b>A. All Reported</b>	Pharmacies	20	29%	29%
	Other Sources	14	20%	49%
	Organization-2	11	16%	90%
	Organization-4	9	13%	69%
	Drug Wholesalers	7	10%	100%
	Organization-5	5	7%	56%
	Organization-3	4	6%	74%
	Total:	70	100%	
<b>B. Single Most Important Source for Each CDF</b>	Pharmacies	11	22%	22%
	Organization-2	11	22%	94%
	Organization-4	9	18%	65%
	Other Sources	8	16%	37%
	Organization-5	5	10%	47%
	Organization-3	4	8%	73%
	Drug Wholesalers	3	6%	100%
	Total:	51	100%	

The respondents were queried as to why they purchased medicines where they did. Their responses are presented in Table 11, disaggregated by (a) all sources and (b) their single most important source of medicines. Roughly half of the respondents indicated that they were only allowed to, or had been told to, purchase from that source. All 25 of the respondents indicating this worked in Funds that obtain their medicines from their sponsoring organization. It may be concluded that nearly all of the organizations that provide medicines to their CDFs either encourage or require them to purchase all of their medicines from the sponsoring organization.

**Table 11: Reasons CDFs Purchase Medicines From Their Chosen Sources**

<b>Sources Included</b>	<b>Why They Purchase There</b>	<b>Number of CDFs</b>	<b>Percentage of CDFs</b>	<b>Cumulative % of CDFs</b>
<b>A. All Reported</b>	Because I can only purchase there; They told me to purchase there	26	42%	42%
	It is cheaper	20	32%	74%
	When there's none at the wholesaler's; Promoter has not come to leave some	8	13%	97%
	They give me a discount	3	5%	84%
	It's closer	2	3%	77%
	Don't pay transport	1	2%	79%
	It was recommended	1	2%	98%
	It's the only place I know	1	2%	100%
	Total:	62	100%	
<b>B. Single Most Important Source for Each CDF</b>	Because I can only purchase there; They told me to purchase there	25	53%	53%
	It is cheaper	16	34%	87%
	They give me a discount	2	4%	91%
	It's closer	1	2%	93%
	Don't pay transport	1	2%	95%
	It was recommended	1	2%	97%
	It's the only place I know	1	2%	100%
	Total:	47	100%	

The average distance traveled by HAs to purchase medicines varies substantially as may be seen in Table 12. The mean distance traveled to any (all) sources was 29 kilometers, and the median was 13. When asked about their single most important source of medicines, Funds reported that they traveled a mean of 41 kilometers and a median of 9. Thus, while most HAs traveled less to their regular source compared to all sources, a few traveled much farther to their regular source. Given the substantial distances traveled to purchase medicines, it would appear that the CDFs are serving isolated communities, as public health policy intended them to do.

**Table 12: Distance Traveled to Purchase Medicines**

Sources Included	Distance (Kilometers)	Number of CDFs	Percentage of CDFs	Cumulative % of CDFs
<b>A. All Reported</b>	= < 5	12	27%	27%
	6 to 10	11	24%	51%
	11 to 20	6	13%	64%
	21 to 30	5	11%	76%
	31 to 70	5	11%	87%
	> 70	6	13%	100%
	Total:	45	100%	
	Mean: 28.8 Median: 12.5			
<b>B. Single Most Important Source for Each CDF</b>	= < 5	12	21%	21%
	6 to 10	14	25%	46%
	11 to 20	10	18%	64%
	21 to 30	7	13%	77%
	31 to 70	5	9%	86%
	> 70	8	14%	100%
	Total:	56	100%	
	Mean: 41.1 Median: 9.0			

Table 13 shows the mode of transportation used in purchasing medicines. As with so many of the variables investigated in this study, responses varied greatly. The most common method was to use a private car, followed by using a bus. These two modes of transportation, combined with walking, were used by 43 and 40 percent of all CDFs, respectively. Usually, when a Fund purchased medicines from its sponsoring organization, it used a private car.

**Table 13: Mode of Transportation Used in Purchasing Medicines**

Mode of Transportation	Number of CDFs	Percentage of CDFs	Cumulative % of CDFs
Private car	19	37	37
Bus	13	25	62
Walking	9	17	79
Walking and bus	8	15	94
Walking and private car	3	6	100
Total:	52	100	

#### 4.5.5 Tracking the Supply of Medicines

The CDF survey asked HAs when they had last counted their medicines and conducted a formal inventory. Although counts should be conducted more frequently than full inventories, the data

reveal that the differences are minimal. The mean number of days since the last inventory was reported to be 191, whereas the last count was conducted 110 days ago. With both of these variables, there was wide variation across the individual Funds. The median values were much more similar for the two variables: 80 days since the last count and 96 days since the last inventory. The infrequency of the supply counts was found to be surprising.

As shown in Table 14, in 84 percent of the CDFs surveyed, the promoter of the CDF-network, generally the first-line supervisor of the HA, prepared the inventory. In only 7 percent of CDFs, the HA conducted the inventory, either alone or with assistance. Nearly 60 percent of CDFs had no copy of the inventory available, suggesting that it was an instrument used to track and monitor the performance of the HA, as opposed to a tool the HA used in planning.

**Table 14: Persons Preparing CDFs' Inventories of Medicines**

**(n=51)**

<b>Person</b>	<b>Number</b>	<b>Percentage</b>
Promoter/Supervisor	43	78%
CDF Committee	7	13%
Health Advisor	4	7%
Nurse	1	2%
Total:	55	100%
Note: It is possible for each CDF to have more than one response.		

#### **4.5.6 Indicators of the Quality of Drugs, the Drug Supply, and Resupply Practices**

As illustrated earlier in Figure 2, 88 percent of the Funds reported having periods of being out of stock of supplies during the preceding months of 1998 (the specific number of months was dependent upon when the interview took place and ranged from nine to 11). There was no available information about the duration of stockouts. Another survey question asked about the drug resupply system and procedures, and the results suggested that stockouts are a norm. Most CDFs (86 percent) reported that stockouts trigger their purchasing resupplies of drugs. Of those, 73 percent purchase drugs when they have stockouts of four or more drugs, and 12 percent purchase more drugs when they have only two or three items out of stock.

There are two types of restrictions on the sale of CDF products. First, they are authorized to sell only the medicines specified (as shown in Table 5). Second, they are not authorized to provide injections—including injections of drugs they are otherwise authorized to sell. Yet, 29 percent of the Funds stocked at least some prescription medicines that they are not authorized to sell. One-third of those selling unauthorized drugs also reported that they sold injectable products (including those they were authorized to sell and others). Another 4 percent who reported they did not sell unauthorized drugs, sold injectable products. Thus a total of 22 percent of CDFs sold injectables.

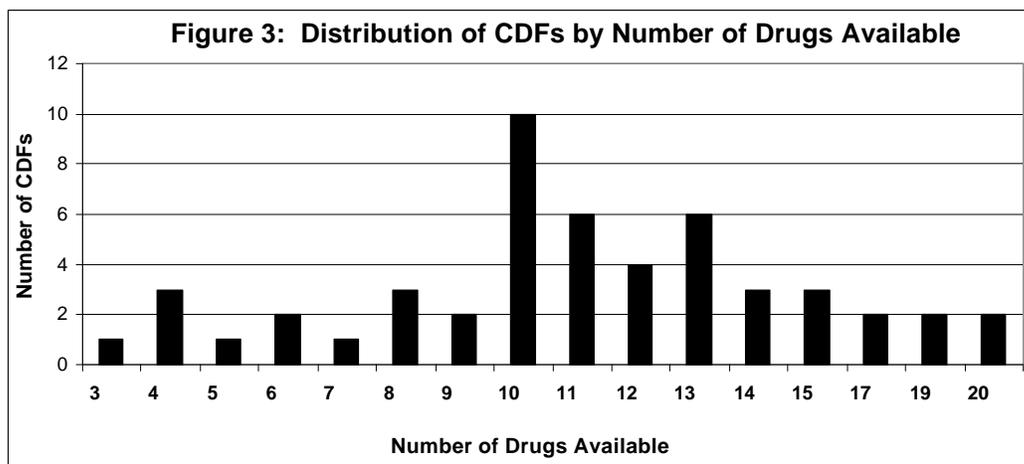
Although the study design called for obtaining and analyzing data on the amount of revenue generated by the sale of different types of drugs, such information was generally unavailable at the CDF level. This information was also not available from the NGOs. This created a significant impediment to understanding the role of the CDFs within the Honduran health care delivery system. Although other useful information, such as patient characteristics and level of services provided, is

available, the lack of information about the volume and mix of drugs sold by the Funds makes it difficult to definitively assess the CDFs. This scarcity of information reflects the low degree of organization and structure characterizing CDFs. It suggests that the monitoring and supervisory systems established by the sponsoring organizations are weak or have been fundamentally altered from their traditional roles.

The survey found that 28 percent of the Funds had popular medicines (such as Sal Andrews) in their inventories that are not included in the norms established by the CDF regulation. Whether the presence of such items should be regarded as positive or negative is open to interpretation. On the one hand, the sale of such medicines could be positive because it may reflect the HA’s responsiveness to perceived needs of the community or an entrepreneurial decision by the HA. The HA may believe that such items will sell and could conceivably use the net revenues generated from these items (assuming they are positive) to cross-subsidize the purchase of drugs “in the norm” or simply as a marketing tool to make the CDF more popular and frequented. On the other hand, the HA may be using revenues from the sale of drugs identified in the CDF regulation’s norms to purchase these popular medicines, in effect substituting these medicines for those in the norm. Although the explanation for this situation cannot be stated unequivocally, the independent decision making and business acumen demonstrated in purchasing these popular medicines—considerations that bode well for CDF sustainability—suggest that their inclusion in the CDF inventories should be regarded positively. The MOH should make an explicit policy statement supporting the CDFs’ selling these items.

#### 4.5.7 The Absolute Availability of Medicines

The analysis of the availability of medicines in the CDFs is based on the list of medicines that the Funds are authorized to sell. Figure 3 presents the distribution of CDFs by the number of products that were available at the time of the survey. It is evident that none of the CDFs surveyed had anything approaching the maximum number of medicines they are authorized to sell. The average (mean, mode, and median) CDF had 10 products available. The best stocked CDF had only 20 products, slightly more than half of the authorized number.



#### 4.5.8 Relative Availability of Medicines

An index of the availability of medicines was constructed. The relative availability of medicines is the number of months of a supply of a particular medicine that the Fund has on hand, relative to the amount it is expected to dispense. This is based on the historical experience of all Funds in terms of their (aggregate) case volume and case mix, combined with official MOH treatment protocols (as already noted, the direct measure of the quantity and types of medicines sold is not available). The reference point in this analysis will be referred to as the number of *consumption months* of the particular medicine in question. By considering the historical level at which a product has been dispensed, the need or demand for the product is incorporated, thereby enabling the assessment of the adequacy of the supply on hand. By measuring absolute supply relative to anticipated use, a more patient-relevant measure of the adequacy of the supply of medicines is provided.

Since the survey of Funds was found to have a relatively limited number of medicines on hand, the analysis of the relative availability of medicines was conducted for only a subset of the 37 products, which is believed to be an appropriate approach. The analysis here is limited to the five most commonly prescribed medicines for children and the five most commonly prescribed products for adults.

Table 15 shows the average number of consumption months of the five children's medicines. The average CDF's supply of the most commonly dispensed product, acetaminophen syrup, is adequate for four and a half months. However, 37 percent of CDFs did not have any acetaminophen syrup available at the time of the survey, as noted in column (C). Ten percent had a supply that was adequate for less than three consumption months, as shown in column (D), and 53 percent had a supply that was adequate for between three and 23 consumption months, as shown in column (E). Column (F) shows that none of the surveyed CDFs had a supply of acetaminophen syrup that could be expected to provide 24 months of consumption or more.

**Table 15: Availability of Selected Medicines for Treating Common Ailments of Children in Community Drug Funds, 1998**

(A) Medicine (Children's Presentation)	(B) Mean No. of Consumption Months Available	(C) None Available (% CDFs)	(D) (E) (F) Number of Consumption Months Available (% CDFs)		
			< 3	3 - 23	24 +
Acetaminophen, Syrup 120 ml	4.5	37.3	9.8	52.9	-
Ampicillin, Suspension 120 ml	4.5	37.3	21.6	39.2	2.0
Trimetoprine, Suspension 120 ml	4.3	35.3	52.9	7.8	3.9
Metronidazole, Suspension 120 ml	21.6	39.2	5.9	31.4	23.5
Mebendazole, Suspension 30 ml	3.9	56.9	17.6	21.6	3.9

While the mean supply of four of the most commonly dispensed children's medicines was about four months for each of these four medicines, more than one-third of the Funds did not have any such product on hand. Clearly, the supplies of these medicines are distributed very unevenly across the Funds. Given that these are the most commonly dispensed drugs and that they are not available in many CDFs, it would appear that the sale of medicines at many CDFs is limited by the inadequate supply. It may be inferred that the CDFs could provide more and better care if their medicine

supplies were more regular. This conclusion is underscored by the finding in the previous section indicating that the mean number of medicines available in the typical CDF is 10, only about one-quarter of what they are authorized to sell. In sum, the performance of the CDFs appears to be constrained by both the number and type of drugs they have available.

The situation is even more troubling for the five most commonly dispensed adult drugs. The proportion of CDFs with no stock available for each of these popular medicines is very high, averaging 56 percent, as seen in Table 16. At the same time, many CDFs have excessive supplies of two of the drugs, Trimetropin and Mebendazol. One-third of the surveyed Funds have at least 24 consumption months of Trimetropin and nearly one-fifth have at least two years' supply of Mebendazol. If there are no efforts made to exchange or redistribute these excessive supplies, a large proportion of them are likely to expire in the next few years, causing the CDFs to suffer financial losses and be further decapitalized.

**Table 16: Availability of Selected Medicines for Treating Common Ailments of Adults in Community Drug Funds, 1998**

(A) Medicine (Adult's Presentation)	(B) Mean No. of Consumption Months Available	(C) None Available (% CDFs)	(D) (E) (F) Number of Consumption Months Available (% CDFs)		
			< 3	3 - 23	24 +
Acetaminophen, Tablet 500 mg	2.9	29.4	37.3	31.4	2.0
Ampicillan, Capsule 500 mg	8.2	43.1	23.5	19.6	13.7
Trimetropine, Tablet 500 mg	30.8	51.0	0.0	15.7	33.3
Tinidazole, Tablet 500 mg	4.8	88.2	5.9	2.0	3.9
Mebedazole, Tablet 100 mg	28.7	68.6	2.0	11.8	17.6

#### 4.5.9 Types and Quantities of Medicines Sold

Table 17 presents the types and quantities of medicines that the average CDF would dispense to 1,000 patients. This standardized package of medicines was developed from the average caseload and case mix of the surveyed Funds, together with MOH treatment norms for each illness type. Given that the typical CDF saw an average of 348 patients annually in 1988, it would take about 2 years and 10 months to see 1,000 patients.<sup>5</sup>

---

<sup>5</sup> These figures should be interpreted as the maximum amount of these medicines that would be sold since their calculation does not take into account (a) the CDF's available supply (which is a constraint) or (b) the willingness or ability of patients to pay for the medicines, which could reduce sales below these recommended levels.

**Table 17: Types and Quantities of Medicines Required to Treat 1,000 Patients of the Community Drug Funds**

(Based on Morbidity Patterns of Presenting Patients and MOH Norms)

<b>Drug Code</b>	<b>Type of Medicine and Presentation</b>	<b>Quantity</b>
101	Acetaminophen, Susp. 120 mg/5ml 120 ml bottle	3,648
220	Ampicillan, Cap. 500 mg	3,234
210	Metronidazol, Tab. 250 mg	1,125
514	Ferrous Sulfate, Tab. 300 mg	930
262	Trimetropin S Adult, Tab. 80/400 mg	280
312	Mebendazol, Tab. 100 mg	252
517	Multi-vitamins Adult or Prenatal	100
105	Acetaminophen, Tab. 500 mg	84
261	Trimetropin S, Susp. 40/200 mg/5ml 120 ml bottle	53
691	Calamine, Lotion 8% 120 ml bottle	40
651	Salicilato de Metilo, 5% ointment	40
311	Mebandazole, Susp. 100 mg/5 ml 30 ml bottle	38
751	Aluminum Hydroxide, Susp. 250 mg/5ml 120 ml bottle	20
782	Hiosciamina, Tab. 0.05 mg	16
857	Cotton, oz	16
212	Metronidazole, Susp. 125 mg/ 5 ml 30 ml bottle	15
801	Oxi-tetracycline, Tube 4g, 1% ointment	15
221	Ampicilina, Susp. 250 mg/5 ml 120 ml bottle	13
854	Yodo-povidona, Solut. at 10%	12
513	Ferrous sulphate, Jar 120 mg/5 ml 60 ml bottle	9
851	Isopropyl Alcohol , Solut. at 70% 120 ml bottle	8
518	Multi-vitamins Pediatric, 120 ml bottle	6
675	Nystatine, 100,000 u ointment	5
241	Tinidazole, Tab. 500 mg	5
692	Benzoate of Bencilo, Lotion, 25% 120ml bottle	5
781	Hiosciamina, Solut. 0.05 mg/ml 120 ml bottle	4
671	Chlotrimazol, Creme at 1% Tube of 10 gms	2

---

## 4.6 Attending Patients / Service Provision<sup>6</sup>

### 4.6.1 Hours of Service

Most CDFs, 50 out of 51, provide care to patients every day of the week. Half of the HAs reported that they are available 24 hours a day to provide care. Others maintain some type of fixed hours of operation and availability. The typical HA is available to provide services to CDF patients for about 80 hours weekly.

### 4.6.2 Numbers of Visits

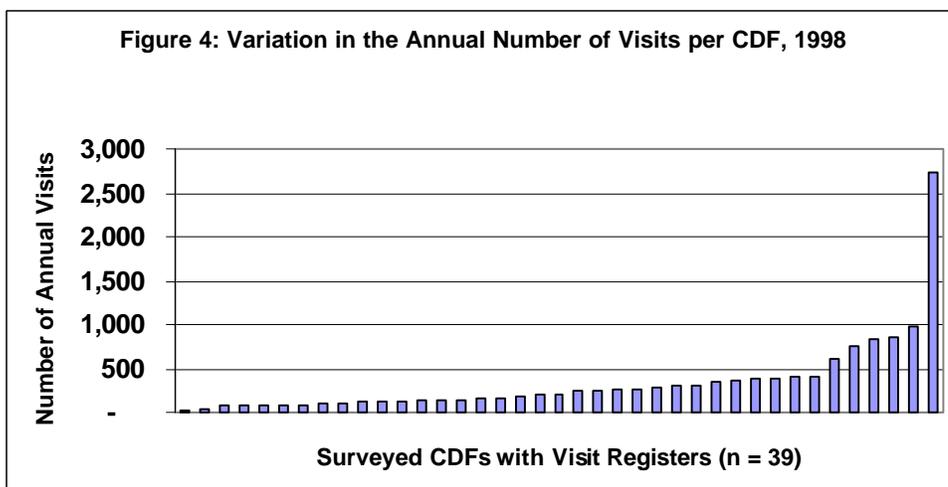
Table 18 and Figure 4 show that the number of visits provided by CDFs varies greatly. As a result, the use of averages to characterize the activity of all CDFs does not provide an accurate picture of the typical CDF. For example, the mean number of visits per CDF is 34 per month, or 409 per year, which means the typical HA provides about one consultation per day. Yet, in the first nine months of 1998, just five (10 percent) of the 51 CDFs surveyed—the busiest five—accounted for nearly half (46 percent) of all visits. These busy CDFs (individually) produce an annual average number of visits that is more than six times the average of all other CDFs, 1,234 versus 213 per month, respectively. While the typical CDF, on average, sees about one person every other day, the top five busy CDFs see three or four persons each day.

**Table 18: Distribution of Community Drug Fund-Provided Visits**

Number of Visits	Community Drug Funds		CDF Visits	
	Number	Cumulative %	Number	Cumulative %
0 – 150	11	21.6	1,343	6.4
151 – 300	15	51.0	3,590	23.6
301 – 450	12	74.5	4,408	44.8
451 – 600	3	80.4	1,562	52.3
601 – 750	2	84.3	1,306	58.5
751 – 900	5	94.1	3,884	77.1
900 +	3	100.0	4,771	100.0
Total:	51	100.0	20,864	100.0

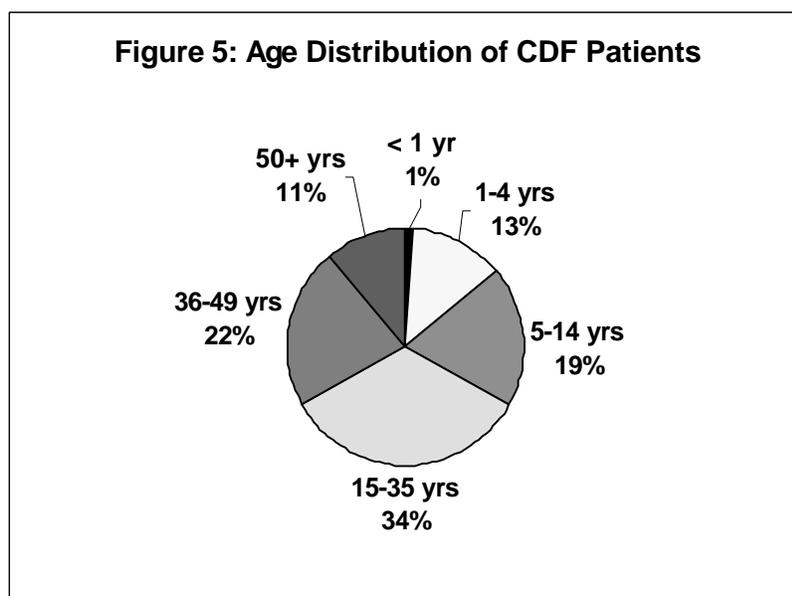
---

<sup>6</sup> The patient registers maintained by the HA's frequently had no entries for one or more months of the year. Since this was the only source of data on the level of service provision by the CDFs, it was necessary to devise a method for estimating the number of patients seen in a year. All estimates of the amount of patients seen are based on the average number of patients seen in those months for which data were reported. These average monthly amounts were multiplied by 12 to obtain an estimate of the total annual production of services. To the extent to which missing data were actually zeros because the CDFs were not providing care during these months, this will overestimate service provision totals.



### 4.6.3 Patient Mix

Information on the mix of CDF patients is based on the 1998 morbidity registers of the 51 surveyed Funds, which contained records on 11,430 visits. The typical CDF patient is a woman about 35 years of age. Figure 5 shows the age distribution of CDF patients. The mean patient age is 26 years. More than half, or 55 percent, of patients are females.



The most common reasons for seeking care are “diarrhea and intestinal parasites,” “respiratory infections,” and “fevers, without specified cause.” Together, these ailments account for half of all visits. These ailments are concentrated in patients younger than 15 years old, where they account for about two-thirds of all visits (see Table 19).

**Table 19: The Community Drug Funds' Patient Mix, 1998:  
Distribution of Diagnosed Presenting Condition by Age of Patient**

Diagnosed Illness	Age Categories (in Years)					Total	Percent
	0 - 4	5 - 14	15 - 34	35 - 49	50 +		
Respiratory Illness	459	397	604	403	124	1,987	10%
Intestinal Parasites	348	563	457	205	120	1,693	9%
Fever, unspecified cause	239	323	353	258	120	1,293	7%
Headache	21	129	394	354	145	1,043	5%
Fever, specified cause	132	151	258	202	98	841	4%
Gastritis, Abdominal Pain	33	59	321	198	113	724	4%
Skin problems	118	122	187	106	65	598	3%
Diarrhea	132	113	155	106	44	550	3%
Anemia and nutritional disorders	70	93	204	106	46	519	3%
Arthritis, Osteo-muscular pain	9	26	181	160	128	504	3%
Infection, undetermined cause	39	71	161	144	64	479	2%
Minor traumas	20	78	217	92	55	462	2%
Various specified problems and preventive care	58	66	159	91	63	437	2%
Total:	1,678	2,191	3,651	2,425	1,185	11,130	100%
Percent:	15%	20%	33%	22%	11%	100%	

The fourth most common ailment is “headache,” which is the presenting condition of 9 percent of patients. Dengue, malaria, and other identified causes of fever constitute the fifth most important motive for seeking care, 7.5 percent of all patients. These five causes combined account for two-thirds of all CDF visits.

#### **4.6.4 Average Expenditures Per Patient**

The CDFs' morbidity registers also provide information about the amount patients paid for the medicines received during their visit. These data were extracted from the registers and can be found in Table 20. The mean payment was 5.3 lempiras. The median was 3.5 lempiras. Most patients, 83 percent, paid less than 10 lempiras.

**Table 20: Amounts CDF Patients Paid for Medicines**

Lempiras	Number of Patients	Percent of Patients	Cumulative % of all Patients
< 1	1,006	11%	11%
1 to < 3	1,618	18%	29%
3 to < 5	3,127	34%	63%
5 to < 7	942	10%	73%
7 to < 10	878	10%	83%
= > 10	1,572	17%	100%
Total:	9,142	100%	
Mean Payment: 5.3 Lempiras Median Payment: 3.5 Lempiras			
Note: Data reflects 9,142 patients of the 51 surveyed CDFs.			

---

## 4.7 Training and Supervisory Visits

The survey included questions about visits the HA may have received during the year from health promoters or supervisors or from health personnel from a UPS or the MOH.

### 4.7.1 Frequency, Average Duration, and Total Time Expended

The 51 surveyed CDFs reported having a mean of 4.9 training and supervisory visits in the first 9 to 11 months of 1998 prior to being interviewed. Table 21 shows the distribution of the frequency of these visits. On average, HAs received one visit every two months. Table 22 shows that supervisory visits vary considerably in duration, and, on average, last nearly two hours. Table 23 presents the distribution of total time devoted to training and supervisory visits. The mean number of hours devoted to all training and supervisory visits in the first nine months of 1998 was 11, and the median was 5.

**Table 21: Training and Supervisory Visits in 1998: Average Number of Visits per CDF**

Number of Visits	Number of CDFs	% of CDFs	Cumulative % of CDFs
0	4	8%	8%
1	8	16%	24%
2	9	18%	41%
3	5	10%	51%
4	8	16%	67%
5	0	0%	67%
6	3	6%	73%
7	6	12%	84%
8-10	3	6%	90%
> 10	5	10%	100%
Total:	51	100%	
Mean: 4.9 visits, Median: 4.0 visits			

**Table 22: Training and Supervisory Visits in 1998: Average Duration of a Visit per CDF**

Average Duration of a Visit (Hours)	Number of CDFs	% of CDFs	Cumulative % of CDFs
= < 1	19	40%	40%
> 1 to 2	12	26%	66%
> 2 to 3	11	23%	89%
> 3.0	5	11%	100%
Total:	47	100%	
Mean and Median Duration of a Visit: 1.9 hours			

**Table 23: Training and Supervisory Visits in 1998: Total Amount of Time of Visits per CDF**

Total Time (in Hours)	Number of CDFs	% of CDFs	Cumulative % of CDFs
= < 1	11	23%	23%
> 1 to 5	17	36%	60%
> 5 to 16	12	26%	79%
> 16	11	23%	100%
Total:	51	109%	
Mean Total Time: 11 hours Median Total Time: 5 hours			

The two most common types of meetings were with (1) a promoter from the sponsoring NGO and (2) the nearest MOH health center personnel (see Table 24). CDFs were more likely to have had a meeting with a representative of their affiliated organization than with personnel of the UPS. Nearly two-thirds of the CDFs reported that they had had one or more supervisory visits from their health promoter. Promoter visits accounted for 72 percent of total training and supervisory meetings (see Table 25). Table 26 presents information on the duration of training and supervisory visits by type of supervisor. The median amount of time expended in training and supervisory visits with promoters was three hours, or roughly 20 minutes per month.

**Table 24: Training and Supervisory Visits:  
Number of CDFs Visited at Least Once in 1998 by Type of Trainer/Supervisor**

Type of Trainer/Supervisor	Number of CDFs	% of CDFs	Cumulative % of CDFs
Promoter	46	63%	63%
Local Supervisor	6	8%	96%
National Officer Supervisor	2	3%	99%
UPS Personnel	18	25%	88%
Other	1	1%	100%
Total:	73	100%	
Note: A CDF may have more than one response.			

**Table 25: Training and Supervisory Visits:  
Number of Visits to CDFs in 1998 by Type of Trainer/Supervisor**

Type of Trainer/Supervisor	Number of Visits	% of Visits	Cumulative % of Visits
Promoter	166	72%	72%
Local Supervisor	17	7%	79%
National Officer Supervisor	3	1%	80%
UPS Personnel	45	19%	100%
Other	1	0%	100%
Total:	232	100%	

Note: A CDF may have more than one response.

**Table 26: Training and Supervisory Visits in 1998:  
Average Duration of a Visit and Total Number of Minutes by Type of Supervisor**

Supervising Institution	Number of Observations	Average Minutes Per Visit		Total Supervision Time [(Avg. Time/Visit)*(No. of Visits)]	
		Mean	Median	Mean	Median
Promoter	48	122	105	515	180
Local Supervisor	6	100	90	252	180
National Officer Supervisor	2	180	180	270	270
UPS Personnel	18	108	105	228	180
Other	1	60	60	60	60
Overall Averages:	73	118	120	412	180

The third most common type of supervisory visit was a meeting with an MOH staff person from a nearby MOH (UPS) facility, either the MOH employee visited the Fund, or, more likely, the HA attended an MOH facility-based meeting of health volunteers and personnel in the facility's catchment area. Of the CDFs surveyed, 25 percent reported having had at least one visit from an MOH employee. Those that had at least one visit from personnel from the nearby MOH facility had an average of 2.5 visits during the previous months of 1998 (an average of about once every four months).

In addition to the visits from UPS personnel, HAs traveled to their nearby MOH health center for local health care system coordination meetings. On average, a CDF had 3.3 meetings at the UPS, about one meeting every three months. The number of such meetings varied significantly among the CDFs, masking the fact that 20 of the 51 Funds (40 percent) reported that they had not had any such meetings. Those that had at least one experienced an average of 5.5 meetings, about one every two months.

Thus, while there is a substantial amount of MOH-CDF networking at the local level, the practice is by no means universal. Those that network do so regularly, but at the other extreme, 35 percent reported not having any such type of meeting (either at the CDF or at the UPS).

It should be noted that while MOH procedures state that monthly meetings should be held with all health personnel in the catchment area of the facility, there may be a variety of reasons why this task is not fulfilled. It could be due to the actions or inactions of MOH personnel or of HAs. It may be that the average (mean) distance to the nearest health center, 4.4 kilometers, discourages these visits. Another possible variable—the perceived value of the meetings—was not investigated.

#### 4.7.2 Purpose of Visits

Table 27 presents the six major reasons for training and supervisory visits. Only two (4 percent) CDFs identified “supervision /monitoring” as the primary reason for the visit. Training and information provision was the most commonly identified purpose of a visit, identified by one-third of the CDFs. The next two most common responses given by half of the respondents were “data and report” and “administrative,” both of which can be regarded as “administrative” in general terms.

**Table 27: Purpose of Training and Supervisory Visits to CDFs in 1998**

Purpose of the Visit	Number of CDFs	Percentage of CDFs	Cumulative % of CDFs
Training/Information Provision	15	33%	33%
Data and Report	12	27%	60%
Administrative	10	22%	82%
Supplies	4	9%	91%
Supervision/Monitoring	2	4%	96%
Other	2	4%	100%
Total:	45	100%	
Note: A CDF may have more than one response.			

Sponsoring organizations generally do not use supervisory visits as an opportunity for distributing medicines, as evidenced by the fact that only four of the respondents (9 percent) identified “supplies” as the reason for the visit. It is usually the responsibility of the individual CDF to travel to the organization’s warehouse or office to pick up drug supplies. While some organizations at one time did maintain medicine distribution systems that coincided with the supervisory system, they found it necessary to abandon these systems. In at least one instance, an organization’s supervisors/promoters were becoming targets of thieves as it became common knowledge that they delivered medicines and traveled with money essential to make transactions.

Half of the surveyed CDFs (27, or 53 percent) reported they had met with personnel of other CDFs in the first nine months of 1998. Nearly all of these meetings (25 out of 27, or 96 percent) were organized by Fund-sponsored NGOs. The usual venue for the meetings was a school or other community center, and the most common purpose of these meetings was in-service training of HAs, although as Table 28 shows, they were used for other purposes as well.

**Table 28: Primary Purpose of Meetings with Other Community Drug Funds in 1998**

<b>Purpose</b>	<b>Number of CDFs</b>	<b>Percentage of CDFs</b>
Training	7	27%
Prepare Inventories and Distribute Medicines	5	19%
Collect Information from the CDFs	5	19%
Exchange Ideas and Experiences	5	19%
Review Data Registers	4	15%
Total:	26	100%

---

## 5. Financial Analysis of the Community Drug Funds

---

### 5.1 Understanding the Impact of and Adjusting for Inflation

As measured by the consumer price index (CPI), from January 1994 to September 1998, the general cost of living in Honduras more than doubled. In other words, it took more than twice as many lempiras in September 1998 as it did in January 1994 to purchase the identical type and quantity of goods and services. It is essential that the changing value of the lempira be considered in this longitudinal analysis (i.e., analysis spanning more than a few months); otherwise, the findings will be distorted and misleading.

A common problem impacting CDFs is that inflation has not been considered in the development of pricing strategies. For example, if a CDF initially stocked with 25 tablets of erythromycin, worth 100 lempiras, sold it over the course of a year, it would be unable to replenish its stock for the same amount. If the inflation rate over the course of that year was 25 percent, the same 25 tablets would now cost 125 lempiras. If the CDF only had 100 lempiras, the most it could purchase would be 20 tablets. This erosive effect of inflation has been an important contributing factor to the decapitalization of CDFs. For an explanation of how researchers adjusted for inflation in this study, see Annex F.

Throughout this report, the impact of inflation has been adjusted for using a medical care price index developed specifically for this study. The data will be referred to as being in “real” terms, or as being valued in November 1998 lempiras. When the impact of inflation has not been accounted for, the data will be referred to as being in “nominal” terms, or as being valued in current lempiras.

---

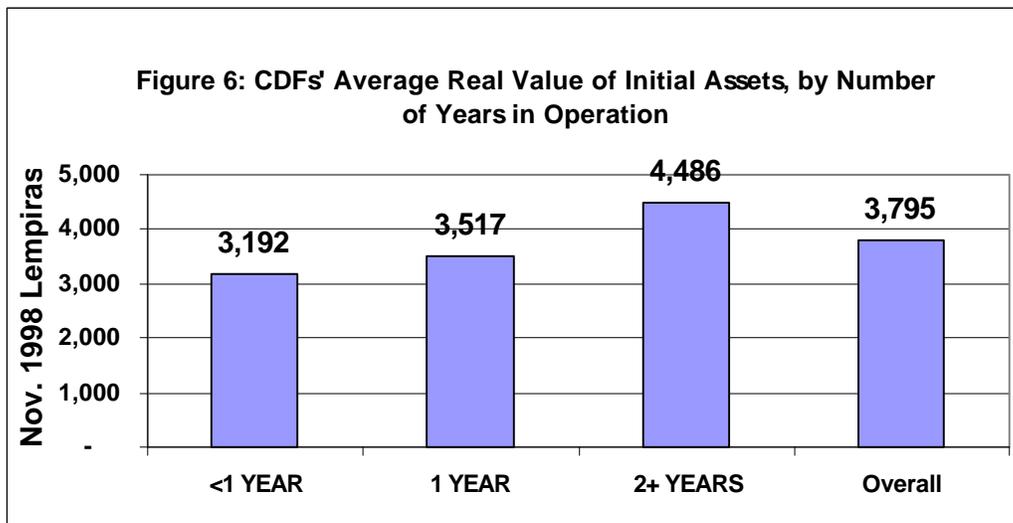
### 5.2 Initial Assets of the CDFs

The average (mean) value of initial assets of the 51 surveyed CDFs adjusted for inflation (in 1998 lempiras) is 3,795 lempiras. As may be seen in Table 29, the real value of initial assets per CDF varies substantially.

**Table 29: Initial Assets of the Community Drug Funds**

Value of Initial Assets (In Nov. 1998 Lempiras)	Number of CDFs	Percentage of All CDFs
< 1000	4	8%
1000 – 1,999	5	10%
2,000 – 2,999	13	25%
3,000 – 3,999	13	25%
4,000 – 4,999	5	10%
5,000 – 5,999	4	8%
6,000 – 6,999	3	6%
> 7,000	4	8%
Total:	51	100%
Mean: 3,795, Median: 3,222		
Note: These figures are adjusted for Inflation and are valued in November 1998 Lempiras.		

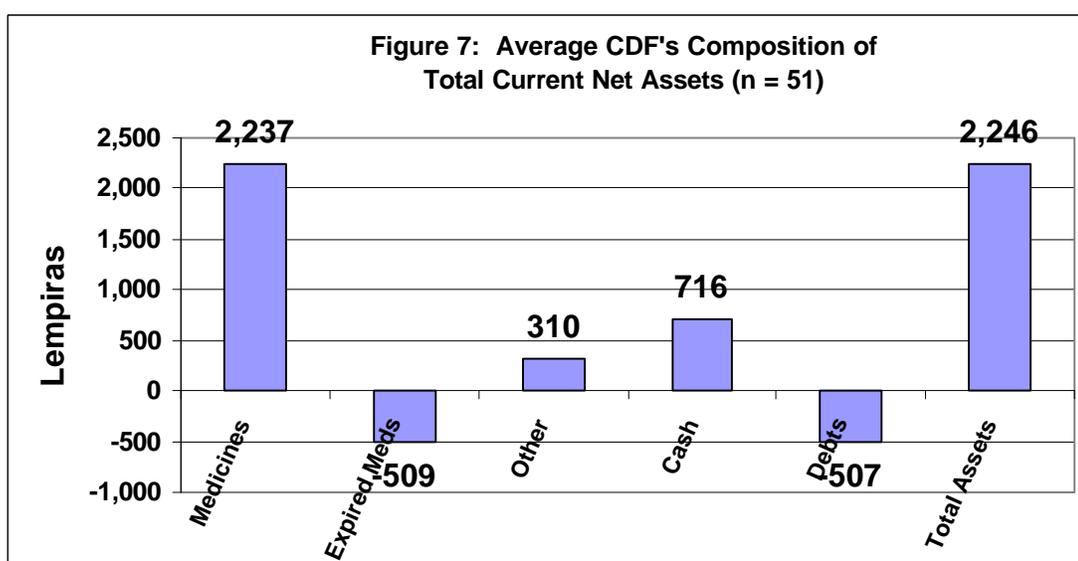
Figure 6 presents the average real value of initial assets of the surveyed CDFs by the number of years the CDF has been in operation. The initial capitalization of a CDF has been steadily falling over the past few years. Funds started less than a year before the survey was conducted had, on average, an initial level of real assets of 3,192 lempiras, 41 percent less than Funds started two years ago or more, when they averaged 4,486 lempiras.



## 5.3 Growth in Assets<sup>7</sup>

### 5.3.1 Net Assets

On average (mean), the 51 CDFs had net assets valued at 2,246 lempiras. Figure 7 shows the composition of these assets. Expired medicines constituted 19 percent of the total value of medicines. This is an unacceptably high proportion. Cash constituted nearly one-third of the value of (unexpired) medicines and exceeded the amount of debt owed by 40 percent.<sup>8</sup> Excess cash holdings contribute to the supply-constrained nature of the CDFs. If, on average, fewer CDF assets were held in cash and more in medicines, the greater quantity and selection of medicines would enable increased sales and services provision.



### 5.3.2 Absolute Growth

At the time of the survey, the net total value of assets of the 51 CDFs was equal to only 54 percent of the real value of their initial assets. Of the CDFs studied, 44 (86 percent) had assets that were worth less than when they were first established. That is, the vast majority of the CDFs studied have been decapitalized. Table 30 shows the absolute amount of change in the real value of assets of the CDFs. The mean amount is -1,549 lempiras, the median is -1,240 lempiras.

<sup>7</sup> Throughout this discussion, it is assumed in the calculations of (a) the value of inventories and (b) the growth in the value of assets that all expired and damaged medicines are losses (liabilities). Some unknown amount of these medicines are sold by the CDFs, resulting in this approach of underestimating the value of inventories and the growth in the value of assets. It is preferred that the Funds not sell these medicines. Therefore, it was best to assume that they do not. While this approach assumes the "worst case scenario" in terms of financial status, it is preferred since it assumes that the Funds function as is desired. This is an appropriate approach to take in an evaluation, planning, and reform exercise such as this.

<sup>8</sup> It should be noted that cash is held to purchase medicines and other supplies, as well as to pay debts that may have been incurred in obtaining medicines and other supplies. The simultaneous existence of cash and debts reflects the current "cash flow" of the CDF.

**Table 30: Absolute Growth in the Capital of CDFs:  
Current Assets Minus Initial Assets**

Increase (In Nov. 1998 Lempiras)	Number of CDFs	Percentage of All CDFs
<b>Negative (Losses)</b>		
1 – 999	14	27%
1000 – 1999	18	35%
2000 – 3999	5	10%
3500 – 4999	5	10%
> 5000	2	40%
Subtotal:	44	86%
<b>Positive (Profit)</b>		
1 – 99	2	4%
100 – 499	1	2%
500 – 999	2	4%
> 1000	2	4%
Subtotal:	7	14%
Mean: -1,549 Lempiras, Median: -1,240 Lempiras		
Note: These figures are adjusted for inflation and valued in November 1998 Lempiras.		

### 5.3.3 Growth Rates

The amount of change in a Fund's assets should vary by the size of original endowment: those CDFs with high levels of initial assets are better able to have greater absolute levels of change in the value of their assets (whether those changes increase or decrease). It is important, therefore, to consider the value of the CDFs' initial assets. Table 31 presents the growth rate of the value of each Fund's assets measured as a proportion of its initial asset value. As the table shows, 39 percent of the surveyed Funds have been decapitalized by more than 50 percent. In contrast, only 6 percent have increased the value of their assets by more than 50 percent.

**Table 31: Rate of Growth of the CDF's Assets:  
Current Assets as a Percentage of Initial Assets**

Increase in Value	Number of CDFs	Percentage of All CDFs
<b>Decapitalized</b>		
> 75 %	7	14
51-75%	13	25%
26-50%	14	27%
1-25%	10	20%
Subtotal:	44	86%
<b>Those With Gains</b>		
1-50%	4	8%
> 50%	3	6%
> 50%	2	14%
Subtotal:	7	14%
Note: These figures are adjusted for inflation and valued in November 1998 Lempiras.		

### 5.3.4 Growth Rates by Age

When analyzing the growth in the value of a Fund's assets, it is also important to consider the length of time that the Fund has been in operation. To accomplish this, an average rate of growth per month that the Fund has been in operation was calculated. As Table 32 shows, the monthly rate of growth of CDF assets varies significantly (statistically speaking) by the number of years in operation. The newest CDFs, those in operation for less than one year, have the poorest financial performances: the value of their assets contracts at a rate of nearly 6 percent per month. The CDFs that have been operating for one year (12 to 23 months) also, on average, lose value, but do so at a much slower pace, about one-third the rate of those with less than one year of experience. The most mature CDFs, those that have existed for two or more years, have the highest growth rates. Still, they too are decapitalizing: the value of their assets contracts at an average rate of about 1 percent per month.

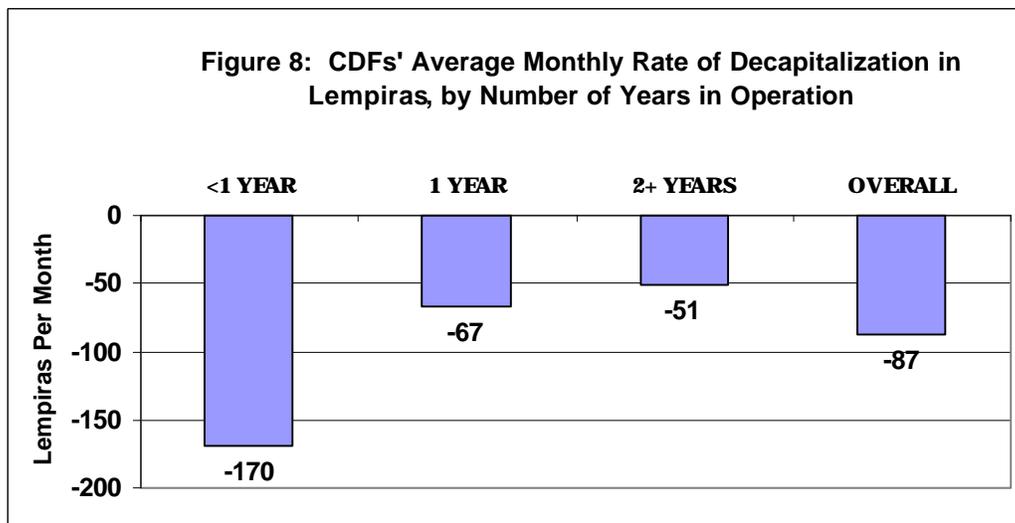
**Table 32: Monthly Growth Rate of CDF Assets by Number of Years in Operation**

Number of Years in Operation	Number of CDFs	Average Monthly Growth Rate per CDF (%)
< 1	10	-5.8
1	23	-1.9
2 +	18	-0.9
Overall Average: -2.3		
Note: Rates are calculated over the life of the CDF.		

**t-Statistics of Differences in Mean Growth Rates**

Age Categories of Comparison	t-Statistic	Confidence Level of Statistical Difference
< 1 year versus 1 year	2.30	95%
< 1 year versus 2+ years	2.99	98%
1 year versus 2+ years	1.70	90%

Figure 8 expresses these rates of decapitalization as an average number of lempiras per month. The youngest CDFs on average lose 170 lempiras per month, compared to monthly losses of 67 lempiras for those that have been operating for one year (12 to 23 months) and 51 lempiras for those operating two or more years. In sum, among the surveyed CDFs, there is an inverse relationship between the age of a CDF and its rate of decapitalization.



#### 5.4 Estimating the Average Lifespan of a CDF

The average lifespan of a CDF may be calculated based on the average age, average initial asset levels, and average rates of decapitalization, assuming that the CDF is already established and will not be recapitalized.<sup>9</sup> All other characteristics being equal, it would take the average CDF 66 months (5.5 years) from its date of inception to become fully decapitalized.

Table 33 presents estimates of the lifespan of CDFs disaggregated by age. Both the lower average initial level of assets (in real terms) and the more rapid rate of decapitalization contribute to

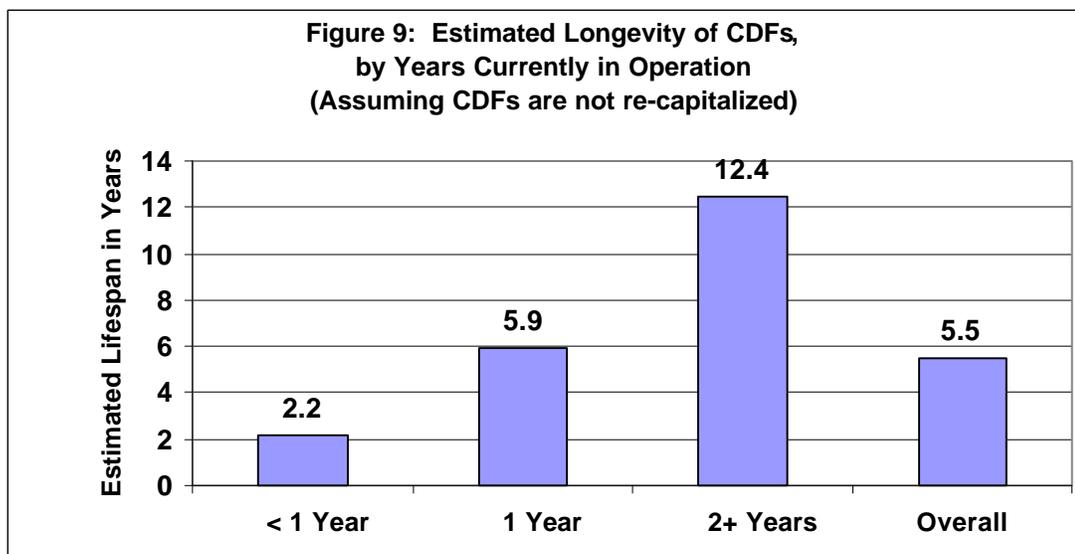
<sup>9</sup> It should be noted that this analysis is based on two cross-sectional observations of the program (one at the CDF's initiation of operations and the second at the time it was surveyed), and implicitly assumes that the CDF's performance has been linear and monotonic throughout the period between those two observations. It is possible, however, that the CDF's performance has changed over the study period and that it may have been observed at a moment when it was performing particularly well or especially poorly. On the basis of 1997 monthly data collected by PRODIM of all of its CDFs, it appears that there is considerable seasonality in the operations of CDFs. A disaggregated analysis of CDFs reveals a common pattern: the last half of the year, coinciding with the rainy season, is characterized by roughly twice as many patient encounters as are provided in the first half of the year (PRODIM 1997).

the shorter lifespan of younger CDFs. Those that have been operating less than one year have an estimated average lifespan of only 26 months. At the other extreme are CDFs that have been operating two or more years. Their higher initial real value of assets and lower rate of decapitalization both contribute to their longer average lifespan of 12.4 years (see Figure 9). CDFs that have been operating at least 12 but less than 24 months have an intermediate lifespan of 5.9 years. In sum, without recapitalization, the younger the CDF, the more short-lived it will be.

**Table 33: Estimating the Lifespan of CDFs:  
Length of Time from Start of Operations to Complete Decapitalization**

CDF Characteristics	Initial Real Value of Assets	Monthly Rate of Decapitalization	Monthly Average Amount (Lempiras) of Decapitalization	Average Current Age (Months)	Estimated Average Lifespan (Current Age + Months to Fully Decapitalize)	
					In Months	In Years
All CDFs	3,795	2.3	87	23	66	5.5
By Years in Operation						
< 1 Year	3,192	5.8	185	9	26	2.2
1 Year	3,517	1.9	67	18	71	5.9
2+ Years	4,486	0.9	40	38	149	12.4

Note: The figures assume that the CDFs are not recapitalized.



The question arises as to whether older CDFs decapitalize less rapidly because they have learned from their experiences and have steadily improved their performance over time. Or is there a selection or survival bias present; i.e., are the older CDFs that have lower rates of decapitalization the only ones that have survived? Could it be that there are different cohorts of CDFs that vary systematically? The most profitable CDFs were started two or more years ago. At the other extreme, the least profitable were started within the last year. How and why do these different cohorts vary systematically? Unfortunately, the longitudinal data necessary to investigate how the performances

of CDFs change over time and answer these important questions were not available. Other evidence, however, can be examined to understand the issues raised here, and, more generally, CDFs' financial operations.

## 5.5 CDF Revenues

The financial status of a CDF is dependent upon its revenues and expenditures: revenues less expenditures equals income. A CDF generates revenues by selling medicines. The amount of revenues it earns from any sale is equal to the quantity of the medicine sold multiplied by the unit price at which it is sold. Revenues then depend upon the quantity and types of medicines available and the prices at which they are sold. Most CDFs reported they occasionally vary the prices; i.e., they charge persons they regard as indigents less than the "regular" price of medicines.

### 5.5.1 Setting Prices

As Table 34 shows, the majority of CDFs do not use any single methodology to set prices. The most common response (44 percent) to the question of how prices are set was "they are already set, the medicines come with a list of prices." In these instances, it is the CDF-sponsoring organization's central or regional office staff that sets prices. The next most common practice reported (31 percent) was the imprecise response that the prices were "set above costs," with no indication of how much above costs. Nearly one-quarter stated that prices were set 30 percent above cost.

**Table 34: Determination of the Price of CDF Medicines**

Method	Number	Percentage
The price is already determined; There is a list of prices	17	44%
It is increased above expenditures	12	31%
It is increased 30% for each product	9	23%
The CDF Committee calculates it	1	3%
Total:	39	100%

### 5.5.2 Policies Concerning Credit and the Provision of Free Medicines

Table 35 presents information on the number and percentage of CDFs reporting a policy of providing credit or dispensing medicines free of charge (to persons considered too poor to pay). Four mutually exclusive categories were established, based on the four possible combinations of policies regarding these two practices. One-quarter of the Funds provided neither credit nor free medicines. At the other extreme, one-fifth of the surveyed CDFs reported they provided both credit and some free medicines. The most common practice (39 percent of CDFs) is to provide credit, but not to give away medicines free of charge. More than half (59 percent) of CDFs provide credit, and 35 percent give some free medicines.

**Table 35: Number and Percentage of Community Drug Funds that Have a Policy of Providing Credit or Free Medicines**

Policy/Practice	Number of CDFs	Percentage
Neither credit, nor free medicines	13	25%
Some medicines are given away free, but no credit	8	16%
Credit is provided, but no medicines are given away	20	39%
Credit is provided and some medicines are given away free of charge	10	20%
Total:	51	100%
Some medicines are given away free	18	35%
Credit is provided	30	59%

While Table 35 shows the reported policy regarding the provision of credit and free medicines, Tables 36 and 37 are based on the self-reported actual practices of the CDFs in the first months of 1998 prior to being interviewed. The difference between policy and practice is what accounts for the minor differences between these two sets of tables. Table 36 shows that the 18 Funds that reported providing credit did so an average of two (median) or three (mean) times during the months of 1998 prior to being interviewed. The value of the credit they extended varied widely. The mean was 235 lempiras, and the median was 34. No information was collected about the terms of credit nor the repayment of these loans.

**Table 36: Actual Provision of Credit or Free Medicines in 1998**

Actually Provided	Number of CDFs	No. of Times Provided			Value Involved (Lempiras)		
		Mean	Median	Total	Mean	Median	Total
Credit	18	3.0	2.0	42	235	34	4,229
Free of Charge Medicines	29	7.6	5.0	220	146	100	4,234

Providing medicines free of charge to indigents is a much more common practice than extending credit. The 29 HAs who provided free medicines at least once in the first nine months of 1998 did so a total of 220 times; exceeding by a factor of more than five the number of times credit was extended. The 29 Funds that dispensed free medicines at least once did so an average (mean) of nearly eight times. The mean value of medicines that patients were exempted from paying was 146 lempiras, the median was 100. There was considerably less variation in the average value of free medicines that were dispensed compared to those provided on credit. Because of the smaller mean size of the value of free medicines provided, the total value of medicines sold on credit is nearly the same as that provided free of charge, despite the fact that medicines were dispensed free of charge five times more frequently than they were sold on credit.

To understand the significance of these practices, it is necessary to put them into context by comparing them to other CDF financial indicators. Table 37 presents two such relative measures. As in many of the other study findings, there is wide variation across the individual Funds. This

prompted including both the means and the medians for each of the measures to provide better insight regarding the distribution of the particular variable in question.

**Table 37: Financial Significance of Providing Credit and Giving Away Medicines Free of Charge**

Value of:	Subset of Surveyed CDFs	Number of CDFs	(1) Amount Provided Per Month in 1998 (in Lempiras)			(2) Amount Provided Per Year as a Percent of Total Net Assets		
			Mean	Median	No. of Obs.	Mean	Median	No. of Obs.
Only Credit	Those Providing Credit	29	13.2	8.7	28	9.3%	4.3%	29
Only Free	Those Providing Free Medicines	18	21.5	3.3	18	14.4%	1.2%	18
Credit+Free	Those Providing Either Credit or Free	37	20.8	9.4	37	14.3%	4.7%	37
Credit+Free	Those Providing Both Credit and Free	10	38.8	17.0	10	10.5%	1.0%	10
Credit+Free	All CDFs	51	15.7	4.0	49	10.1%	1.9%	49
Only Credit	All CDFs	51	7.8	2.5	49	5.5%	1.1%	49
Only Free	All CDFs	51	7.9	0	49	5.3%	0.0%	49

Note: These figures are average values for different subsets of CDFs.

The first line of Table 37 shows the value of the credit that the 29 CDFs reported they had provided during 1998. The first relative measure is the monthly value of that credit. This measure was constructed in order to standardize the comparison period across CDFs, since they were interviewed over a three-and-a-half-month period, and reported the total amount of credit they had provided in the previous months of 1998. The mean amount provided per month was 13 lempiras. This may be compared with the mean monthly value of free medicines (reported in the second row of the table) of 21.5 lempiras. The magnitude of the variations in these sums is due to the fact that while the mean of monthly free medicines is 163 percent the mean value of credit provided, the median of monthly free medicines is only 38 percent of the value of credit provided.

The 37 CDFs that provided either credit or free medicines reported that they had dispensed a mean value of 20.8 lempiras worth of medicines per month in implementing these two policies. This was only about half of the 39 lempiras worth of medicines that the 10 Funds that provide both credit and free medicines reported. (Row 4 in Table 37 is a subset of these Funds.)

The last three rows in Table 37 present these same measures, but average them over all of the CDFs—those with and without policies of credit and free medicines. The value of medicines involved per CDF is relatively small, averaging about 16 lempiras per Fund per month, and split almost evenly between credit and exempted payment.

Another relative measure of the financial significance of this practice is the value of medicines as a percent of the total current (net) assets of the CDF (see column (2) in Table 37). The amount of financing involved in both of these practices is relatively minor by this measure as well. Annually, the equivalent of about 5 percent of total net assets is “spent” providing free medicines, with about

the same share “spent” providing credit. Together, the equivalent of a mean of 10 percent and median of less than 2 percent of total net assets is accounted for by both of these practices.

The relative infrequency of these practices further testifies to their insignificance. Considering all CDFs, on average, 1 percent of all visits involved the provision of credit and less than one-quarter of 1 percent of all visits involved the provision of free medicines to the poor. If the analysis is limited to only those Funds that have these policies, the frequency of these events is of course much more common, but they still occur infrequently. Those that extended credit did so to an average of 8 patients per year, or once every 66 patients (2 percent of all visits). Those that provided free medicines to the poor did so an average of 3 times per year, or once every 121 patients (1 percent of all visits).

Researchers expended considerable effort investigating the potential adverse financial impact of these practices on CDFs. Of the approximately 25 analyses that were conducted, the only one that revealed any significant adverse relationship had to do with the provision of both credit and free medicines. The seven CDFs (14 percent) that had not been decapitalized were much less likely to have policies of both free medicines and credit. Although one-third of these seven provided free medicines to the poor and two-thirds sold medicines on credit, not one of them did both. The corresponding proportions for the decapitalized Funds were 52 percent provided free medicines, 81 percent provided credit, and 34 percent provided both.

As already mentioned, one reason for this line of inquiry yielding few insights may have been lack of data on either the terms of credit or the repayment status of credit accounts. If the credit is usually paid back, then it is a poor measure of a financial risk of loss. A more fundamental reason would appear to be that while these policies are fairly common, their exercise is not. To better illustrate this, the length of time the practice of providing free medicines would take to decapitalize the average CDF was calculated. The mean number of months is 685 or 57 years. Clearly, the decapitalization of the CDFs is not due to providing credit or free medicines to the poor. Therefore, the financial problems of the CDFs must be a result of a more fundamental problem; the prices at which they sell drugs are too low and/or their costs are too high.<sup>10</sup> As has already been discussed, from the perspective of many HAs, price-setting policies and practices are beyond their control, vague, whimsical, or not well understood. This is clearly an area that requires closer monitoring and perhaps some technical assistance.

---

## 5.6 CDF Expenditures / Costs

Figure 10 presents a disaggregated look at average CDF expenditures in the six-month period prior to the interview. The average total expenditures of a CDF over the period was 1,969 lempiras. This is the equivalent of 88 percent of the average net assets of a CDF, suggesting that turnover of the

---

<sup>10</sup> It could also be due to what may appear to be a high cost problem, a result of the inappropriate use of revenues.

net assets of the average CDF requires 5.2 months and that net assets are turned over 2.3 times in a year.<sup>11</sup>

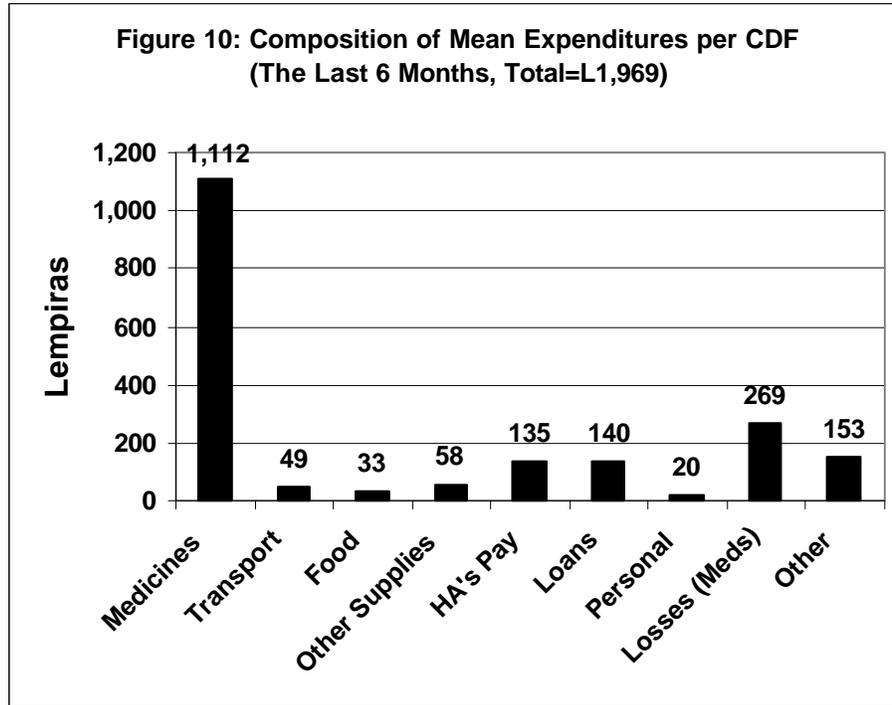
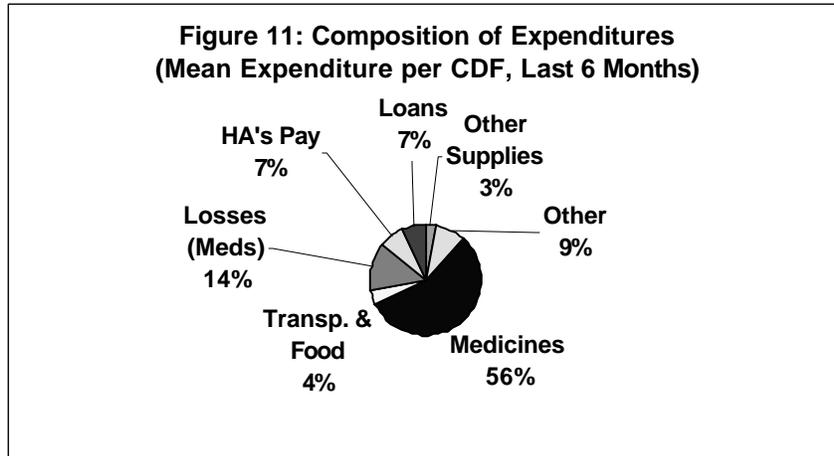
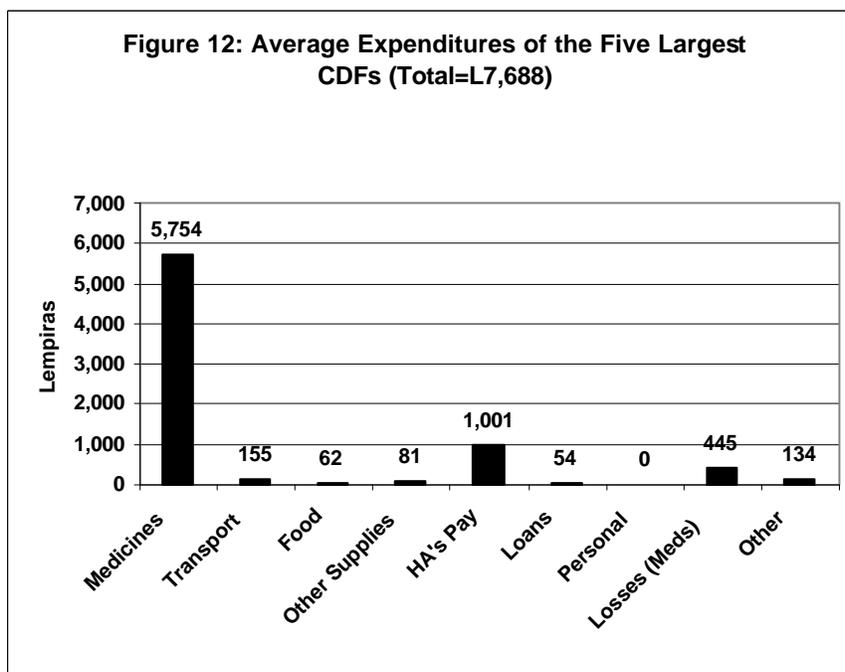


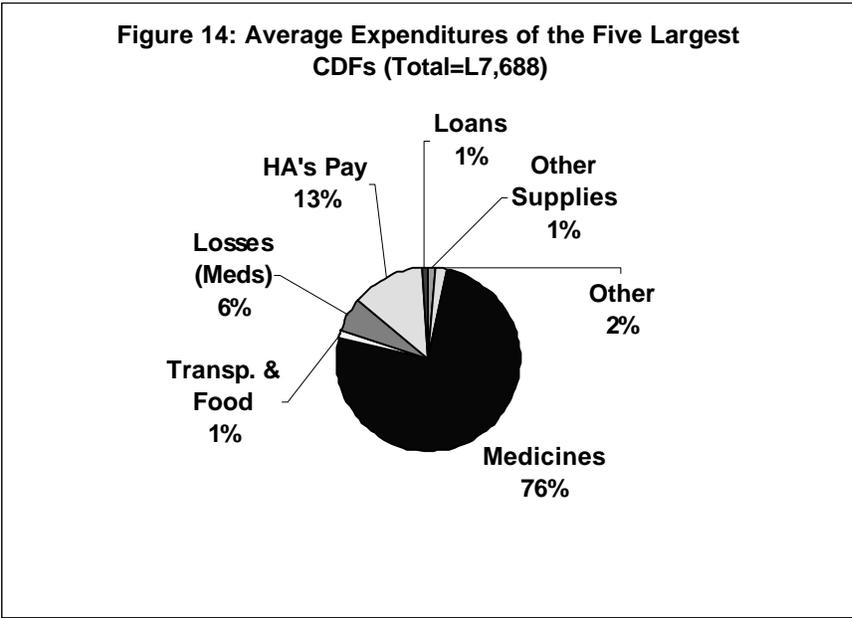
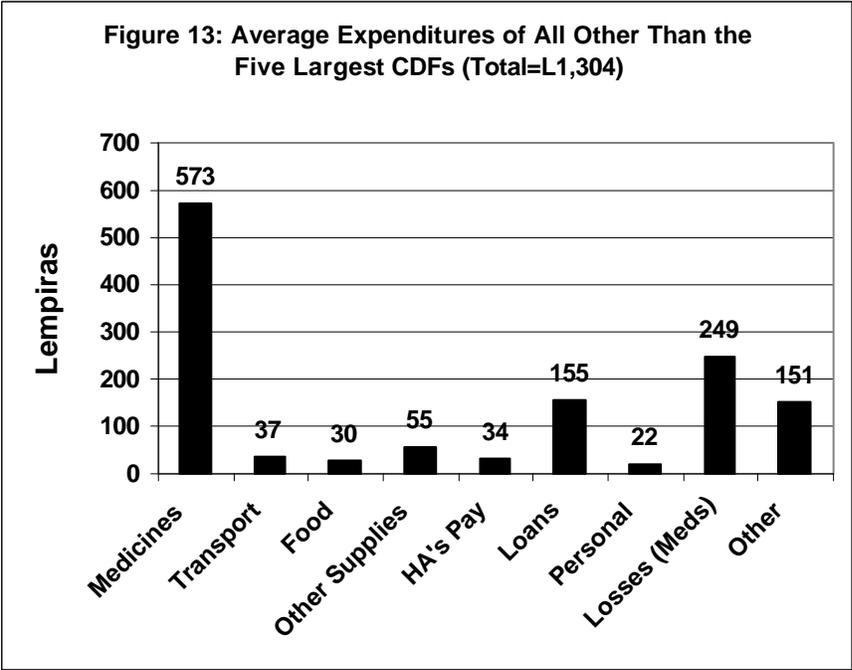
Figure 11 shows the percentage distribution of the absolute level of average CDF expenditures presented in Figure 10. Only 56 percent of the CDF's expenditures consist of purchases of medicines. Again, there are significant losses, constituting 14 percent of total costs and the equivalent of one-fourth of the outlays for purchases of medicines. These losses are from all sources and are a substantial drain on the Funds' finances. There is a need to systematically address the causes of these losses and reduce them, thereby improving the CDF's financial status and quality of services.

<sup>11</sup> According to the *Manual de Comités: Fondo Comunal de Medicamentos*, principally authored by PRODIM and published jointly by PRODIM, the MOH, and UNICEF, the optimal rate of turnover of a CDF's capital is 3 times per year. However, this estimate is based on an assumed (but unspecified) initial level of capitalization, the HA earning a 30 percent margin, and the Fund generating an annual rate of return of 23 percent. Since 6 of the 7 Funds surveyed which had achieved a rotation of their capital of at least three in the previous year were also de-capitalized, these are important points to consider when devising a financing, or simply a pricing, strategy. In addition, there is nothing "magical" about a CDF's capital rotating three times in a year.

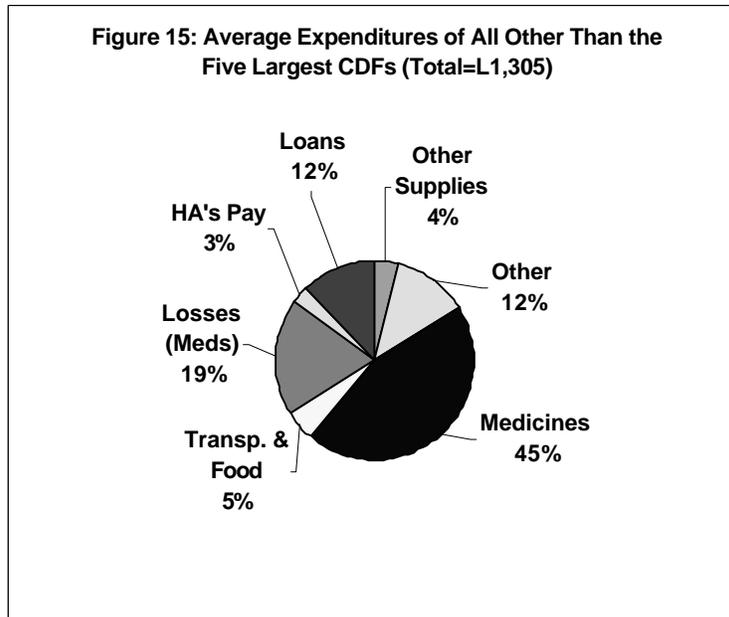


As noted in Chapter 4, five CDFs are much busier relative to the average Fund, and they account for a disproportionate number of the visits to all CDFs. A statistical analysis of the composition of their costs found these CDFs to have different cost structures than the remaining Funds surveyed. Figures 12 and 13 present data on the cost structures of the five largest CDFs and the remainder of the surveyed Funds, respectively. In the six-month period prior to the survey, the largest Funds spent nearly six times more than the remainder of the interviewed Funds. Figures 14 and 15 show the proportional breakdown of the absolute values presented in Figures 12 and 13. The different composition of these two sets of Funds is striking. Whereas the large CDFs spent six times more in total, they spent 10 times more on medicines. Medicines constituted 76 percent of the total expenditures of these five Funds, but less than half (45 percent) of the total expenditures of the rest of the Funds.





Another striking difference between these two groups is “losses” of medicines, which represent 249 lempiras, 19 percent of total costs, and 43 percent of the expenditures on medicines in the smaller CDFs, compared with 445 lempiras, 6 percent of costs, and 8 percent of expenditures in the five largest Funds. Although the large Funds’ purchases are valued at 10 times those of the small Funds, their losses are only twice as large in absolute terms, and in relative terms, they are only one-third as large. These data prompt two observations.



First, even in the busiest CDF, there are substantial losses. In contrast to the smaller Funds, whose purchases are the equivalent of only 27 percent of the value of their current stock of medicines, the five largest Funds' purchases are the equivalent of 171 percent of their current stock, reflecting the much more rapid rate at which they turn over their stock. It may be inferred that there is considerable room for improving the purchasing practices (i.e., type and quantity of medicines) and the storage of medicines in all of the CDFs.

Second, it appears that the fixed costs of purchasing medicines are not adequately appreciated and may be contributing to low capitalization – low availability – frequent purchases of small quantities, thus serving to squander the resources of the smaller CDFs. Transport and food costs are incurred primarily by the HA in the course of purchasing medicines. These costs do not vary as the amount of medicines purchased on a particular trip increases. As such, the same transport and food costs can be spread across a larger amount or value of drugs, reducing the amount by which the price for any given sale of drugs must be increased to recoup those costs. Transport and food costs average 67 lempiras for the smaller Funds, 12 percent of the cost of medicines purchased and 5 percent of total costs. In contrast, they average 217 lempiras for the five larger Funds, which is only 4 percent of the cost of medicines purchased and 1 percent of total cost. The five Funds spend an average of 784 lempiras on medicines per trip and incur an average of 4 centavos of transportation and food costs for each lempira of medicine purchased. The remaining 46 Funds spend an average of 141 lempiras on medicines per trip and incur an average of 12 centavos of transportation and food costs for each lempira of medicine purchased.

These findings indicate the vast majority of CDFs may require periodic recapitalizing. This may be the preferred policy, even though recapitalizing CDFs is likely to be only a temporary solution. While improved training of HAs offers some hope, as does better medicine purchasing policies and practices, it may be that periodic recapitalization of a large portion of the CDFs will be required to help them temporarily and periodically break this cycle and thereby maintain their long-term viability. This appears to be the minimum maintenance cost of the CDF model; i.e., of providing access to care where it is the most expensive and difficult to do so—in thinly populated, relatively isolated, poor areas—and relying upon poorly paid, generally low-skilled personnel.

A third striking difference between the large five and all other CDFs is the rate of pay for HAs. For the busiest Funds, HAs are paid 1,001 lempiras, which constitutes 13 percent of total expenditures, compared with a mere 34 lempiras in other Funds, constituting 3 percent of total expenditures. The question that should be posed is why the HA’s pay is all but nonexistent in 90 percent of the surveyed Funds. Annualized, the mean pay of 90 percent of HAs interviewed is 68 lempiras.

### 5.6.1 Health Advisor Remuneration

Information on the salary of HAs was obtained by asking three questions. The first question was, “Who decides how much to pay the Health Advisor?” As seen in Table 38, the responses reveal considerable diversity among the surveyed CDFs. The most common arrangement in those Funds that reportedly pay HAs is for the CDFC to determine the level of pay. This was the case in 51 percent of the Funds. The next most common arrangement is for the NGO sponsor to determine the level of pay (25 percent of all CDFs).

**Table 38: Who Decides to Pay the Health Advisor?**

Health Advisors’ Responses	Number	Percent of All CDFs	Percent of CDFs That Pay the Health Advisor	Reported Being Paid in the Last 6 Months	
				Number	Percent
The health advisor is not paid	13	25%	0%	1	8%
The health advisor him/herself	4	8%	11%	0	0%
The CDF Committee	18	35%	51%	12	67%
The sponsoring NGO	13	25%	37%	6	46%
Other	3	6%	100%	1	33%
Total:	51	100%	100%	20	39%

The second question related to the CDF’s established policy for paying the HA: “What percent of sales does the Health Advisor receive as his/her pay?” The responses are presented in the first (left-hand) column of Table 39. The proportion the HA is reportedly paid varies from 0 to more than 50 percent; the mean is 20 percent, and the median is 15 percent.

**Table 39: Health Advisor Earnings:  
Reported Pay Policy Versus Reported Actual Payments Received**

Stated Policy for Paying HAs: As a % of Medicine Sales	No. of HAs	All CDFs' HAs		Only CDFs with Paid HAs		Reported Actual Pay Received in the Last 6 Months		
		Percent of HAs	Cum. Percent	Percent of HAs	Cum. Percent	No. Paid	% of HAs Who Were Paid	Calculated Mean Pay: % of Sales
0	13	25%	25%			1	8%	0.1%
1-5%	3	6%	31%	8%	8%	0	0%	0%
6-10%	3	6%	37%	8%	16%	0	0%	0%
11-15%	9	18%	54%	24%	40%	1	11%	14%
16-20%	1	2%	56%	3%	42%	1	100%	50%
21-25%	5	10%	66%	13%	55%	2	40%	21%
26-30%	11	22%	88%	29%	84%	10	91%	17%
31-49%	0	0%	88%	0%	84%	0		
50%	4	8%	96%	11%	95%	3	75%	9%
> 50%	2	4%	100%	5%	100%	0	0%	0%
<b>Total:</b>	<b>51</b>	<b>100%</b>		<b>100%</b>		<b>18</b>	<b>39%</b>	<b>7%</b>
Mean = 20%								

The third question was part of a series of questions about total CDF expenditures made in the preceding six months: “How much was spent paying the HA in the last six months?”<sup>12</sup> To make this information more directly comparable with responses to the first question, another indicator was calculated: the HA’s pay as a proportion of total expenditures on medicines in the past six months.<sup>13</sup> The absolute amounts of remuneration paid to HAs over the past six months (as reported in interviews with HAs) varied dramatically across CDFs and were frequently highly inconsistent (generally far less) with the reported proportion of total sales that they should have received. (See the two right-hand columns of Tables 38 and the three right-hand columns of Table 39). Mean earnings were 135 lempiras, while the median was zero, reflecting the fact that 30 HAs (the majority) reported receiving no compensation during that six-month period, while a single individual reported receiving 4,175 lempiras. If this outlier is dropped from the calculation, the mean six-month remuneration of HAs falls to 49 lempiras. The average HA was paid the equivalent of 7 percent of the average CDF’s total outlays on medicines in the previous six months—not a very large proportion.

Responses to these three questions reveal that 25 percent of the surveyed CDFs do not pay their HA. This is contrary to the popular perception that all of them are paid. Those who are paid are earning very little—markedly less than they report as the percentage of sales they are entitled to take. It is not clear why this marked discrepancy exists. Are HAs discouraged from taking their remuneration? Are they discouraged from taking their share because they are concerned about the continued viability of the Fund? Is the marked discrepancy between the percent they should earn and what they are earning an inadvertent result of their inability to properly calculate their share? Or are

<sup>12</sup> In most cases, these responses were corroborated with data from the CDF accounts.

<sup>13</sup> Ideally the absolute amount of pay of the HA should have been divided by the value of sales, but these data were commonly unavailable.

they content with the stature their position earns them in the community and the nonmonetary (“moral”) compensation? These are questions that have yet to be answered.

An important related question is whether the low level of remuneration affects the HA’s commitment or performance. It appears the HAs are significantly motivated by nonmonetary incentives. The commitment to health and the volunteerism that many HAs have demonstrated in other positions is compelling evidence that they do not consider material incentives important. However, a common (though by no means universal) experience around the world characterizing systems relying on moral incentives is that over time the intensity of the motivation dissipates. As it does, so does performance. This could be a relevant consideration for the Honduran CDFs. There could exist a “CDF performance cycle” wherein motivation, activities, and sales are initially high, but at some point the low level of material incentives affects the HAs and the sales at CDFs. Ascertaining such a cycle would require a longitudinal study.

## **5.6.2 Relative Efficiency of CDF Purchases of Medicines**

As noted earlier in this report, this study was to have examined the cost and efficiency of the CDFs’ medicine resupply systems, but data and time limitations and the disruption caused by Hurricane Mitch prevented completion of this analysis. Information was collected, however, on prices CDFs paid for medicines recently purchased. Thus, while a full-scale cost analysis of the resupply system is not feasible, it is possible to undertake an assessment of the relative efficiency of the CDFs’ purchases of medicines.

Table 40 presents the 24 most important medicines that the CDFs sell (in terms of their quantities) and the unit cost of each.<sup>14</sup> The right-hand column shows the marked variation found in the unit cost of these medicines. On average, the highest unit price paid for each of these 24 medicines was 2.56 times greater than the lowest unit price paid. As seen at the bottom of the table, organization #1 was particularly efficient in purchasing medicines: it paid the lowest price for 13 of the 24 medicines. Organization #2 also performed well above the average. At the opposite end of the performance scale is organization #5.

---

<sup>14</sup> Since nearly 60 percent of the CDFs’ primary source of medicines is their organizational sponsor/affiliate, the analysis was performed at the organizational level.

**Table 40: Variations in the Prices Paid by Community Drug Funds for 24 Medicines**

Type of Medicine		Unit Purchase Price / Cost to the CDF (Lps)						Highest Price as % of the Lowest Price
Code	Presentation	Org-1	Org-2	Org-3	Org-4	Org-5	Org-6	
105	Acetaminophen, Tab 500 mg	0.12	0.22	0.25	0.20	0.40	0.35	333%
101	Acetaminophen, Syrup 120 mg/5ml Bottle 120 ml	3.25	7.70	6.00	7.00	8.50	9.00	277%
751	Aluminum Hydroxide, Susp 250 mg/5ml Bottle 120 ml	6.25	3.25	NS	4.00	11.00	13.00	338%
752	Aluminum Magnesium Hydroxide, Tab 250 mg	NS	0.25	NS	0.45	0.40	0.40	180%
220	Ampicillan, Cap 500 mg	1.31	1.30	1.50	1.00	1.50	1.30	150%
221	Ampicillan, Susp 250 mg/5ml Bottle 120 ml	8.41	9.80	12.00	9.50	17.00	16.00	202%
262	Trimetropine S Adult, Tab 80/400 mg	0.50	0.50	0.40	0.21	0.70	0.40	140%
261	Trimetropine S, Susp 40/200 mg/5ml Bottle 120	2.75	10.00	8.30	8.00	6.50	13.00	473%
312	Mebendazole, Tab 100 mg	0.20	0.20	0.25	0.30	0.40	0.30	200%
311	Mebendazole, Susp 100 mg/5ml Bottle 30 ml	2.27	2.27	3.40	8.50	9.00	5.94	396%
212	Metronidazole, Susp 125 mg/5ml Bottle 30 ml	4.25	10.00	6.40	10.00	14.00	14.00	329%
210	Metronidazole, Tab 250 mg	NS	0.30	NS	0.80	0.40	0.35	267%
241	Tinidazole, Tab 500 mg	0.20	0.20	0.75	NS	NS	0.70	375%
782	Hiosciamina, Tab 0.05mg	0.80	0.80	0.70	NS	NS	1.30	186%
854	Yodo-povidone, Solut at 10%	4.10	NS	6.15	4.00	NS	2.41	65%
671	Clotrimazole, Creme at 1% Tube of 10 g	3.61	11.70	5.40	7.50	15.00	13.50	278%
675	Nystatine 100,000 u ointment	NS	14.70	NS	14.00	16.00	12.70	126%
651	Salicilato of Metilo, Ung at 5%	3.25	3.60	4.00	NS	5.00	5.00	154%
691	Calamine, Lotion 8% Bottle 120 ml	2.75	3.05	4.15	8.00	NS	6.50	291%
514	Ferrous Sulphate, Tab 300 mg	0.20	0.21	0.29	0.10	0.30	0.30	300%
513	Ferrous Sulphate, Jar 120 mg/5ml Bottle 60 ml	2.95	2.95	4.40	7.80	5.00	6.00	264%
801	Oxi-tetraciclina, Tube 4g, 1% ointment	5.90	5.90	6.00	5.00	10.00	8.50	200%
517	Multi-vitamins Adult or Prenatal	0.39	0.39	0.30	0.40	0.80	1.00	333%
518	Multi-vitamins Pediatric Bottle 120ml	4.27	4.27	6.40	5.00	12.00	13.00	281%
Average of all 24 Drugs:								256%
Number of Drugs Purchased at Lowest Price:		13*	8*	2	4	0	2	
* Note: Includes five ties between Organizations #1 and #2 NS: Not Sold, i.e., the CDFs do not sell this medicine/presentation								

To understand the importance of these price differences, one must consider the frequency with which these medicines are bought and sold. Chapter 4 discussed how morbidity records were used to identify the case mix of CDFs and how that information was then combined with MOH treatment norms to identify the types and quantities of drugs required to treat 1,000 patients. Table 41 reproduces these data and combines them with each organization's purchase price of the required medicines to demonstrate how much these price variations result in differences in the total cost of treating this standardized group of patients.<sup>15</sup> As the table shows, the total costs vary from a low of 5,916 lempiras to a high of 9,095 lempiras. The bottom portion of the table presents an index of efficiency, constructed by dividing each organization's total cost of purchasing medicines by the total cost incurred by the most efficient organization (organization #1) and multiplying the quotient by 100. The index may be interpreted as the percentage cost that each organization pays in excess of the most efficient organization. Thus, organization #5's efficiency index of 154 means that it pays 54 percent more than organization #1.

As Table 41 shows, the efficiency index of organization #4 is similar to that of the most efficient organization. It incurs only 2 percent more total costs in purchasing the medicines required to treat 1,000 patients. Since the purchase of medicines constitutes about 60 percent of the total costs of the typical CDF, the relative inefficiency with which four of the six organizations purchase medicines significantly affects the overall financial performance of their CDFs. Simply by purchasing medicines more inexpensively, the organizations could reduce their costs. As an example, if organization #5 purchased its medicines at prices equal to those of organization #1, it could reduce its total costs by 28 percent.

As judged by the performance of other CDF-sponsoring organizations, most of these organizations could greatly improve their medicine purchasing policies and practices. Table 42 presents two simulations of the potential cost savings from improved purchasing practices. Scenario #1 estimates potential cost savings if every organization purchased medicines as efficiently as all of the CDFs of organization #1. Note, however, the savings are not calculated per 1,000 treated patients, but rather are annualized total cost savings for (a) all of the CDFs sponsored by the organization in question, (b) per CDF, (c) per patient, and (d) as a percent of total current expenditures on medicines. These calculations accounted for each organization's annual number of patients and the number of CDFs it sponsors. Calculations also assume that the case mix of all CDFs is identical (as captured by the standardized, 1,000 patient index discussed earlier.)

Scenario #2 introduces a different benchmark for efficiency; it considers the savings that could be realized if each medicine were purchased at the lowest unit price paid by any one of the six organizations.

---

<sup>15</sup> Since not all of the Funds sell all of the medicines they are authorized to sell, it was necessary to restrict the analysis to those 15 medicines that all the different organization's Funds sell. The medicines that were dropped from the analysis are those with at least one "NS" indicated in the Unit Purchase Price /Cost to the CDF portion of Table 40.

**Table 41: An Index of the Relative Efficiency of Purchasing Medicines**

Based on the Surveyed CDFs' Case Mix (as Established from Their Morbidity Registers), the Quantities and Types of Medicines Required to Treat 1,000 CDF Patients According to MOH Norms, and the CDFs' Inflation-Adjusted Actual Purchase Prices from June to October 1998														
Type of Medicine		Unit Purchase Price/Cost to the CDF (Lps)						Quantity of	Total Cost of the Medicines (Lps)					
Code	Presentation	Org-1	Org-2	Org-3	Org-4	Org-5	Org-6	Medicine	Org-1	Org-2	Org-3	Org-4	Org-5	Org-6
105	Acetaminophen, Tab 500 mg	0.12	0.22	0.25	0.20	0.40	0.35	3648	437.76	802.56	912	729.6	1459.2	1277
101	Acetaminophen, Syrup 120 mg/5ml Fco 120 ml	3.25	7.70	6.00	7.00	8.50	9.00	84	273	646.8	504	588	714	756
220	Ampicillan, Cap 500 mg	1.31	1.30	1.50	1.00	1.50	1.30	3234	4236.54	4204.2	4851	3234	4851	4204
221	Ampicillan, Susp 250 mg/ 5 ml, Bottle 120 ml	8.41	9.80	12.00	9.50	17.00	16.00	13	109.33	127.4	156	123.5	221	208
262	Trimetropine S Adult, Tab 80/400 mg	0.50	0.50	0.40	0.21	0.70	0.40	280	140	140	112	58.8	196	112
261	Trimetropine S, Susp 40/200 mg/5ml F/120	2.75	10.00	8.30	8.00	6.50	13.00	53	145.75	530	439.9	424	344.5	689
312	Mebendazole, Tab 100 mg	0.20	0.20	0.25	0.30	0.40	0.30	252	50.4	50.4	63	75.6	100.8	75.6
311	Mebendazole, Susp 100 mg/5ml Bottle 30 ml	2.27	2.27	3.40	8.50	9.00	5.94	38	86.26	86.26	129.2	323	342	225.7
212	Metronidazole, Susp 125 mg/5ml Bottle 30 ml	4.25	10.00	6.40	10.00	14.00	14.00	15	63.75	150	96	150	210	210
671	Clotrimazole, Creme at 1% Tube of 10 gms	3.61	11.70	5.40	7.50	15.00	13.50	2	7.22	23.4	10.8	15	30	27
514	Ferrous Sulphate, Tab 300 mg	0.20	0.21	0.29	0.10	0.30	0.30	930	186	195.3	269.7	93	279	279
513	Ferrous Suphate, Jar 120 mg/5ml Bottle 60 ml	2.95	2.95	4.40	7.80	5.00	6.00	9	26.55	26.55	39.6	70.2	45	54
801	Oxi-tetraciline, Tube 4g, Ung 1%	5.90	5.90	6.00	5.00	10.00	8.50	15	88.5	88.5	90	75	150	127.5
517	Multi-vitamins Adult or Prenatal	0.39	0.39	0.30	0.40	0.80	1.00	100	39	39	30	40	80	100
518	Multi-vitamins Pediatric Bottle 120 ml	4.27	4.27	6.40	5.00	12.00	13.00	6	25.62	25.62	38.4	30	72	78
								<b>Total:</b>	<b>5,916</b>	<b>7,136</b>	<b>7,742</b>	<b>6,030</b>	<b>9,095</b>	<b>8,423</b>
		<b>Ranking in Order of the Most Efficient Organizations</b>			<b>Total Cost of Purchasing Basket of Medicines (Lmps.)</b>			<b>Efficiency Index</b>						
		Organization 1			5,916			100						
		Organization 4			6,030			102						
		Organization 2			7,136			121						
		Organization 3			7,742			131						
		Organization 6			8,423			142						
		Organization 5			9,095			154						

**Table 42: Potential Cost Savings in Purchasing Medicines  
More Efficiently – Simulating Two Scenarios**

	<b>Org-1</b>	<b>Org-2</b>	<b>Org-3</b>	<b>Org-4</b>	<b>Org-5</b>	<b>Org-6</b>	<b>Total</b>
Cost to Treat 1,000 Patients (Lps)	5,916	7,136	7,742	6,030	9,095	8,423	
Average No. of Patients Per Year/CDF	460	580	150	188	413	385	
Average Cost Per CDF	2,721	4,139	1,161	1,134	3,756	3,243	
Total Annual No. of Patients	22,080	78,300	6,000	16,168	7,434	34,265	164,247
Cost/Year to Treat All Patients of Org.	130,618	558,748	46,450	97,488	67,609	288,608	1,189,520
<b>Scenario #1:</b>							
Cost (Lps.) if Each Organization Purchased All Medicines at the Same Prices Paid by the Most Efficient Medicine Purchasing Organization (i.e., by Org-1)	130,618	463,198	35,464	95,645	43,977	202,701	971,633
<b>Scenario #1 Potential Cost Savings (Lps.)</b>							
a. Total	0	95,550	10,956	1,843	23,631	85,907	217,888
b. Per CDF	0	707.8	273.9	21.4	1,312.9	965.2	523.8
c. Per Patient	0	1.2	1.8	0.1	3.2	2.5	1.3
d. Total as % of Current Medicine Costs	0	17%	24%	2%	35%	30%	18%
<b>Scenario #2</b>							
Cost (Lps.) if Each Organization Purchased Each Medicine at the Lowest Price Paid by Any of the Organizations	125,561	445,264	34,120	91,942	42,274	194,853	934,014
<b>Scenario #2 Potential Costs Savings (Lps.)</b>							
a. Total	5,057	113,484	12,330	5,547	25,334	93,755	255,507
b. Per CDF	105.4	840.6	308.2	64.5	1,407.4	1,053.4	614.2
c. Per Patient	0.2	1.4	2.1	0.3	3.4	2.7	1.6
d. Total as % of Current Medicine Costs	4%	20%	27%	6%	37%	32%	21%
<b>Scenario #2's Additional Savings Over #1's</b>							
a. Absolute Amount (Lps.)	5,057	17,934	1,374	3,703	1,703	7,848	37619
b. Percent	---	19%	13%	201%	7%	9%	17%

As scenario #1 in Table 42 indicates, if all organizations purchased their medicines at prices equivalent to those paid by organization #1, all of the CDFs sponsored by these six organizations together would annually realize total savings of 217,888 lempiras, the equivalent of 18 percent of the current annual total cost of medicines. Alternatively viewed, the 419 CDFs of these organizations

could increase the value of their stocks of medicines by 18 percent. Since the stocks of medicines appear to be an important factor restricting the level of activity of the CDFs, this sizeable increase would be expected to increase the number of patients visiting the Funds. On average, each individual Fund would realize savings of 524 lempiras annually and each patient would realize savings of 1.3 lempiras.

In scenario #2, savings would be 17 percent greater, totaling 255,507 lempiras annually (21 percent of the current annual total cost of medicines). Each of the 419 individual Funds of these six organizations would realize savings of 614 lempiras annually and each patient would save 1.6 lempiras.<sup>16</sup>

Savings of the magnitudes identified in either of these scenarios can be obtained. The assumption in both of these scenarios is that costs will be reduced to a level that has already been realized by at least one of the CDF networks. If the CDFs collaborated (for example, pooled their purchases), even greater cost savings could be achieved. Such savings could serve to increase stocks, lower prices, and thereby increase the demand for and importance of the CDFs in Honduras. This is an important policy issue that requires further analysis and concrete efforts.

---

## 5.7 Conclusions

Financially, the CDFs are rapidly deteriorating, and the situation is growing worse. The most recently established CDFs are decapitalizing the most rapidly. CDF- sponsoring organizations are not adequately capitalizing their CDFs, nor are they providing the CDFs with adequate advice or assistance in purchasing or pricing the medicines they sell.

The following are additional partial explanations for this deterioration:

- ▲ There is inadequate demand for the CDFs (which may or may not be related to the quantities and types of drugs they offer).
- ▲ HAs are not devoting enough time to the Funds.
- ▲ HAs, as a group, are inadequately trained in the management, particularly the financial aspects, of a CDF.
- ▲ The Funds are located in such sparsely populated areas that the volume of sales is constrained by the size of the catchment area population.

Despite these facts, the financial performance of the CDFs can be improved. The relatively poor financial performance of CDFs is *not* attributable to giving away medicines free of charge to indigents, selling on liberal terms of credit, or compensating HAs too highly. As noted earlier, few medicines are given away, very little credit is provided, and HAs receive a small amount, if any, remuneration for their work. Rather, the relatively poor financial performance of CDFs is primarily the outcome of a supply-constrained system, which, in turn, depresses demand. The system is supply constrained in terms of the quantity and quality of medicines that are available for sale.

---

<sup>16</sup> The savings to individual patients would actually be a bit higher due to the reduced mark-up that they would also save. With a mark-up of 30 percent, for instance, the 1.3 lempiras in cost savings to the patient would actually total 1.7 lempiras, and the savings of scenario #2 of 1.6 lempiras would actually be 2.1 lempiras.

In most cases, the affiliated, organizational sponsors of the CDFs share a major portion of the responsibility for the system's supply constraint. Most sell their drugs to the CDFs and pressure them to purchase all or most of their drugs from the organization. Yet, there are considerable inefficiencies in the purchasing of medicines. While medicines the organizations sell are reportedly provided at prices lower than what would otherwise be available from commercial agents, costs could be lowered considerably. In addition, there appears to be relatively poor implementation of stated pricing policies. Higher costs and lower prices combined with relatively low revenues result in reduced or low income. These weaknesses need to be systematically addressed if the financial plight of the CDFs is to be improved.

---

## 6. Assessment of Other Aspects of the Performance of Community Drug Funds

This chapter assesses five additional aspects of the performance of CDFs based on a questionnaire completed by the HAs. It is divided into six sections. The first section investigates the HA's management of his/her Fund. The second assesses the HA's diagnostic and treatment skills. The third examines the appropriateness of prescriptions dispensed. In the fourth section, each Fund's performance is analyzed as judged by the community. This section includes discussions of the community's knowledge, perception, satisfaction, and use of the local Fund. The fifth section investigates the CDF's role within the health care delivery system and assesses the location of the Funds to determine whether they are providing increased access to isolated, under-served populations. The last section offers conclusions about these findings.

---

### 6.1 Assessing the Health Advisor's Management of the CDF

The HA questionnaire contained a list of 25 indicators about various aspects of the structure, management, and operations of the Fund. Conceptually, the indicators fall into four distinct groupings, each of which captures a specific dimension of the performance of a CDF. Two of the groups, (1) Access and Location of the Fund and (2) Management of Environmental Factors, assess elements of the structure of the CDF and attempt to measure how well the HA has done in where and how he/she has set up the Fund. The other two groups of indicators, (3) Storage and Condition of Medicines and (4) Management of Registers and Information, are designed to measure the management process, how well the HA does in operating the Fund in a "professional" manner on a day-to-day basis. Each of the constituent parts of these four groupings, as well as the four groupings themselves, is analyzed.

Each of the 25 indicators was scored on a scale from 1 to 3, where 1 indicated "worse" or "no" and three indicated "better" or "yes." Considerable time was spent working with the interviewers to ensure that their scorings on these variables were reliable statistically.

Finally, it should be noted that in contrast to all other characteristics of the CDFs, the amount of variation on each of these four performance measures was not marked. More specifically, the mean and median values of the four measures were quite similar. The discussions here will include only the means. More detailed results can be found in Annex G.

Table 43 contains the structural indices of performance. The top portion of the table contains the mean scores of the four indicators that comprise index #1, as well as the index score. The bottom portion contains index #2, its score, and that of each of its six constituent indicators. On average, the HAs scored a 9.2 on index #1 and an 11.6 on index #2. These scores cannot be directly compared, however, because the different number of indicators included in the index results in different maximum potential scores. To make them comparable, the percentage of total possible points scored was calculated, and this is also presented in the table. The mean score of index #1 was the equivalent of 75 percent of the maximum possible points, while that of index #2 was 64 percent. The scores of the individual indicators are presented to enable CDF-sponsoring organizations to identify areas in

HA training and supervision that need to be addressed. (Organization-specific scores are presented in the next chapter.)

**Table 43: Assessing the Health Advisors' Performance: Structural Indices of Performance**

Valuation: 1 to 3  
Where 1 = worse/no to 3 = better/yes

<b>Performance Index/Indicator</b>	<b>Mean Score</b>
<b>1. Access and Location of the CDF</b>	
a. Is the CDF located in the house of the consejero?	3.0
b. Does the CDF have a visible poster sign?	1.9
c. Is the area of the CDF clean and well organized?	2.2
d. Are there domestic animals in the area of the CDF?	2.2
Index #1 Score:	9.2
Percent of Total Possible Points:	75%
<b>2. Management of Environmental Factors</b>	
a. Is lighting adequate for carrying out CDF activities?	2.3
b. Are products protected from direct sunlight?	2.9
c. Are products protected from water and humidity?	2.4
d. Is there control of insects and rodents?	1.7
e. Does the CDF have a garbage container/waste basket?	1.1
f. Does the CDF have a flashlight or hand-held light?	1.2
Index #2 Score:	11.6
Percent of Total Possible Points:	64%

Table 44 contains the process indices of performance. The top portion of the table contains the mean scores of the six indicators that comprise index #3, as well as the index score. The bottom portion of the table contains index #4 and its component indicators' scores. The mean score on index #3 was 67 percent, while that of index #4 was only 58 percent, the lowest of all four indices. The relatively low performance in the Management of Registers and Information constituted a problem that continually plagued this study and precluded undertaking some planned analyses. Areas found to be particularly wanting were (4b.), maintaining a well-organized and up-to-date drug register; (4f.), maintenance of a monthly activity report; and (4h.), the availability of educational material.

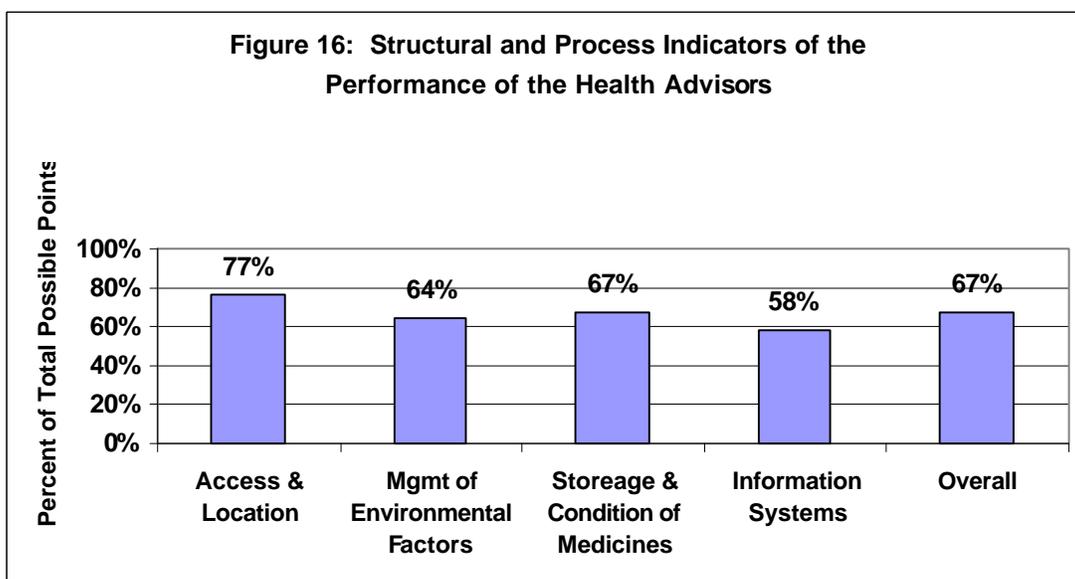
**Table 44: Assessing the Health Advisors' Performance – Process Indices of Performance**

Valuation: 1 to 3  
Where 1 = worse/no, 3 = better/yes

<b>Performance Index/Indicator</b>	<b>Mean Score</b>
<b>3. Storage and Condition of Medicines</b>	
a. Is the drug cabinet and furniture clean and well organized?	2.0
b. Is there adequate space for the products?	2.6
c. Are the products organized, classified, and labeled?	1.8
d. Are products separated by their expiration date?	1.6
e. Is access to medicines restricted?	2.1
f. Are the medicines outside the reach of children?	2.2
Index #3 Score:	12.2
Percent of Total Possible Points:	67%
<b>4. Management of Registers and Information</b>	
a. Is the patient register well organized and up-to-date?	2.3
b. Is the drug register well organized and up-to-date?	1.1
c. Do they have/adhere to Drug Committee regulations?	1.4
d. Is there a notebook/log of activities?	1.6
e. Is there a visitors' notebook with continuous registration?	1.7
f. Is there a summary/report of monthly activities?	1.4
g. Is there a treatment card file or guide?	2.1
h. Is there educational material (pneumonia or diarrhea)?	1.5
i. Is there material for dispensing medicines (bags, masking tape)?	1.9
Index #4 Score:	15.1
Percent of Total Possible Points:	58%

The combination of a number of observations: the products are commonly not separated by their expiration date (3d.); the products are frequently not organized, classified, and labeled (3c.); the drug register is usually not well organized or up to date (4b.); and Drug Committee regulations are not closely adhered to (4c.) suggest that some of the substantial losses of medicines (as discussed in Chapter 5) are due to how the drugs are stored and handled and that the losses do not stem entirely from poor purchasing practices.

Figure 16 presents the scores of each of the four indices and an overall, composite score as well. The overall score of 67 percent suggests that various aspects of the CDF's performance can be improved.



Each index is equally weighted. If the absolute score of each of the indices is simply added, effectively weighting the indices in direct proportion to their number of indicators, the score falls to 65%.

## 6.2 Health Advisor's Diagnostic and Treatment Skills

The questionnaire contained several case studies, each of which was accompanied by a series of questions designed to test the HA's medical knowledge and diagnostic and prescribing skills. Responses to these questions were used to construct six indicators of the HA's knowledge and skills. Table 45 identifies scores on these six indicators. The number of questions included in the six knowledge/skill areas varied, and, therefore, each has a different maximum potential score. The maximum scores of each area are identified in Table 45, along with the average HA's score, a summary measure of the accuracy of the four diagnostic areas, and the general overall score. On average, the HAs correctly answered only slightly more than half (57 percent) of the questions in any one of the six areas, clearly indicating the need to improve HAs' diagnostic and treatment skills.

**Table 45: Indicators of Health Advisors' Medical Knowledge and Diagnostic and Prescribing Skills**

Knowledge/Skill Area	Maximum Score	Mean	Mean as a % of Maximum
1. Management of Acute Respiratory Infections	14	8.4	60%
2. Management of Diarrhea, Parasitoses, Rehydration	34	20.8	61%
3. Management of Infections: Fevers, Urinary Tract, and Vaginal Infections	11	5.0	45%
4. Management of Other Common Ailments: Skin Problems, Gastroenteritis, Conjunctivitis, Anemia	21	11.3	54%
5. Diagnostic Skills/Knowledge (composite of indicators #1-4 above)	80	45.4	57%
6. Appropriate Prescribing Medicines	54	31.5	58%
7. Overall Diagnostic and Prescription Skills (composite of indicators #5 and #6)	134	76.9	57%

Note: The value of a simple average and a weighted average of the diagnostic and prescription skills is identical.

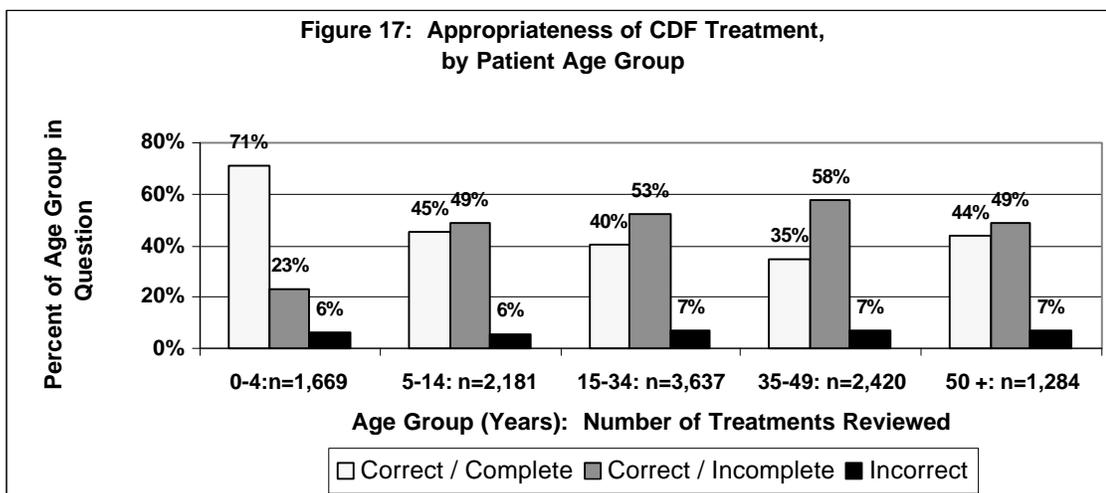
### 6.3 Appropriateness of Treatments: A Review of the Patient Register

To further analyze the quality of care provided, researchers assessed the appropriateness of the treatments HAs prescribed and the medicines they dispensed. This analysis consisted of reviewing the patient registry and assessing the appropriateness of treatments as judged by MOH treatment norms and the disease profile corresponding to the signs or symptoms noted in the registry. Three categories were established:

- ▲ correct /complete – The medicine prescribed was appropriate given the symptoms noted, and it was dispensed in adequate dosage (i.e., the minimum complete dose as established in MOH treatment norms).
- ▲ correct /incomplete – The medicine prescribed was appropriate given the symptoms noted, but an inadequate dose was dispensed.
- ▲ incorrect – The medicine prescribed was inappropriate given the symptoms noted.

A total of 11,191 patient registry entries were reviewed and classified. While 93 percent of the treatments were found to be correct, only 45 percent were correct/complete, with a larger proportion, 48 percent, were correct/incomplete. Figure 17 shows the breakdown of these three categories by age group. It clearly shows that HAs are much more likely to correctly and completely treat patients under 5-years old than patients of any other age group. Relatively minor variations exist in the proportion of other age groups that are correctly/completely versus correctly/incompletely treated. There are several possible explanations for this variation:

- ▲ The training of HAs has focused disproportionately on the illnesses most common to children under 5 years of age.
- ▲ Children’s presenting illnesses may be fewer in number, and the HAs have developed greater skill in diagnosing and treating them.
- ▲ The persons turning to CDFs are relatively more reluctant or financially incapable of purchasing the complete course of treatment (even though the HA may have recommended one).



Although there is evidence consistent with this last explanation, it does not constitute definitive proof that this is an important causal relationship. Table 46 presents data on the average patient cost of a prescription for each of the three categories of treatment. The average cost of a correct/complete treatment is more than three times the average cost of a correct/incomplete treatment. Patients may insist on less than a full course of treatment to save money. If this is true, another vicious cycle may be hindering CDFs: patients insisting on less than the full treatment of medicines in order to reduce their financial outlays, but never eliminating the illness. Eventually, patients will need to seek additional care and will be prescribed more of the same medicine. Such practices may affect the information contained in the patient registry. A patient may visit the HA several times for many episodes of the same illness, which could have been eliminated with a single visit if the appropriate course of treatment had been completed.

How common is this phenomenon? What can or should the MOH or the CDF-sponsoring organizations do to discourage the dispensing of fewer medicines than necessary for a complete course of treatment? Should the prices patients are charged be subsidized or subsidized more frequently to discourage this practice? Would an increase in the extension of credit discourage this practice? Is providing additional training to HAs to emphasize the importance of full treatment courses necessary? These are important questions that warrant additional investigation and should be discussed further with the HAs.

**Table 46: Appropriateness of Treatments Prescribed and Dispensed by CDF Health Advisors – Average Patient Cost of a Prescription by the Appropriateness of the Prescription**

<b>Appropriateness of Treatment (Medication/Quantity)</b>	<b>Average Cost (Lps.)</b>	<b>Cost Relative to the Overall Average</b>	<b>Cost Relative to the Correct/Incomplete Average</b>	<b>Percent of Prescriptions</b>
Correct/Complete	8.62	151%	305%	45%
Correct/Incomplete	2.83	50%	100%	48%
Incorrect	6.66	117%	235%	7%
Overall:	5.71	100%	202%	100%

As Table 47 demonstrates, an analysis of the prescribing and dispensing of ampicillin, independent of its presentation, reveals the same distribution found in Figure 17: 45 percent correct/complete, 48 percent correct/incomplete, and 7 percent incorrect. When the analysis is disaggregated to the type of presentation, however, the situation is very different. When ampicillin is dispensed as a suspension, it is virtually always dispensed correctly/completely (94 percent of the time), whereas when it is dispensed as tablets, it is rarely dispensed correctly/completely (only in 8 percent of treatments). This may be because bottles of ampicillin contain an amount of the medicine equal to or more than the full course of treatment, forcing HAs to sell the full bottle. This situation should be discussed with the HAs. One potential implication of this finding is to consider dispensing only the suspension. This practice may characterize the dispensing of other medicines and needs to be further investigated.

**Table 47: Appropriateness of Treatments Prescribed and Dispensed by CDF Health Advisors – The Case of Two Presentations of Ampicillin by the CDF’s Organizational Affiliate**

(in Percentages)

Appropriateness of Treatment (Medication/Quantity)	CDFs’ – Organizational Affiliate					All (5 ) Orgs.
	#1	#2	#3	#4	#6	
<b>A. Independent of presentation</b>						
Correct/Complete	47%	25%	37%	40%	32%	45%
Correct/Incomplete	47%	66%	55%	54%	65%	48%
Incorrect	5%	9%	8%	5%	4%	7%
Total	100%	100%	100%	100%	100%	100%
Total Number of Treatments	93	698	78	248	57	1,174
<b>B. By Presentation</b>						
Suspension: Correct/Complete	100%	91%	100%	96%	90%	94%
Tablets: Correct/Complete	11%	7%	9%	10%	0%	8%
Relative Measure of the Appropriateness of Treatment: Suspension’s Correct/Complete Percent Divided by Tablets’ Correct/Complete Percent	9.2	12.4	10.8	10.1	**	12.2
Total Prescriptions	93	698	78	248	57	1174
Note: There were insufficient cases to report for organization #5.						

## 6.4 Community’s Perception

Assessing the community’s perception of the CDF is important because residents’ perceptions condition their use of the Fund and affects community participation, one of the primary goals in establishing the CDF. The CDF’s specific goals with respect to the community are as follows:

- ▲ provide oversight (including price control/monitoring, maintaining appropriate drugs in stock, and monitoring the financing of the Fund);
- ▲ promote the community’s knowledge of the Fund;
- ▲ assist with the logistics of purchasing medicines (since most of the HAs are women, who, for safety reasons, should not be traveling alone); and
- ▲ promote empowerment of the members of the community by fostering active participation in decision making concerning use of funds (medicines versus other uses of revenues, the types and quantities of medicines to purchase).

For this analysis, researchers interviewed members from approximately 10 households in each of the communities of the 51 CDFs. Members of the community were asked a series of questions about their knowledge of, and satisfaction with, their local CDF. A total of 493 persons were interviewed. The age and gender of those interviewed are presented in Table 48.

**Table 48: Characteristics of Persons Interviewed in the CDF Communities**

**(in Percentages)**

<b>Age Group</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
Less than 20 years old	5	7	6
20 to 29	24	25	25
30 to 39	26	25	25
40 to 49	24	18	19
50 and older	23	25	24
Total:			
a. Percent	23	77	100
b. Number	115	378	493

#### **6.4.1 Community's Knowledge and Use of the CDF**

Of community members interviewed, 96 percent acknowledged being aware of the CDF as a place to purchase medicines in their community. As Table 49 shows, the ways in which they became aware of their local CDF varied substantially. The single most important formal way community members heard about the Fund was in a community assembly (129 persons, 27 percent). The second most important was through HA visits to the respondent (n=43); another 36 persons said they had seen the CDF poster or heard about it on the radio. Slightly more than half of respondents learned about CDFs through spontaneous, informal means such as through family members or neighbors (99 respondents, or 20 percent), through comments heard about the CDF (57 persons, or 12 percent), and through recommendations received (25, or 5 percent).

**Table 49: How Members of the Community First Learned About Their Local CDF**

Source of Information	Number of Responses*	Percent of Responses
<b>A. Informal Sources, Methods</b>		
1. They are family, neighbors	99	20%
2. From comments	57	12%
3. They recommended it to me	25	5%
4. We attend the same church, group	20	4%
5. They told me about it in the health center	18	4%
6. I saw the medicines there	17	4%
7. In the school	6	1%
8. Other	6	1%
Total Informal Sources, Methods:	248	51%
<b>B. Formal Sources, Methods</b>		
9. In a community assembly	129	27%
10. The Health Advisor visited me	43	9%
11. By the CDF poster or the radio	36	7%
12. Was part of the CDFC	17	4%
13. The NGO promoter visited	11	2%
Total Informal Sources, Methods:	236	49%
Total:	484	100%
* Multiple responses possible		

Communities generally saw the role of the CDF to be quite limited. As many as 83 percent saw the CDF as a place where “they sell medicines” or “they sell pills” (see Table 50). Only 6 percent reported that the CDF provided other services (“gives consultations and referrals,” “provides emergency care,” or “provides injections”).

**Table 50: Community Knowledge of the Services Provided by the Local CDF**

Response	Number of Responses*	Percent of Responses
Sale of medicines	387	79%
Sale of pills	20	4%
Provide consultation and referrals	14	3%
Attend emergencies	7	1%
Provide injections	6	1%
Provide other services	4	1%
Do not know	49	10%
Total:	487	100%
* Multiple responses possible		

Based on the community surveys, the coverage rate of the CDFs within their communities is very high, with 82 percent indicating they had obtained assistance from their local Fund in the previous year. The reasons identified by the 18 percent that had not received assistance are presented in Table 51. Two-thirds of those who did not go to the CDF reported that they preferred some other service. Of this group, two-thirds reported going to a health center, one-third reported using hospital services (public or private), and about one-quarter said they had not needed care. Only 10 percent of those who did not visit the CDF in the previous year reported financial considerations as the deterrent.

**Table 51: Why Members of the Community Did Not Visit the Community Drug Fund at Least Once in the Previous Year**

Reason	Number of Responses	Percent of Responses
Prefer to go to the health center	45	42%
Go to other health services	26	24%
Did not need care	26	24%
Financial reasons	10	9%
Total:	107	100%

## 6.4.2 Community Satisfaction

Persons who had visited their local CDF in the previous year were asked to categorize the service they had received as “good,” “fair,” or “poor.” Most (97 percent) reported that the treatment had been “good,” and less than 1 percent classified the care as “poor.”

When asked about the supply of medicines they needed, 81 percent of respondents reported that they were “always” available (see Table 52). It should be noted, however, that the availability of medicines in the Fund is most likely common knowledge in many, especially small, communities, and that people do not go to the Fund when the supply of particularly popular medicines is low.

**Table 52: Frequency with Which Members of the Community Find Medicines They Need in the Community Drug Fund**

Reason	Number of Responses	Percent of Responses
Yes, always	312	81%
Yes, usually	8	2%
Yes, sometimes	60	16%
No, didn't find them	5	1%
Total:	385	100%

The overwhelming majority of users expressed their satisfaction with the quality and price of CDF medicines; 97 percent reported that the medicines they received from the Fund were “good.” In terms of costs, 48 percent said the Fund’s prices were “reasonable,” and another 36 percent reported prices were lower than in the pharmacy or small neighborhood variety store (*pulperia*). Table 53 provides more information on the community’s perception of the price of CDF medicines.

**Table 53: Community Perception of the Price of Drugs Sold by the Community Drug Fund**

Reason	Number of Responses	Percent of Responses
The price is reasonable	192	48%
They're cheaper than in the pharmacy, <i>pulperia</i>	142	36%
They're more expensive than in the pharmacy, <i>pulperia</i>	21	5%
They're the same as in the pharmacy	14	4%
They should be given away free of charge	4	1%
No opinion, don't know the prices	25	6%
Total:	398	100%

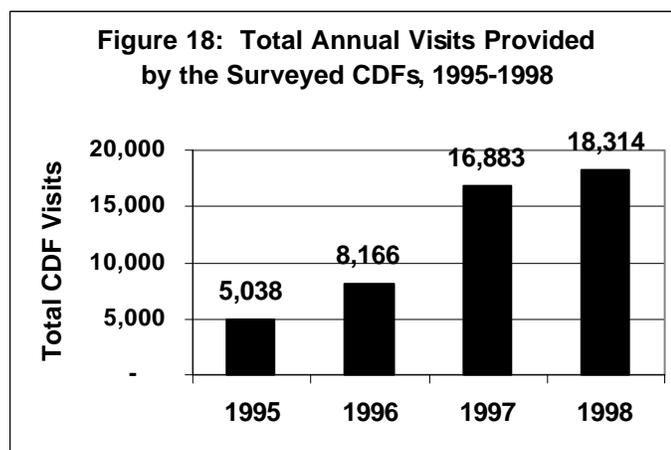
Nearly all persons (99 percent) who had visited the CDF in the previous year said they would recommend it. Most respondents (79 percent), however, qualified their response, indicating they would recommend the Fund for “light” or “emergency” problems. Most of the remaining respondents said they would recommend the Fund “to purchase medicines” (see Table 54). It appears the community perceives that the CDF has a narrow role: it is simply a place to purchase good quality medicines at a reasonable price. It does not appear that the community regards the CDFs as a substitute for care provided by a more highly trained health professional, such as the care provided at a health center. Also consistent with this view is the finding that 7 percent of the 385 persons interviewed reported that they had been referred to another provider of care.

**Table 54: Community Perception of Community Drug Fund Services – Would They Recommend that Others Go to the Fund?**

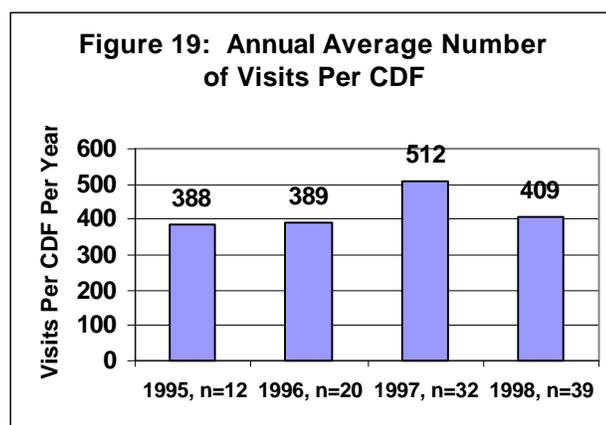
Reason	Number of Responses	Percent of Responses
Yes, when it is a minor ailment	212	55%
Yes, when it is an emergency	91	24%
Yes, to buy medicines	70	18%
Yes, when the health center is closed	3	1%
Yes, when someone doesn't have money	3	1%
Yes, when someone wants a referral	2	1%
No	4	1%
Total:	385	100%

## 6.5 The CDF's Role Within the Health Care Delivery System

Although the number of CDFs has grown from zero in early 1992 to more than 450 by December 1998, the CDFs play a small part in the Honduran health care system. Total visits to CDFs surveyed increased by more than threefold between 1995 and 1998, increasing from 5,038 in 1995 to 18,314 in 1998, as shown in Figure 18. Even with this impressive growth, the CDFs remain small contributors to the total number of public health visits provided each year.

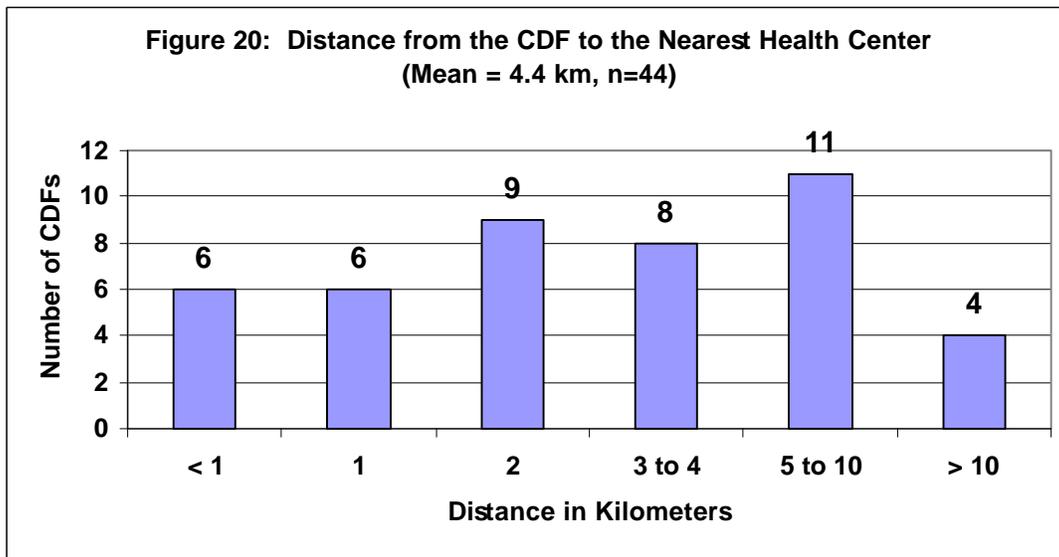


This becomes evident when comparing CDFs' output with that of MOH facilities. For example, the estimated 17,000 visits in 1997 to all CDFs combined was less than 1 percent of the 1.9 million visits to all the MOH's CESARs that year. Moreover, the average output of a CDF is not growing. Although the total output of CDFs grew briskly between 1995 and 1998, as Figure 19 shows (judged by the portion of the sample of CDFs), the increase in the annual number of visits over this period was due to the addition of new CDFs. In 1998, the average CDF recorded 34 visits per month, or a total of about 409 visits for the year. By comparison, 94 percent of CESARs record more than 409 visits per year. Even the sample's five busiest CDFs, which provide an average of about 1,250 consultations annually, are comparable to only the smallest 20 percent of CESARs (as measured by total annual visits). In short, the CDFs are not numerically important providers of health care in Honduras. However, this was not the intent; rather, they were designed to provide greater access to care to isolated, rural communities. The concern should be with how well they have fulfilled this objective.



### 6.5.1 Assessing Current Locations

Data concerning the distance between CDFs and the nearest health center were available for 44 of the CDFs surveyed. For those 44, the mean distance is 4.4 kilometers. As shown in Figure 20, 21 (48 percent) of the 44 CDFs are located within 2 kilometers of a health center while only one-third are at least 5 kilometers away. This indicates that geographic terrain and availability of roads and public transportation need to be considered in the location of CDFs.



The assessment attempted to address additional concerns such as whether CDFs provide medically underserved areas with improved access to medicines and whether they are located in areas where they are most needed. Also, it attempted to determine the areas of greatest need and how they compare with the current CDF locations. Addressing such concerns requires an analysis of the spatial distribution of access to care in Honduras. Since access is difficult and expensive to measure, this study developed a coverage rate (i.e., the average number of consultations per inhabitant per year) for each of the country's 290 municipalities. The measures were calculated with copies of the MOH's AT2 files for 1997 along with estimated 1997 municipality population also obtained from the Statistics Division of the MOH. The AT2 contains the annual service provision statistics for each of the MOH's facilities. The total production of all MOH facilities in each municipality was computed. This number divided by the municipality's population yields the estimated coverage rate of the municipality. These rankings were then compared to the national average, and a relative coverage rate was calculated. The relative coverage rate was calculated as the particular municipality's coverage rate divided by the national mean municipality coverage rate, with the quotient then multiplied by 100. Those municipalities that had only one-quarter of the national average level of MOH coverage were identified as "most in need" of a CDF. There were 38 such municipalities, and only 13 of these (or 34 percent) are municipalities in which one or more of the 451 CDFs are currently operating. (See Annex H for further details).

A sensitivity analysis was then conducted. The definition of "most in need" was modified to include all municipalities that had less than one-half the national average level of MOH coverage. There were 96 such municipalities, and 39 of them (or 41 percent) had CDFs. By either of these

measures, it is evident that targeting the location of CDFs to reach communities most in need could be greatly improved.

It should be recognized that the measure this assessment employed to determine the appropriateness of location is a crude, very aggregative one. CDFs are intended to cover much smaller populations than the unit of analysis used in this investigation. The average size of a municipality in Honduras is about 19 square kilometers. A CDF catchment area is substantially smaller and is generally identified in terms of population, approximately 500 persons or 100 households. Thus, it is possible to find areas of need (i.e., low coverage) within a municipality that has a high average coverage rate that can be effectively addressed with the development of a CDF. It should be acknowledged that the study's insufficiently disaggregated unit of analysis (i.e., not being able to develop indicators of need below the municipality level) may be making the assessment of the CDFs look less positive than it actually is. Furthermore, if the possibility of spending public monies on CDFs is to be considered, the CDFs will need to be assessed on how well they fulfill their objectives, one of which is improving access to care.

---

## 6.6 Conclusions

In general, the level of knowledge and skills of HAs in diagnosing illnesses and prescribing and dispensing medicines is inadequate. When questioned about a variety of areas and specific situations, HAs responded correctly to about 60 percent of the questions. The concern this raises is whether the HAs are providing an adequate quality of care. It must be noted, however, that there is no reference point or benchmark with which to evaluate the HAs. Applying some of these same assessment tools to a sample of MOH staff in CESARs and CESAMOs could provide such a benchmark and would be interesting and potentially useful for designing joint training sessions.

It should also be recognized that the alternative for most persons using the CDF is to receive no care. The high levels of community knowledge about and satisfaction with the CDFs together with their being viewed as having increased the availability of medicines, suggest that the Funds are doing what they were designed primarily to do: provide access to care in isolated areas. Still, the evidence demonstrates that the knowledge and skills of the HAs could be improved, as could the quality of the drugs they sell and the management of their drug resupply systems. Now that these shortcomings have been identified, who should address them, and how and when should they be addressed? The CDF-sponsoring organizations must recognize the need to provide more training and their supervisory meetings held with the HAs should be structured into dual purpose sessions that incorporate training aspects.

Although the MOH recognizes the HAs as public health resources, it does not treat HAs as MOH staff. HAs should be invited to MOH training workshops, and the periodic coordination meetings of community health personnel with the local UPS should be used to train the community personnel. In addition, it would be useful to establish a structured program with educational materials and manuals for community personnel. While it does appear that the criteria used by sponsoring organizations to select HAs are appropriate—as reflected in the high proportion of HAs who have or are currently working in other health-related capacities—perhaps they are not stringent enough. Thought should also be given to extending the length of the initial (preservice) training of HAs, which averaged 56 hours (less than one and a half work weeks) among HAs sampled. Clearly, there is also need for an on-going in-service training program.

Finally, consideration should be given to developing a certification process for HAs that includes some type of standardized examination. The establishment of such a process would help to structure

and standardize their training. It would be useful to review similar MOH programs, such as those that might exist for health promoters or nurse auxiliaries.



---

## 7. Finding an Exemplary Community Drug Fund Model

---

### 7.1 The Search for a Prototype: Investigating Variations in Organizational Performance

Each organization sponsoring CDFs uses its own method to structure or operate its system, and, therefore, each CDF may be regarded as a distinct model. Organizations vary in how they sponsor the CDF networks in the following areas:

- ▲ the assessment of a community's need for and interest in having a CDF;
- ▲ the establishment of a formal arrangement to provide a permanent, institutional forum for the community to oversee and/or participate in the management of the CDF (such as a CDFC);
- ▲ the role of the CDFC, and, more generally, the degree of coordination with, or oversight by, the community, particularly as it relates to resupply purchases;
- ▲ the level of supervision and coordination that the organizational sponsor maintains with its CDF; and
- ▲ the extent to which the CDF works with other local level health authorities.

Initially, when this study was first designed, these differences were thought to suggest lines of inquiry for a comparative analysis of networks. The intent was to identify the top-performing network so that the unique characteristics of this network could be replicated in new CDFs. However, a remarkable amount of variation exists within individual CDF networks. Furthermore, the policy goals and objectives for establishing the CDFs are numerous, difficult to measure, and disparate, making comparisons very difficult.

An effort was made, however, to identify the "best" model. As input for the analysis, 61 indicators of performance were identified, and their CDF network average values were quantified. The results are presented in Table 55, which also contains the overall CDF average value for each of the indicators. As becomes readily apparent in reviewing the table, the relative performances of the CDF networks vary considerably by indicator. Looking at "E. Outcome Indicators" for instance, organization #2 had the highest annual average number of patients (580, in excess of 40 percent more than the all-CDF average of 409), yet CDFs in this organization had the lowest performance level (42 percent) of the proportion of total prescriptions that were correct and complete. Such widely varying performances by the same CDF network are not uncommon; indeed, they are the rule.

**Table 55a: A Comparative Analysis of the Community Drug Fund-Sponsoring Institutions' Networks**

Characteristic or Practice	Org-1	Org-2	Org-3	Org-4	Org-5	Org-6	All CDF Average
Average (mean) age in months	12	26	8	23	33	22	23
<b>A. Health Advisor's Technical Capability</b>							
1. Length of initial training (in hours)	101	62	56	44	21	49	56
2. Number of health-related positions held by the HA before assuming the HA position	4	5	4	4	6	5	5
3. Number of months HA held other health-related positions before assuming the HA position	60	128	51	76	56	115	99
<b>Health Advisors' medical knowledge and diagnostic and prescribing skills</b>							
4. Management of acute respiratory infections	12	9	7	11	5	7	8
5. Management of diarrhea, parasites, rehydration	23	21	17	23	22	20	21
6. Management of infections: fevers, urinary tract and vaginal infections	9	5	4	6	4	4	5
7. Management of other common ailments: skin problems, gastro-enteritis, conjunctivitis, anemia	17	11	9	13	10	9	11
8. Appropriate prescribing of medicines	47	32	31	30	29	29	32
9. Overall Capability: Combination of the four diagnosing scores and prescribing skills	91	79	67	83	70	68	77
<b>B. Supervision</b>							
10. Percent of CDFs receiving at least one supervisory visit from organizational-sponsor	67	79	75	133	80	91	87
11. Mean number of hours of supervisory visits from organizational affiliate per CDF	1	9	12	16	4	2	9
<b>C. Financial Indicators: (a) Net Assets and Level of Capitalization</b>							
12. Average value of initial assets (in November 1998 lempiras)	4,728	5,123	2,560	2,718	3,000	2,940	3,795
13. Value of current assets	2,411	3,242	1,648	909	1,629	2,076	2,246
14. Average absolute amount of monthly growth in the net assets of the CDF (lempiras)	-199	-67	-156	-103	-48	-38	-87
15. Percent average monthly growth of assets since inception of the CDF	-4.2	-1.3	-6.1	-3.8	-1.6	-1.3	-2.3
16. Average level of decapitalization	53	29	36	65	15	27	35
17. Percent of CDFs decapitalized	100	84	100	100	60	82	86
18. Average lifespan of a CDF (in years, if not recapitalized)	3.0	8.6	2.0	4.1	8.0	8.2	5.5
<b>Financial Indicators: (b) Pricing</b>							
19. Organization sets price and sends price list with medicines to the CDF (Percent of CDFs)	50	11	100	100	100	0	44
<b>Financial Indicators: (c) Costs--Medicines</b>							
20. Medicine purchasing efficiency index: The CDF's cost of purchasing a standardized package of medicines as a percent of the all-CDF average cost.	125%	103%	95%	122%	81%	88%	100%
21. Potential annual cost savings if purchased medicines at lowest price paid by any CDF	4%	20%	27%	6%	37%	32%	21%
<b>Financial Indicators: (d) Costs--Health Advisor Pay</b>							
22. Organization determines how much to pay the Health Advisor (percent of CDFs)	33	5	100	56	0	18	26
23. Mean of the percent of value of sales that Health Advisors reported was supposed to be their pay	32	29	11	10	23	13	20
24. Mean Health Advisor pay as a percent of medicine sales in the last six months	35	12	1	14	13	0	10
25. Percent of Health Advisors who reported they received no pay in the last six months	33	32	75	67	60	100	63

**Table 55b: A Comparative Analysis of the Community Drug Fund-Sponsoring Institutions' Networks**

Characteristic or Practice	Org-1	Org-2	Org-3	Org-4	Org-5	Org-6	All CDF Average
<b>D. Management</b>							
Performance indicators: Indices of the appropriateness of structural aspects of the CDF							
26. Index #1: Access and location of the CDF	89	84	71	75	77	66	75
27. Index #2: Management of environmental factors	67	71	65	62	59	57	64
Performance indicators: Indices of process indicators of appropriateness of CDF operations							
28. Index #3: Storage and condition of medicines	81	70	78	67	59	59	67
29. Index #4: Management of registers and information	68	73	59	54	44	40	58
30. Performance indicators: a composite indicator of the four indices	76	74	68	65	60	55	67
31. Days since last count of medicines	137	121	123	130	59	455	191
32. Days since last inventory of medicines	97	121	145	127	79	69	110
33. Value of the loss of medicines as a percent of the current stock of medicines	19	24	26	25	6	16	20
<b>Indicators of the quality of drugs, adequacy of drug supply and re-supply practices (last six months): Percent of CDFs reporting "yes"</b>							
34. Presence of injectable products (all are outside of CDF Regulation-established norms)	0	11	0	11	20	64	22
35. Presence of prescription medicines not authorized to sell (by the CDF Regulation-established norms)	33	16	0	11	40	73	29
36. Damaged products in stock	33	37	50	22	40	64	41
37. Expired products in stock	67	95	100	89	60	100	90
38. Periods of stockouts	100	90	50	89	100	91	88
39. Excessive quantities of some products	67	79	100	56	20	73	69
40. Slow movement of some products	100	100	100	89	80	100	96
41. Has not purchased products due to lack of money	67	74	75	67	40	64	67
42. Mean value of summary index of these 8 indicators: (Index = 8 minus number of positive responses)	3.3	2.9	3.3	3.5	3.6	0.9	2.7
<b>Adequacy of the supply of specific commonly used medicines</b>							
Percent of CDFs with at least 3 consumption-months of the following medicines available:							
A. For treatment of common ailments of children:							
43. Acetaminophen, syrup, 120 ml	50	67	100	33	40	36	53
44. Ampicillin, suspension, 120 ml	25	44	75	56	40	18	41
45. Trimetoprine, suspension, 120 ml	0	11	50	0	40	0	12
46. Metronidazole, suspension, 120 ml	50	56	75	56	60	46	55
47. Mebendazole, suspension, 30 ml	50	17	50	33	40	9	26
48. Average of adequacy of supply of childrens' medicines	35	39	70	36	44	22	37
B. For treatment of common ailments of adults:							
49. Acetaminophen, tablet, 500 mg	50	56	0	22	20	18	33
50. Ampicillin, capsule, 500 mg	75	33	100	11	20	18	33
51. Trimetoprine, tablet, 500 mg	75	61	50	44	40	27	49
52. Tinidazole, tablet, 500 mg	0	0	25	0	40	0	6
53. Mebendazole, tablet, 100 mg	25	28	50	0	80	27	29
54. Average of adequacy of supply of adults' medicines	45	35.6	45.0	15.4	40.0	18.0	30.0
55. Average of the adequacy of supply of 10 medicines (childrens' and adults')	40	37	58	26	42	20	34
<b>E. Outcome Indicators</b>							
56. Correct and complete drug treatments dispensed, as a percent of total prescriptions	52	42	70	47	na	50	45
57. Number of patients per CDF per year	460	580	150	188	413	385	409
<b>F. Community Participation, Place Within the National Health Care System</b>							
58. Percent of communities with a Fund Committee	100	95	100	44	0	0	57
59. CDF Committee determines how much to pay the Health Advisor (percent of CDFs)	33	90	0	0	0	0	35
60. Mean percent of Health Advisors who attend UPS coordinating meetings	33	84	100	56	0	36	59
61. Average number of meetings with UPS attended (previous 9 months) per Health Advisor	1	5	5	3	0	2	3

To cite another example, organization #5's CDFs, on average, have the best supply of drugs as measured by "D. Management," indicator #42, and the next to highest on indicator #55. It would appear that organization #5 has the best overall supply of medicines, but no organization purchases its medicines at higher prices (its efficiency of medicine, indicator #20, is 81). Moreover, organization #5 is the only network whose CDFs do not even maintain the necessary information to calculate the proportion of prescriptions that are correct and complete. As judged by its HAs' responses to the series of prescription dose questions, they are the least likely to prescribe medicines accurately. Thus, the organization with the best supply of medicines does the poorest job of prescribing these medicines.

Table 56 presents 10 performance indicators, a distillation of the 61 contained in Table 55, in an effort to focus on the most critical elements. To more readily make comparisons, the indicators were all measured relative to the all-CDF average. The all-CDF average was set equal to 100. Any negative measures (i.e., those that measured negative or undesirable performance) were adjusted so that all the indicators with scores of less than 100 represented less desirable performances, and those with scores of more than 100 consistently represented more desirable performances. Thus, the higher the score, the "better" the performance. With each indicator weighted equally, a total average score was calculated and the ranking of each organization was identified. According to this scheme, organization #2 is the best network of CDFs, followed by organizations #3 and #1, respectively. These three networks all had average scores that exceeded the all-CDF average score of 100. In contrast, the other three networks' scores were all less than the all-CDF average score of 100. Moreover, the magnitude of the difference in the scores between the lowest scoring of the above-average networks and the highest scoring of the below-average networks was pronounced, indicating that the approach was clearly identifying a qualitative difference between good and poor performers.

**Table 56: Identifying the “Best” Community Drug Fund-Sponsoring Institutions’ Networks**

**An Analysis Based on 10 Equally Weighted Indicators,  
Each Measured Relative to the All-CDF Average (=100)**

Characteristic or Practice	Org-1	Org-2	Org-3	Org-4	Org-5	Org-6	All CDF Average
<b>A. Health Advisor’s Technical Capability</b>							
1. Health Advisors’ medical knowledge and diagnostic and prescribing skills (Case Studies plus)	118	103	87	108	91	88	100
<b>B. Management</b>							
2. Management Performance Indicators: a composite indicator of 25 structural and process indicators	113	110	101	97	90	82	100
3. Drug Supply/Qualitative: Indicators of the quality of drugs, adequacy of drug supply and resupply practices	122	107	122	130	133	33	100
4. Drug Supply/Quantitative Average of the adequacy of supply of 10 medicines (childrens’ and adults’)	119	111	171	76	125	59	100
<b>C. Financial Indicators</b>							
5. Average lifespan of a CDF (in years, if not re-capitalized)	55	156	36	75	145	149	100
6. Medicine purchasing efficiency index: The CDF’s cost of purchasing a standardized package of medicines as a percent of the all-CDF average cost.	125	103	95	122	81	88	100
<b>D. Outcome Measures</b>							
7. Correct and complete drug treatments dispensed as a percent of total prescriptions (Qualitative).	116	93	156	104		111	100
8. Number of patients per CDF per year (Quantitative)	112	142	37	46	101	94	100
<b>E. Community Participation, Place Within the National Health Care System</b>							
9. Percent of communities with a Fund Committee	175	167	175	77	0	0	100
10. Mean percent of Health Advisors who attend UPS coordinating meetings	56	142	169	95	0	61	100
Total Average Score:	111	123	115	93	85	77	
Rankings:	3	1	2	4	5	6	

Sensitivity analyses of the specific indicators were included in making this determination, as well as in the method of scoring. Tables 57 and 58 present two such analyses. Table 57 presents the results of an alternative scoring method where the comparison is based on relative rankings. For each indicator, the performance ranking of the organizations is assigned. Then the sum of the rank orderings is computed and the index of the “best” CDF is calculated by setting the organization with the lowest total score (i.e., the highest average rankings) equal to 100. This approach differs from that used in Table 56 in that the absolute level of variation on any one indicator does not influence the calculation of the overall measure. Therefore, the significance (weight) of particularly poor or particularly good performances is reduced in calculating the composite score.

**Table 57: Identifying the “Best” Community Drug Fund-Sponsoring Institutions’ Networks**

Rank ordering the organizations by indicators, 1= “Best/Most Desirable,” 6= “Worst/Least Desirable”  
 Lowest sum of rank orders = “Best” assumes all indicators are of equal relative value/importance

Characteristic or Practice	Org-1	Org-2	Org-3	Org-4	Org-5	Org-6
<b>A. Health Advisor’s Technical Capability</b>						
1. Health Advisors’ medical knowledge and diagnostic and prescribing skills (Case Studies plus)	1	3	6	2	4	5
<b>B. Management</b>						
2. Management Performance Indicators: a composite indicator of 25 structural and process indicators	1	2	3	4	5	6
3. Drug Supply/Qualitative: Indicators of the quality of drugs, adequacy of drug supply, and resupply practices	3	5	3	2	1	6
4. Drug Supply/Quantitative Average of the adequacy of supply of 10 medicines (childrens’ and adults’)	3	4	1	5	2	6
<b>C. Financial Indicators</b>						
5. Average lifespan of a CDF (in years, if not recapitalized)	5	1	6	4	3	2
6. Medicine purchasing efficiency index: The CDF’s cost of purchasing a standardized package of medicines as a percent of the all-CDF average cost.	1	3	4	2	6	5
<b>D. Outcome Measures</b>						
7. Correct and complete drug treatments dispensed as a percent of total prescriptions (Qualitative).	2	5	1	4	6	3
8. Number of patients per CDF per year (Quantitative)	2	1	6	5	3	4
<b>E. Community Participation, Place Within the National Health Care System</b>						
9. Percent of communities with a Fund Committee	1	3	1	4	5	5
10. Mean percent of Health Advisors who attend UPS coordinating meetings	5	2	1	3	6	4
Sum of Rank Orderings	24	29	32	35	41	46
Index of “Best” CDF Organizational Network (Best = Org-2 = 100)	83	100	110	121	141	159
Rankings:	1	2	3	4	5	6

Although the approach used in Table 57 results in a different “best” organization, as this example demonstrates, and as was found in a number of alternative approaches examined, the same two groupings of “good/better” and “poor/worse” networks identified in Table 56 were found. The magnitude of the breach between these two groupings was again found to be pronounced, suggesting that these two groupings of the six organizations are characterized by distinct performances and that the relative rankings of these two scoring methodologies (given the same specific set of indicators) is robust.

Table 58 presents another sensitivity analysis that incorporates the same indicators used in Tables 56 and 57, with the exception of the two community participation variables. This analysis was suggested by the observation that the most highly variable indicators between the three good and three poor CDF networks were the community participation variables, and that these variables adversely affected the rankings of the three poor performers. The analysis intended to discover if dropping what appeared to be the most powerful discriminating variables would affect the rankings. As Table 58 shows, it did, but not markedly. Organizations #1 and #2 remain the top performers, but

organization #3 slips to a rank of four, displaced by organization #5, which is the poorest performer on community participation, but is one of the best in terms of financial indicators.

**Table 58: Identifying the “Best” Community Drug Fund-Sponsoring Institutions’ Networks**

**An Analysis Based on Eight Equally Weighted Indicators,  
Each Measured Relative to the All-CDF Average (=100)**

**The Impact of Excluding the Community Participation Indicators from the Table 56 Analysis**

Characteristic or Practice	Org-1	Org-2	Org-3	Org-4	Org-5	Org-6	All CDF Average
<b>A. Health Advisor’s Technical Capability</b>							
1. Health Advisors’ medical knowledge and diagnostic and prescribing skills (case studies plus)	118	103	87	108	91	88	100
<b>B. Management</b>							
2. Management Performance Indicators: a composite indicator of 25 structural and process indicators	113	110	101	97	90	82	100
3. Drug Supply/Qualitative: Indicators of the quality of drugs, adequacy of drug supply and resupply practices	122	107	122	130	133	33	100
4. Drug Supply/Quantitative Average of the adequacy of supply of 10 medicines (childrens’ and adults’)	119	111	171	76	125	59	100
<b>C. Financial Indicators</b>							
5. Average lifespan of a CDF (in years, if not re-capitalized)	55	156	36	75	145	149	100
6. Medicine purchasing efficiency index: The CDF’s cost of purchasing a standardized package of medicines as a percent of the all-CDF average cost.	125	103	95	122	81	88	100
<b>D. Outcome Measures</b>							
7. Correct and complete drug treatments dispensed as a percent of total prescriptions (Qualitative).	116	93	156	104		111	100
8. Number of patients per CDF per year (Quantitative)	112	142	37	46	101	94	100
Total Average Score:	110	116	101	95	109	88	
Rankings:	2	1	4	5	3	6	

## 7.2 Why Honduras Will Be Better Served by an Eclectic Approach

Determining the “best” CDF model, as can be seen by the previous analyses, depends on which criteria are used and how they are weighted. Based on the original objectives of the CDFs, community participation is an important evaluative criterion. This study suggests that it would be more productive to think in terms of two groupings of organizations—“good” and “could be better”—rather than focusing on a single CDF model. This is suggested by the faltering performance of all CDFs on some important indicators. In short, all of the CDFs and CDF models could be improved. It should be noted that among the three “better” performers, the CDFs of organizations #1 and #3 are very young, having been in operation, on average, no more than one year. As such, they may be performing better now than can be expected over the longer term, when the notoriety of the new position and the new source of medicines wears off, and the initial training begins to fade. On the basis of this observation, the results of Table 56, which identify organization #2 as the “best” model, are preferred to those of Table 57, wherein organization #1 has top ranking.

Others, however, may feel that a different set of indicators or a different weighting methodology would be more appropriate, and this may result in identifying a different network as the best model. A public discussion regarding Honduras' current goals and objectives with respect to CDFs would be useful since these goals may have changed. This discussion could include producing a list of specific indicators and weights and could be used to establish a definitive ranking. The value of such an exercise, however, is not to identify unequivocally the best model, but rather to learn about different structures and approaches that the different networks have used with different outcomes. Given the multifarious policy goals and objectives for originally establishing the CDFs, copying a single model may result in losing some lessons learned from one of the other organizations, and it may result in having to accept some areas where the organization that is best overall does not do a very good job. In light of the uneven performance of the CDFs, an eclectic approach is preferred.

---

## 8. Discussion, Recommendations, and Policy Issues

To elicit the potential policy implications of this study, it is essential to understand recent changes in the CDFs; the major forces influencing the CDFs; and their current, potential, and desired role within the health care delivery system of Honduras. The discussion begins with a review of key study findings, followed by a discussion of the CDF Regulation, which constitutes the current legal framework of the CDFs and embodies Honduran society's official view of their role. The lack of financing and the impact this has had on the CDFs' and their organizational sponsors' institutional development and sustainability are also explored. The findings and policy issues raised by this study are then examined. Rather than provide a definitive agenda to improve the performance of the CDFs, a number of suggestions are made. More importantly, this chapter focuses on a series of questions that Honduran society and health policy makers must address before a concrete agenda can be developed.

---

### 8.1 Review of Key Findings

#### 8.1.1 General Findings

The following constitute some of the general findings of this study:

- ▲ The average CDF sees about one patient per day and has 409 patients per year.
- ▲ CDFs are heterogeneous, and the networks that exist are not monolithic or homogeneous. There is a great deal of variation in the structure, procedures, and operations of the CDFs. While much of this variation is due to systematic variation related to the particular CDF-sponsoring organization, even within CDF networks there is considerable variation.
- ▲ Just five (10 percent) of the 51 CDFs surveyed account for nearly half (46 percent) of all visits to CDFs (annualized 1998 estimates). These busiest CDFs report more than six times the average number of visits of all other CDFs: 1,234 versus 213 per month, respectively. While the typical CDF sees about one person every other day, these five CDFs see three or four persons daily.

#### 8.1.2 Medicine Supplies

The following are study findings regarding medicine supplies at CDFs:

- ▲ The average CDF had 10 products available. The best stocked CDF had only 20 products, slightly more than half of the authorized number.
- ▲ An index of the availability of medicines was constructed. The index measures the quantity of a particular medicine that the Fund has on hand, divided by the amount it is expected to

dispense. This is based on (1) the historical experience of all Funds in terms of their case volume and case mix, in combination with (2) official MOH treatment protocols. The analysis assessed the supplies of the five most commonly prescribed medicines for children and the five most commonly prescribed products for adults. While the mean supply of four of the children's medicines was about four months for each of these products, more than one-third of the Funds did not have any such product on hand. Supplies were even more limited for the adult medicines. For each of these products, stock was not available in an average of 56 percent of the Funds.

- ▲ The initial stock of medicines provided to CDFs has been an important source of their financial problems. Most of the CDF-sponsoring organizations have provided their CDFs with a standardized package of medicines that does not take into account (1) local differences in the prevalence or incidence of illnesses, (2) local perceived health needs, or (3) local demand. As a result, most CDFs report various types of problems with their stocks of medicines: 96 percent report some medicines move very slowly, 69 percent report excess supplies of some medicines, and 90 percent report currently having some expired medicines in their inventories.
- ▲ The value of expired medicines in CDF inventories is significant; the mean value is 509 lempiras, 18 percent of the mean total value of current assets. The median is 206 lempiras, 13 percent of the median total value of current assets.
- ▲ Most of the Funds, 88 percent, reported stockouts (of unknown duration) during the preceding months of 1998. For 86 percent of the surveyed Funds, stockouts are what triggers their purchasing resupplies of drugs. The system is supply constrained.
- ▲ Two-thirds of CDFs purchase their medicines from their organizational sponsor/affiliate and report being encouraged or required to do so.
- ▲ Substantial savings could be garnered if the CDFs and their organizational sponsors purchased medicines more efficiently. Based on mid-1998 data, if all six networks purchased medicines at the same prices paid by the most efficient purchasing network, they would realize savings of 218,000 lempiras, or 18 percent of the value of current medicine stocks. If all six networks purchased each medicine at the lowest price paid by a CDF, they would realize 256,000 lempiras in savings, or 21 percent of the value of current medicine stocks.
- ▲ As much as 29 percent of CDFs reported stocking some prescription medicines that they are not authorized to sell.

### **8.1.3 Financial Status**

Study findings regarding the financial status of CDFs are as follows:

- ▲ The real value of the initial assets of CDFs, which was a mean of 3,795 lempiras in November 1998, has been shrinking over time.
- ▲ The average net total value of current assets of the CDFs is 54 percent of the initial real value. The CDFs' average net current assets are worth 1,549 real lempiras less than their initial value.

- ▲ Of the 51 CDFs surveyed, 86 percent have been decapitalized; i.e., the current value of their total assets is less than their initial level of assets (adjusted for inflation). Of these, 39 percent have been decapitalized by more than 50 percent.
- ▲ The average rate of decapitalization is 87 lempiras per month.
- ▲ The monthly rate of growth of CDF assets is -2.3 percent.
- ▲ There is a direct relationship between the age of CDFs and their pace of decapitalization. The oldest CDFs (more than 24 months old) have the slowest pace of decapitalization (-0.9 percent), the youngest (those with less than one year in operation) have the fastest pace of decapitalization (-5.8 percent).
- ▲ Assuming they are not recapitalized, the average estimated lifespan of the 51 CDFs surveyed is 5.5 years; i.e., 5.5 years after it is first established, the average CDF will have no assets.

#### **8.1.4 Pricing Policies**

Study findings revealed the following pricing policies:

- ▲ There is no single methodology used by a majority of the surveyed Funds to set prices. The most common method reported (44 percent of the CDFs responding) was that “they are already set, the medicines come with a list of their prices.” In these instances, it is the CDF-sponsoring organization’s central or regional office staff that sets prices. The next most common practice reported (31 percent) was the vague response that the prices were “set above costs,” with no indication of how much above costs. Nearly one-quarter stated that prices for each product were set 30 percent above cost. Pricing policy appears to be a common problem area for HAs.
- ▲ A majority of CDFs (59 percent) provide credit, and 35 percent give away some medicines free of charge. One-quarter of the Funds do not extend credit and do not provide medicines free of charge to indigents, while at the other extreme, one-fifth reported they provided both credit and some free medicines. The most common practice (39 percent) is to provide credit, but not give away medicines free of charge.
- ▲ The 18 Funds that reported providing credit did so an average of once every two (median) or three (mean) months. The value of the credit they extended varied widely. The mean was 235 lempiras, and the median was 34. No information was collected about the terms of credit or the repayment of these loans.
- ▲ The 29 HAs who provided medicines free of charge at least once in the first nine months of 1998 did so a total of 220 times, exceeding by a factor of more than five the number of times credit was extended.
- ▲ The 29 Funds that dispensed free medicines at least once did so about once every five weeks. The mean value of medicines that patients were exempted from paying was 146 lempiras, the median was 100.
- ▲ Averaged over all of the CDFs (those with and those without policies of providing credit

and dispensing medicines free of charge), the value of medicines averaged 16 lempiras per Fund per month and was split almost evenly between credit and exempted payment.

- ▲ Annually, the equivalent of about 5 percent of total net assets is “spent” providing free medicines, with about the same share “spent” providing credit. Together, the equivalent of a mean 10 percent and median of less than 2 percent of total net assets is accounted for by both of these practices.
- ▲ Considering all CDFs, on average, 1 percent of all visits involved the provision of credit and less than one-quarter of 1 percent involved the provision of free medicines to the poor. If the analysis is limited to only those Funds that have these policies, the frequency of these events is of course much more common, but they still occur infrequently. Those that extended credit did so to an average of eight patients per year, or once every 66 patients (2 percent of all visits). Those that provided free medicines to the poor did so an average of three times per year, or once every 121 patients (1 percent of all visits).
- ▲ The decapitalization of the CDFs is not due in any significant measure to providing free medicines to the poor or to the provision of credit. Rather, the CDFs have financial problems because they sell drugs at prices that are too low and/or their costs are too high. As has already been discussed, from the perspective of many HAs, price-setting policies and practices are beyond their control, vague, whimsical, or not well understood. Price-setting policies and practices are established and administered for nearly half of the CDFs. This is clearly an area that requires closer monitoring and some technical assistance.

### **8.1.5 Health Advisor Remuneration**

Study findings reveal the following about HA remuneration:

- ▲ Of the 51 HAs, 30 (or 59 percent) reported they received no compensation for their work during the first six months of 1998.
- ▲ The absolute amounts of remuneration paid to HAs over the past six months varied dramatically across CDFs. While mean earnings were 135 lempiras, if an outlier—a single individual who reported making 4,175 lempiras—is dropped from the calculation, the mean six-month remuneration falls to 49 lempiras.
- ▲ The average HA was paid the equivalent of 7 percent of the average CDF’s total outlays on medicines in the previous six months.
- ▲ Since HAs are paid relatively little, their remuneration cannot be attributed to the decapitalization of CDFs.

### **8.1.6 Health Advisors’ Diagnostic and Treatment Skills**

The following are findings regarding the low level of HAs’ diagnostic and treatment skills:

- ▲ Presented with several case studies of patients with common ailments, HAs correctly answered only 57 percent of a series of 44 questions on diagnosing patients.

- ▲ HAs were asked to identify the quantity, frequency, and duration of treatment of three different age groups of patients with eight different medicines. Only 57 percent of their responses were correct.
- ▲ A review of 11,191 entries in CDF patient registries found 93 percent of the treatments to be correct as judged by MOH treatment norms and the disease profile corresponding to the signs or symptoms noted in the patient registry. However, in more than half of the treatments identified as correct, patients were prescribed a less than complete course of treatment: 48 percent were correct/incomplete, 45 percent were correct/complete.

### 8.1.7 Health Advisors' Management of the CDFs

The following are findings of how well HAs manage CDFs:

- ▲ From a list of 25 indicators about various aspects of the structure, management, and operations of the Fund, the average HA score was 67 percent.
- ▲ The combination of a number of observations—the products are commonly not separated by their expiration date; the products are frequently not organized, classified, and labeled; the drug register is usually neither well organized nor up to date; and the Drug Committee regulations are not closely adhered to—suggest that some of the substantial losses of medicines are due to how the HAs store and handle the medicines and that the losses do not stem entirely from poor purchasing practices.

---

## 8.2 Common Life Cycle of a Community Drug Fund

Typical CDFs that emerge from this study are a group of organizations that have filled an important gap in the health care delivery system and have grown dramatically in size and number in just a few years. The CDF provides a more physically accessible source to medicines compared with the more traditional sources of health centers and pharmacies, and it provides what members of the community regard as a satisfactory alternative supply of medicines at lower prices. The CDFs, however, are not an unqualified success. The quantity of services they provide could be increased, and the quality of the services provided can and should be improved.

In addition, there is a fairly common evolutionary development pattern, a typical life cycle, that most of the individual Funds have followed. This dynamic suggests that most CDFs are not fulfilling their potential and that many of them will survive, at most, no more than a few years. This study examined how a CDF typically evolves from its start-up to the point when, while it continues to operate, it has a low level of sales and a small stock of medicines; in short, how it becomes supply-constrained.<sup>17</sup>

Most CDFs begin operations with a supply of medicines that are not matched to local conditions and with an HA who is generally highly motivated, but inadequately prepared for the job. The usual

---

<sup>17</sup> This does not mean that demand, and specifically a persistently low level of demand, is not an important factor limiting the growth and development of CDFs because it no doubt is. However, since there is an overwhelming majority of persons in CDF communities who know about the Fund, its location, and its functions, there is little else that can be done on the demand side to improve performance. Accordingly, supply side factors are of paramount importance.

55 hours of pre-service training are insufficient, particularly given the limited amount of practical, on-the-job, follow-up, and in-service training that is provided.

The frequently inappropriate composition of the initial supply of medicines results in a number of slow-moving products, many of which eventually expire, leaving the CDF with losses and diminishing the value of its assets, perhaps even forcing the Fund to sell expired medicines. The low prices that CDFs charge for medicines further reduce the value of assets. Eventually, with enough experience, HAs learn to establish prices high enough to stem the erosion of the value of their total net assets. The Funds' usual practice of purchasing drugs only once every two or three months, however, results in a disproportionately large amount of assets being held in cash as opposed to drugs. Excess cash holdings, expired or damaged medicines, and losses due to the low prices charged, all work to reduce the potentially available stock of medicines. Since CDFs typically have only 10 medicines available and often run out of stock of the most popular medicines, it is difficult to generate much revenue. While many Funds provide credit and/or dispense medicines free of charge to indigents, neither of these practices contributes significantly to the typical Fund's financial plight.

With small stocks, there are relatively few sales and relatively few revenues, and thus, relatively few resupply purchases. As the sale of medicines decreases, so too does the HA's material rewards. Many HAs even forego their rightful earnings to better maintain the viability of the Fund they operate. The primary motivation for being an HA then becomes the moral incentive of helping to improve the quality of health in the community and the respect gained as a health resource.

---

### 8.3 Recommendations for Improving the Performance of CDFs

There are a number of ways in which the CDFs and their organizational sponsors can break the common life cycle previously described and improve their performance in the process. These include the following:

- ▲ Improve the efficiency with which medicines are purchased. The possibility of purchasing the medicines at cost from the MOH or pooling the purchases of as many CDFs and CDF network sponsors as possible to obtain volume discounts should be investigated. The possibility of using centralized purchasing, purchasing directly from a drug wholesaler, or mailing supplies should be investigated. The idea of establishing a national drug house (*casa nacional de medicamentos*), raised by PAHO and others in the mid-1990s, should be re-examined.
- ▲ Ensure that the initial stock of medicines and the ongoing inventory are tailored to each Fund's needs. For new CDFs, this could build upon a system of improved coordination with the MOH, wherein the service delivery, patient mix, and drug consumption data of MOH facilities in the immediate geographic area would be reviewed and used as a benchmark. For already established CDFs, the development of morbidity and drug use/sales profiles—based on the individual CDF's own data—could be encouraged through supervision and the development and implementation of training modules. These efforts would also provide additional motivation for HAs to maintain good patient and drug registries.
- ▲ Develop drug exchange systems with the nearby MOH facilities and other CDFs to minimize losses from expired drugs.
- ▲ Provide better financial incentives to HAs. Make it the responsibility of the

promoters/supervisors and other regional and central office personnel of the CDF sponsors to work with the CDFCs (where they exist) to ensure that HAs are receiving their fair share of revenues.

- ▲ Ensure that HAs have adequate knowledge and skills to diagnose illnesses and prescribe treatments by providing more pre-service and in-service training. Invite HAs to participate in MOH training activities. Promote practical approaches such as role playing patient-HA interactions.
- ▲ Develop informal (i.e., not legal) systems for certifying and periodically recertifying the maintenance of adequate levels of knowledge and practical skills in diagnosing and treating common illnesses.
- ▲ Provide practical, hands-on training in accounting, including how to establish prices.
- ▲ Charge more for medicines. HAs often charge too little for the medicines they supply.
- ▲ Focus financing, training, and supervision less on starting new CDFs and more on ensuring the sustainability of pre-existing Funds. This should include recapitalizing all CDFs so that they have a minimum of four consumption months of the most quantitatively important drugs.
- ▲ Seek additional sources of funding from NGOs, international agencies, the MOH, and mayors' offices. Many mayors' offices are interested in improving the health status of their populations and have begun to spend money in these efforts. CDFs are an attractive, highly visible, low-cost method for providing first line health care. Existing CDFs constitute an established part of the health infrastructure, and they represent an investment that is, in effect, a sunk cost. Thus, helping to ensure that the supply of medicines is adequate is a good investment for mayors. This strategy should be aggressively pursued at the individual CDF, network, and national levels. CDFCs affiliated with a mayor's office are likely to be more sustainable, though they are also likely to be multifunctional and not devoted exclusively to working on CDFs.

---

## **8.4 Reassessing the Current CDF Policy Framework: A First Step in Identifying Public Policy Implications**

Several of the recommendations identified in the preceding section involve the MOH. Rather than modifying the CDFs in an ad hoc, incremental manner and accepting the current CDF policy framework as given, it is recommended that the MOH take advantage of the more comprehensive understanding of the CDFs and their role within the Honduran health care system that this study has provided. Then, the MOH could reassess how it might influence the development, role, and performance of CDFs, beginning with a review of the CDF Regulation and its effect on the Funds.

### **8.4.1 The Community Drug Fund Implementation Regulation**

The CDF Regulation of 1996 was based closely on the work of PRODIM and reflects its CDF "model." The regulation specifies in considerable detail how a CDF should be organized, structured, and implemented. Despite the level of detail, however, the regulation does not address a number of key issues, reflecting an uncertainty about the future development of the Funds. As a result, some

questions remain. Would the Funds eventually become completely independent? Could they do so financially? Would there be some type of oversight required, and if so, by whom? Who should have the ultimate authority over the Funds?

Another issue that the regulation does not address is the role of the MOH. It simply states that NGOs, agencies of international cooperation, and the MOH's facilities (UPSs) should establish monitoring and supervisory mechanisms and should make periodic assessments to review seven specific indicators (as identified in the regulation). The specific role of the MOH, however, is ambiguous. It is not clear whether the MOH needs to establish a monitoring and supervisory system if other agencies involved have already done so. Nor is it clear what the MOH's role would be if those agencies prove to be short-lived. Does the MOH have sufficient experience working with CDFs to know what is best for them? Or would it be preferable to have a multi-agency organization implementing, or, at minimum, helping to design the monitoring and supervisory system and, perhaps, establishing some standards or regulations?

#### **8.4.2 The Struggle to Survive: Sustainability Concerns and Issues**

The following are some of the concerns and issues involved in sustaining a CDF.

- ▲ **The Preoccupation with Starting New CDFs and the Relative Disregard for Maintaining Them.** The regulation disregards the issue of ongoing financial requirements when it states that “The institutions responsible for implementing the Community Fund should provide financing for the implementation (seed capital) and for promotion, training and monitoring of the process,” (p. 5.) Furthermore, the regulation states that “the person in charge of the Community Fund shall continually receive training,...” but it does not mention who will provide the training or how it will be financed (p. 10.) Although the CDF Regulation never addresses whether the original implementing institutions would be “continually” involved in financing the Funds’ activities, the implicit assumption is that the Funds would be financially sustainable. However, what happens to the Fund if it is not financially sustainable? How are promotion, training, and monitoring activities to be financed and by whom? These issues, which are the most troubling weaknesses of the current system, need to be addressed.

The way in which most CDFs have been financed has served to underscore the significance of these shortcomings. (This should not be construed as suggesting that the regulation is the source of these problems. The regulation was not issued until October 1996, roughly five years after the start of the CDF era.) Most CDFs have been financed by international agencies, which—just like the regulation—have been overwhelmingly focused on the installation of the Funds and have allocated little or no money to deal with what happens after they are set up.

It appears that CDF-network sponsoring organizations are also disproportionately involved in starting new CDFs. Is this a result of blind faith that the CDFs will be self-financed (despite a record of more than five years that suggests otherwise)? Or, is this a result of the availability of funds (for example, from international agencies) for establishing new CDFs, but not for their long-term maintenance? This leads one to question whether the CDF Regulation encourages the sponsoring organizations to focus solely on the start-up phase. Also, the level and nature of activities and the personnel skills required to maintain a network of CDFs could be greater than had been anticipated. It may be that the long-term costs of maintaining a network of CDFs are higher than had been anticipated, or the

sponsoring organization finds them less productive than anticipated.

This report can be used to better inform CDF-sponsoring organizations about these potential pitfalls and thereby encourage them to modify their expectations and activities to better ensure the sustainability of CDFs. If this is unrealistic, then a more formal and exacting regulatory system should be developed.

- ▲ **The Numbers and Turnover Rates of NGOs, Community Drug Funds, and Health Advisors.** A brief history of CDFs in Honduras reveals that many CDFs originally set up are no longer in operation. Furthermore, the annual number of Funds reported in a given NGO's network masks a relatively high turnover in HAs, which could be due to a change in the location of a Fund or a change in the community site. To add to the problem, only about half of the NGOs that implemented a CDF network are still involved in overseeing them (see Table 59). In some cases, the NGO no longer exists. Yet the majority of CDFs remain members of an NGO CDF network, which means their sustainability is conditioned by NGO sustainability. Although some NGOs have highly stable sources of financing, many do not. It, therefore, may be desirable to establish some type of safety-net mechanism for CDFs. It may be advisable to establish a more formal link between CDFs and more permanent potential sources of financing and oversight; for example, the mayor's office or the MOH.

**Table 59: Organizations Involved in the Development of CDFs in Honduras**

Organization	Number	Year	Still Involved?
1. PRODIM	136	1998	Yes
2. ASCH	60	1998	Yes
3. World Vision	106	1998	Yes
4. UNISA	18	1998	Yes
5. COHASA	39	1998	Yes
6. Global Village	35	1998	Yes
7. Doctors Without Frontiers	3	1998	Yes
8. Asociacion Hondurena Mujer y la Familia	8	1998	Yes
9. Ministry of Health	18	1998	Yes
10. Varios Alcaldias		1998	Yes
11. COMPARTIR	3	1994	No
12. CCD	28	1993	Only 5
13. CADERH	5	1993	No
14. Project MAMA	4	1993	No
15. Centro San Juan Bosco	14	1993	No
16. ACEDUCARS	10	1993	No
17. European Union, Proyecto Salud Materno Infantil	11	1996	No
18. FEPRO	3	1994	No
19. San Jose Obrero	5	1998	No
20. EDUCSA	5	1993	No
Sources: PHR Inventory, 1998; UNICEF and MOH, 1993; and PRODIM, 1994.			

## ▲ CDF Evolutionary Patterns and Sustainability Concerns

- (a) **The impact of policy ambiguity and financial imperatives.** The preoccupation with financing the start-up of new CDFs while neglecting adequate financing for recurrent activities has resulted in a predictable CDF life cycle. When CDFs are first established and the implementing agency receives funds for the project, substantial training and comprehensive monitoring and supervisory systems are initiated. Supervisory visits are frequent and fairly rigorous in implementing the systems recommended in the CDF Regulation (see Annex B). Once the initial funding cycle is over, however, the quantity and quality of training, supervision, and monitoring, as well as CDF record keeping, begin to steadily erode. This has contributed to a growing dichotomy between what training, supervision, and monitoring consisted of at the initiation of a Fund and what they have come to be in many established systems.

While many of the organizations sponsoring CDFs have official policies and procedures detailing what training, supervision, and monitoring should occur, they were established when numerous CDFs were being installed. Few of the organizations still adhere to these policies and procedures. The result is that detailed descriptions of exemplary CDF network models exist “on paper” in NGO headquarters, but in actuality, the CDFs are functioning very differently, and, as a system, they are often in disarray. This provokes critical questions concerning the adequacy of the system, the adequacy of the knowledge of and services provided by HAs, and the functionality of the resupply systems.

Several NGO national health coordinators could provide no data on the CDF during the course of this study because they had “decentralized” the system. They appeared to use this as an excuse for having abdicated their responsibilities with respect to the CDFs. NGOs no longer stay abreast of the CDF’s status and no longer strive to maintain some minimum set of standards for its operations. It appears as though the CDF-network sponsors have also assumed that the CDFs are sustainable and will, for the most part, take care of themselves.

As will be discussed below, most NGOs have incorporated the CDFs into their portfolio of integrated, community development activities. The result has been that supervision and monitoring activities and in-service training are conducted nearly exclusively at the lowest level at which the NGO interfaces with the community. Generally, both the frequency and the quality of supervision, monitoring, and training have suffered.

- (b) **The impact of institutional instability.** In addition to financial considerations, how the networks are structured can undermine sustainability as well. One common problem NGOs report is that members of the CDFS often lose interest, possibly because of the lack of material incentives. Several NGOs report that they have tried—in some cases, repeatedly—to rejuvenate community participation by reconstituting the CDFC, usually with only short-lived success. This raises questions about community participation. Is it essential? What is its purpose? How effective has it been? Is it necessary to maintain community participation over time, or is it more important in the early development of a CDF? Are there methods, other than a CDFC, by which to promote continued community participation? Are there other mechanisms by which to achieve the aims of community participation?

Turnover among supervisory staff constitutes a second common institutional problem.

Depending upon the nature of the network in which they work, supervisors may spend as much as 90 percent of their time on the road, travelling to their assigned communities and meeting with HAs. Maintaining a full cadre of supervisors has been a problem for several NGOs. One NGO has filled only one-half to two-thirds of its supervisory positions during the last few years.

The persistent instability of supervisory personnel has encouraged some NGOs to change the structure of their network. For instance, one NGO has reduced its number of supervisory positions from 12 to 4. It restructured its system so that supervisors no longer continuously travel to visit HAs; now the HAs travel to a regional office for monthly group meetings with their supervisors. This type of supervisory structure has become more common, although the frequency of supervision varies by NGO. But, although this system reduces direct NGO staffing requirements, thereby reducing personnel costs, it shifts some of these costs to the HA (who is not compensated for his or her time). The HAs are commonly given travel and sometimes meal allowances (or, alternatively, are provided meals) to make these arrangements more acceptable.

- (c) **Organizational evolution.** With a disproportionate amount of the financing being concentrated on the installation of CDFs rather than on their maintenance, NGOs have been pushed to seek new sources of financing, to modify their systems so as to reduce costs, and to simplify the operations of their networks. In doing so, they have followed some common evolutionary paths. In addition to modifying their systems, as noted in the previous paragraphs, many NGOs have incorporated the CDFs into other community-based health activities. In one NGO, for example, CDFs are one of 15 health-related activities, and there are three other nonhealth-related general sets of activities.

This evolutionary pattern, however, has diluted the level of attention NGOs give to the CDFs, and concomitantly has reduced the resources available and/or dedicated to them. The question that arises is whether this is a desired or acceptable institutional evolutionary pattern for CDFs. The answer depends on whether or not these CDFs are regarded as functioning adequately. Should they be assessed in terms of whether or not they fulfill the original objectives, or should they be compared to surviving CDFs? Should they be assessed using some other performance criteria?

Another NGO followed a somewhat similar survival strategy. After being dependent upon a single source of financing earmarked for installing a large number of CDFs, this organization found its source of financing drying up. It was compelled to seek additional funding sources and, to do so, had to diversify its activities. Its activities now include the provision of clinic-based maternal-child and reproductive health (MCH) services. Its CDFs are now part of a network of community volunteers who are tied to a specific clinic. The end result is similar to that of the broad-based, integrated community development NGOs—a dilution of attention to and resources for the Funds. Again, this raises important questions considering the desirability of this type of development.

A third, and distinct, developmental pattern that some CDFs have followed is that after they have been set up, they have evolved into an independent enterprise. Usually this has happened because the founding NGO has discontinued its entire CDF program or the NGO has been dissolved. As the supervision and monitoring of CDFs erodes, it becomes increasingly difficult to distinguish the independent, entrepreneurial HA from

those that are still NGO sponsored. Furthermore, there has been an increase in the number of small pharmacies that are modeled after and operate virtually identical to the independent CDFs. This seems potentially likely to become an increasingly common evolutionary scenario. If so, one needs to determine whether this is a desirable development.

---

## 8.5 Refining CDF Policy

The emerging patterns of change occurring in CDFs and their sponsoring organizations may be summarized as (1) the systematic reduction in supervision, monitoring, and in-service training activities and (2) the decline of community participation. A third insight from this review of recent developments is that the common denominator prompting the cutbacks has been financing problems. Any effort to change public policy to improve the way CDFs function must consider these three factors.

- ▲ **The Demise of Supervision, Monitoring, and In-service Training Activities.** Despite indications that there is a need to increase and improve monitoring, supervision, and in-service training of CDFs, it is these very activities that have been most decimated by the cost-cutting measures introduced in the past few years. Staff from the central and, to a lesser extent, the regional offices of NGOs are increasingly less involved in the operations of the CDFs. Further reducing the attention paid to CDFs can only mean further undermining the quality, and with it the quantity, of services they provide.
- ▲ **The Demise of Community Participation.** Community participation is becoming an increasingly uncommon characteristic of CDFs. This is particularly apparent as more CDFs become entrepreneurial enterprises, which are regarded foremost as employers and generators of income. The growth in such CDF-type private enterprises also raises fundamental questions about the importance and role of community participation, and whether these entities should be permitted to function, as they do not adhere to the CDF Regulation and are not legally constituted pharmacies.
- ▲ **Financially Induced Cutbacks.** Changes in their structure and operations have proven that CDFs are not sustainable, given current levels of funding. The typical CDF has found it necessary to modify its organization, functioning, and role in order to survive. And yet, as this study has proven, most CDFs are not operating in a manner in which they appear to be ready to be subjected to streamlining. Most are functioning at substandard levels, and they will be hard pressed to maintain even these levels when they confront the implications of streamlining.

The relative demise of supervision, monitoring, and in-service training activities suggests that the issue of the quality of CDF services needs to be carefully considered. The decline of community participation calls for a reassessment of one of the major original objectives for establishing CDFs. And, finally, one needs to consider what can be done to increase the financing of the CDFs and/or of their sponsoring organizations so that they can provide more and better services. These are key issues, which a reassessment of the CDF's policy must address, along with the problems and shortcomings of the structure and operations already identified.

### **8.5.1 A Recommended Process for Moving Forward**

Rather than attempting to address issues or problems individually, it would be preferable to identify a package of CDF-related policy objectives and desired characteristics that should be addressed concurrently. In this way, potential alternatives and options will be conditioned by the importance of other goals and measures, which will be pursued simultaneously.

A working committee of the National Health Council, or MOH, should lead a public discussion to address key issues and accomplish the following:

- ▲ specify and reaffirm the goals and objectives of the CDFs;
- ▲ better ensure the quality of CDF-provided care; and
- ▲ consider whether the MOH should continue to sponsor its own CDFs or play a different role in financing and overseeing the CDFs.

Whether the approach should be legalistic, mandating changes and strictly monitoring compliance, or more informal, based on suggestions and recommendations, will depend, in part, on the expected role of the CDFs in Honduras. The discussion that follows looks at how the issues that have been raised in this study might be addressed.

### **8.5.2 The CDF Reassessment and Reform Agenda: Key Issues and Potential Measures to Improve Performance**

Four goals were originally set forth in the CDF Regulation: (1) improve access, (2) encourage the rational use of medicines, (3) promote community participation, and (4) discourage self-medication. The CDFs are not fulfilling these goals as well as they might be, and this section looks at potential measures to improve their performance.

With respect to the issue of improving access to care, should the development of CDFs be encouraged only in those areas of the country where they are most needed, as judged, for instance, by low coverage rates and perhaps a high incidence of poverty (see Annex D)? Should a stronger position be taken that would allow CDFs to be established, or continue to function, only in areas of particular need? If such a policy is to be adopted and the MOH begins to regulate potential CDF sites, it should be noted that this policy may require the Ministry to subsidize CDF implementation (particularly if current CDF performance levels are not improved). After all, the areas with the lowest coverage rates are generally the most isolated areas and the poorest areas of Honduras. With financial sustainability already a critical problem, trying to move into even poorer areas will be all the more problematic.

Also related to improving access to care is the issue of whether to allow all CDFs to continue to exist *ad infinitum*. Should those entities that are similar to CDFs but were never part of an organizationally sponsored CDF network be allowed to continue to exist indefinitely? The answer is not simple, because if the MOH should choose to start regulating and controlling CDFs, it must recognize that once it starts, it will be difficult to determine where to draw the line. For example, the MOH will need to determine whether it will allow a CDF to deviate from the CDF Regulation for purposes of increasing access. Do public health authorities just continue to “look the other way” when other social objectives are being met? If so, it is likely that at some point the pharmacists’ or physicians’ associations will take exception with such an approach because of the quality of care

issues it raises and the possibility of encroachment on their “turf.” If, however, public health authorities seek to enforce compliance with the CDF Regulation or pharmacy laws, they will need to determine what kinds of enforcement mechanisms and sanctions will be used to ensure compliance. They may also want to develop a strategy to determine whether or not a CDF should exist. In developing such a strategy, they will need to determine what kinds of indicators should be used to trigger moving a CDF out of an area or closing it down.

Turning to the issue of quality assurance, the MOH, or some other entity, could develop a supervisory or monitoring oversight role of the CDFs to better ensure that adequate quality of care is provided. In developing such a role, they will need to determine what will ensure adequate quality of care. The following are possible criteria:

- ▲ HAs have an adequate level of knowledge and skills.
- ▲ A review of patient treatment records (similar to that performed in this study) determines that adequate quality of care is being provided.
- ▲ CDFs’ supplies of medicines are quantitatively and qualitatively adequate.

This study has demonstrated that there is substantial room for improving the level of HAs’ knowledge and skills in diagnosing, prescribing, and treating illness, but there are several concerns regarding this issue. Given the negative impact that financing has had on supervision, monitoring, and in-service training, it is unlikely to expect that CDFs will be moved to spend more money on improving HAs’ knowledge and skills. Establishing a certification process for HAs could be one option. HAs could be required to pass a practicum in order to become certified, and thereby legally qualified, to practice their trade. If this approach is used, then the MOH will have to determine whether a one-time certification process is sufficient, or whether it would prefer periodic recertification, perhaps once every two or three years. If, on the other hand, it is thought that certification is too demanding a process that is likely to impede the growth of CDFs, what other methods are available? There may be additional methods that can be used to monitor the knowledge and skills of HAs and the quality of their care.

Clearly, the MOH should encourage international organizations and NGOs to be more concerned and more committed to financing the recurrent costs of CDFs beyond their one- or two-year start-up phase. The MOH could require, at a minimum, three- or four-year action plans (complete with financial plans) for all new CDFs.

The MOH should determine whether the services the CDFs provide are sufficiently valuable for the public health so as to justify contributing to their annual maintenance. If the MOH decides they are, it will then need to determine how much to contribute and for how long. It will also need to determine whether the contribution should be tied to the NGO sponsor’s plans. Also important is what type of mechanism to use to channel funds to the CDFs. Should funds be channeled through the current organizational sponsors, should they be given directly to the CDFs, or should money be channeled through some other means, such as mayors’ offices or the Health Committee of the mayors’ association (Asociación de Municipios de Honduras, AMHON)?

Should MOH funds be earmarked for CDFs and allocated to the departments to promote the MOH’s decentralization initiative? Should a special “access promotion fund” be established at the central office of the MOH and allocated to those departments where access is especially low?

Should the MOH continue its current policy of sponsoring CDFs, or should it be focusing its efforts on other areas such as monitoring CDFs, developing a legal and regulatory framework to better ensure the quality of care provided, and developing methods to better ensure financial and institutional sustainability?

These are critical issues that Honduras must address. It is evident that although CDFs are making a definite contribution, they could be providing more and better care to the population. How much better and how much more they should be doing are two fundamental questions now confronting Honduras and its health policy makers.



---

## **Annex A: The Bamako Initiative**

## The Bamako Initiative

The Bamako Initiative, launched in 1987 by African Ministers of Health at a meeting sponsored by the WHO and UNICEF in Bamako, Mali, is a series of policy reforms formulated in response to the rapid deterioration of public health systems in developing countries during the 1970s and 1980s.

The Initiative is intended to revitalize public health systems by decentralizing decision-making from the national to the district level, reorganizing health care delivery, developing and implementing community financing and co-management of basic health services and providing a minimum package of essential services at the level of basic health units. There are four key strategic elements to the Initiative:

1. The revitalization and extension of peripheral health care delivery systems, including the network of community health workers that provide outreach services.
2. A strong advocacy in favor of the use of essential generic drugs in order to ensure access to quality drugs at affordable prices. The promotion of better knowledge concerning drug prescription and use.
3. The sharing of recurrent costs through community financing. The aim is to improve and extend services by generating sufficient income to cover some local operating costs such as the essential drug supply, salaries of some support staff, incentives for health workers and investment in community health activities. Community financing can be based on user fees, prepayment for services, local taxes and other income-generating activities and contributions of labor.
4. The development of a locally elected health committee to exercise community control and management of local health services, including the funds generated by community financing, with control.

Source: The Bamako Initiative Management Unit, UNICEF, "The Bamako Initiative: Rebuilding Health Systems," 1995.

---

# **Annex B: The Community Drug Fund Regulation**



---

# **Annex C: The Community Drug Fund Inventory**



---

# **Annex D: The Community Drug Fund Survey Questionnaires**



---

# **Annex E: The Community Drug Fund Cost Estimates**



---

# **Annex F: The Development of a Drug Price Index**



---

# **Annex G: Indices of Structure and Performance of the Community Drug Funds, Detailed Analysis**

**Table C.1**

**Evaluation of the Community Drug Funds  
Indices of Structure and Performance**

**Access and Location of the CDF**

**Valuation: 1 to 3  
Where 1 = worse/no to 3 = better/yes**

<b>Indicator</b>	<b>Average Value</b>
Is the CDF located in the house of the consejero?	3.0
Does the CDF have a visible poster/sign?	1.9
Is the area of the CDF clean and well organized?	2.2
Are there domestic animals in the area of the CDF?	2.2
Total Points	9.2
Percentage of Total Possible Points	
1. Average (mean)	77%
2. Median	75%

**Table C.1.a**

**Entrance and Location of CDF  
(Six Indicators)**

<b>Score: Percentage of Total Possible Points</b>	<b>Number of CDFs</b>	<b>Percentage of CDFs</b>
< = 25	0	0%
26 – 50	0	0%
51 – 75	28	55%
76 - 100	23	45%
Total	51	100%

**Table C.2**

**Evaluation of the Community Drug Funds  
Indices of Structure and Performance**

**Management of Environmental Factors**

**Valuation: 1 to 3  
Where 1 = worse/no to 3 = better/yes**

<b>Indicator</b>	<b>Average Value</b>
Is lighting adequate for carrying out CDF activities?	2.3
Are products protected from direct sunlight?	2.9
Are products protected from water and humidity?	2.4
Is there control of insects and rodents?	1.7
Does the CDF have a garbage container/waste basket?	1.1
Does the CDF have a flashlight or hand-held light?	1.2
Total Points	11.6
Percentage of Total Possible Points	
1. Average (mean)	64%
2. Median	67%

**Table C.2a**

**Management of Environmental Factors  
(Six Indicators)**

<b>Score: Percentage of Total Possible Points</b>	<b>Number of CDFs</b>	<b>Percentage of CDFs</b>
< = 25	0	0%
26 – 50	6	12%
51 – 75	37	73%
76 - 100	8	16%
Total	51	100%

**Table C.3**

**Evaluation of the Community Drug Funds  
Indices of Structure and Performance**

**Drug Cabinet and Condition of Medicines**

**Valuation: 1 to 3  
Where 1 = worse/no to 3 = better/yes**

<b>Indicator</b>	<b>Average Value</b>
Is the drug cabinet and furniture clean and well-organized?	2.0
Is there adequate space for products?	2.6
Are the products organized, classified and labeled?	1.8
Are products separated by their expiration date?	1.6
Is access to medicines restricted?	2.1
Are the medicines outside of the reach of children?	2.2
Total Points	12.2
Percentage of Total Possible Points	
1. Average (mean)	67%
2. Median	72%

**Table C.3.a**

**Drug Cabinet and Condition of Medicines  
(Six Indicators)**

<b>Score: Percentage of Total Possible Points</b>	<b>Number of CDFs</b>	<b>Percentage of CDFs</b>
< = 25	0	0%
26 – 50	10	20%
51 – 75	23	45%
76 - 100	18	35%
Total	51	100%

**Table C.4**

**Evaluation of the Community Drug Funds  
Indices of Structure and Performance**

**Management of Registers and Information**

**Valuation: 1 to 3  
Where 1 = worse/no to 3 = better/yes**

<b>Indicator</b>	<b>Average Value</b>
Is the patient register well organized and up to date?	2.3
Is the drug register well organized and up to date?	1.1
Do they have/adhere to Drug Committee regulations?	1.4
Is there a notebook/log of activities?	1.6
Is there a visitors' notebook with continuous registration?	1.7
Is there a summary/report of monthly activities?	1.4
Is there a treatment card file or guide?	2.1
Is there educative material (pneumonia or diarrhea)?	1.5
Is there material for dispensing medicines (bags, masking tape)?	1.9
Total Points	15.1
Percentage of Total Possible Points	
1. Average (mean)	58%
2. Median	56%

**Table C.4.a**

**Management of Registers and Information  
(Nine Indicators)**

<b>Score: Percentage of Total Possible Points</b>	<b>Number of CDFs</b>	<b>Percentage of CDFs</b>
< = 25	0	0%
26 – 50	23	45%
51 – 75	15	29%
76 - 100	13	25%
Total	51	100%

**Table C.5**

**Evaluation of the Community Drug Funds  
Indices of Structure and Performance**

**Summary of the Four Indicators**

<b>Indices</b>	<b>Number of Indicators</b>	<b>Percent of Potential Points</b>
Entrance and Location of CDF	4	77%
Management of Environmental Factors	6	64%
Drug Cabinet and Condition of Medicines	6	67%
Management of Registers and Information	9	58%
Total	25	67%

---

# **Annex H: Municipality and Department Community Drug Fund Location Criteria: Municipal Health Care Coverage Rates**



---

# Annex I: Bibliography

- Alguilar, Dra. Janeth. (circa.) Mayo 1998. "Informe de Situación de Fondos Comunes de Medicamentos." (Mimeo).
- Alvarez, Selva Deborá. Septiembre 1997. "Informe Final Sobre El Proceso de Implementación de Fondos Comunes de Medicamentos: Regiones 1, 2, 3, 5 y 8" (consultora a OPS).
- Aly Leitzelar, Dra. Norma, et al., Unidad Nacional de Gestión de Honduras. Marzo 1998. "Sistematización de la Experiencia de Fondos Comunes de Medicamentos en el Departamento de Lempira, Honduras." Proyecto de Salud Materno Infantil de la Unión Europea.
- Banco Central de Honduras, Departamento de Estudios Económicos. 1998. "Honduras en Cifras 1995-1997."
- Chávez, Napoleón, (consultor), UNICEF. Junio 1996. "Sobre la Experiencia de los Fondos Comunes de Medicamentos de Honduras."
- Gobierno de Honduras. 27 de Diciembre de 1996. "Ley de Modernización del Estado (LME)--Decreto No. 218-96."
- . (n.d.) "Crédito de Ajuste Estructural para la Modernización del Sector Público Plan de Acción la Reestructuración Institucional de la Secretaría de Salud Pública."
- . 1998. "La Nueva Agenda de Honduras."
- Godoy, Dr. Rolando, (consultor), Organización PanAmericana de la Salud (OPS). 10 de Septiembre de 1997. "Evaluación de las Condiciones de Funcionamiento y Sostenibilidad de los Fondos Comunes de Medicamentos Establecidos a Nivel Nacional por Parte de Diversas Organizaciones de Desarrollo."
- InterAmerican Development Bank. April 20, 1998. "Honduras: Program for Institutional Reorganization and Expansion of Basic Services in the Health Sector (HO-0032) Loan Proposal."
- Lumen XXI. Mayo 1998. "Manual de Implementación de Fondos Comunes de Medicamentos."
- . 1998. "Guías para Trabajo de Grupos: Temas de Capacitación."
- . Junio 1998. "Guía para Manejo de Enfermedades Comunes a Nivel Primario: Fondos Comunes de Medicamentos."
- Ministerio de Salud Pública, USAID. Febrero 1993. "Honduras: Encuesta Nacional de Epidemiología y Salud Familiar (ENESF), 1991/1992."
- Ministerio de Salud Pública, Management Sciences for Health. Mayo 1993. "Subsistema de Información Atenciones (AT-2), Manual Técnico."

- Ministerio de Salud Pública, OPS/OMS. Mayo 1995. "Acceso a Servicios de Salud: Eje Fundamental de la Modernización y Reforma del Sector Salud."
- Ministerio de Salud Pública, Secretaria de Estado en los Despacho de Salud Pública. Octubre 1996. "Reglamento de Implementación y Funcionamiento de los Fondos Comunales de Medicamentos."
- Ministerio de Salud Pública, Dir. De Planificación Sectorial, División de Epidimiología, OPS, Dr. Sergio Carías, Dr. Mario Tulio Carranza, Dra. Rosalinda Hernández, Dra. Silivia Robles. Octubre 1996. "Análisis de la Situación de Salud Según Características de Vida Para la Planificación Sectorial."
- Ministerio de Salud Pública, Asociación Hondureña de Planificación de Familia (ASHONPLAFA), USAID, CDC. Noviembre 1997. "Honduras: Encuesta Nacional de Epidemiología y Salud Familiar 1996: Informe Final."
- Ministerio de Salud Pública, Dirección de Planeación, Departamento de Estadísticas. 1997. "Salud en Cifras, 1992-1996."
- Ministerio de Salud Pública, Asociación Hondureña de Planificación de Familia (ASHONPLAFA), USAID, CDC. 1998. "Honduras: Encuesta Nacional de Epidemiología y Salud Familiar 1996: Informe Resumido."
- Programas de Desarrollo para la Infancia y la Mujer (PRODIM). Diciembre 1997. "Informe Annual de Fondos Comunales de Medicamentos."
- . Mayo 1997. "Informe Trimestral de Fondos Comunales de Medicamentos: enero a marzo, 1997."
- . Octubre 1996. "Informe Annual de Fondos Comunales de Medicamentos."
- . Diciembre 1995. "Informe Annual de Fondos Comunales de Medicamentos."
- . Diciembre 1994. Informe Annual de Fondos Comunales de Medicamentos."
- . Marzo 1997. "Informe Financiero del Proyecto Fondos Comunales de Medicamentos: Año 1996,"
- . Junio 1995. Manual de Capacitacion Fondos Comunales de Medicamentos. Sección I: Capacitacion del Comité.
- República de Honduras, Dirección General de Estadísticas y Censos. 1998. "Encuesta Nacional de Ingresos y Gastos de los Hogares."
- Rodríguez V., Dr. Francisco, Secretaría de Salud. Octubre-Noviembre 1996. "Financiamiento de la Salud."
- Rodríguez V., Dr. Francisco, Secretaría de Salud y Organización Pan Americana de la Salud. (n.d., circa.) 1997. "Análisis Socioeconomico de Usuarios."
- . Enero 1998. "Gasto en Salud en los Hogares de la Ciudad de Comayagua."
- Save the Children. 1998. Medicamento Solicitado para Implementar 46 Nuevos Fondos Comunales."

- Secretaría de Salud, UNICEF y Programas de Desarrollo por la Infancia y la Mujer (PRODIM), Comité Interinstitucional de Fondos Comunales de Medicamentos. Enero 1993. “Guía de Instalación Fondo Comunal de Medicamentos.”
- Secretaría de Planificación Coordinación y Presupuesto (SECPLAN), Organización Internacional de Trabajo (OIT), el Fondo de Población de las Naciones Unidas (FNUAP) y el Programa de las Naciones Unidas para el Desarrollo (PNUD). Enero 1994. “Honduras, Libro Q: Pobreza, Potencialidad y Focalización Municipal.” Segunda Edición Revisada.
- Secretaría de la Presidencia. Febrero 1998. “Memoria ‘Foro Nacional Sobre Seguridad Nacional.’”
- Secretaría de Salud Pública. 1996. “Propuesta de Implementación Casa Nacional de Medicamentos.”
- Secretaría de Estado en el Despacho de Salud. 1998. “Convenio de Cogestión Entre la Secretaría de Salud, La Asociación de Desarrollo Socio-Económico Indígena (Bayan), Las Alcaldías de los Municipios de Juan Francisco Bulnes, Brus Laguna y Patronatos.”
- Secretaría de Salud. Abril 1998. “La Nueva Agenda en Salud, Política Nacional de Salud: 1998-2002.”
- Secretaría de Salud, Organización Panamericana de la Salud. 1998. “Foro de Rescate de Innovaciones en Salud: Proceso de ACCESO a Servicios de Salud.”
- Secretaría de Salud. 1998. “Acceso a los Servicios de Salud: Presente y Futuro del Sistema de Salud de Honduras.”
- Secretaría de Salud. Junio 1998. “Por la Salud: ‘Empujemos Todos en la Misma Dirección.’”
- Secretaría de Salud, UNICEF y Programas de Desarrollo por la Infancia y la Mujer (PRODIM). Comité Interinstitucional de Fondos Comunales de Medicamentos, (n.d.) “Manual de Comités: Fondo Comunal de Medicamentos.”
- Sullivan, Frank, et al. June 15, 1998. “Mid-Term Evaluation of the Health Sector II Project (522-0216).” (draft).
- System Science Consultants, Ministerio de Salud Pública. Septiembre de 1996. “Estudio Sobre Las Estrategias y Planes Para el Mejoramiento de la Situación de la Salud en la Republicade Honduras. Informe Final. Volumen V (s) Resumen Ejecutivo.” Japan International Cooperation Agency (JICA).
- . Julio 1996. “Estudio Sobre Las Estrategias y Planes Para el Mejoramiento de la Situación de la Salud en la Republicade Honduras. Informe Final Preliminar. (Supporting Report).” Japan International Cooperation Agency (JICA).
- UNICEF y la Presidencia de la Republica, SETCO. “Informe de Evaluación del Programa de Cooperación Gobierno de Honduras-UNICEF, 1996-2000.”
- World Bank. October 31, 1997. “Honduras: Improving Access, Efficiency, and Quality of Care in the Health Sector.” Report No. 17008-HO.
- World Bank. 1998. “Honduras: Toward Better Health Care for All.” A World Bank Country Study. Washington, DC, USA.